PN-AAN-177
ISN 29853

LAW AND POPULATION

Lectures and Reading Materials
Compiled from the Seminar on
Law and Population

Fletcher School of Law and Diplomacy
(administered in cooperation with Harvard University)
Tufts University

1975

PREFACE

During the spring semester of 1975, the Fletcher School of Law and Diplomacy conducted another inter-disciplinary Seminar on Law and Population (Law 216). Like the 1973 seminar, this one was open to students of not only the Fletcher School, but also Tufts and Harvard Universities, with which the School has maintained a cross-registration arrangement. The student body represented the following disciplines: law, sociology, history, political science, international relations, public health, economics and philosophy. Guest lecturers were invited to address themselves to the theme of law and population policy from the viewpoints of human rights, social and economic development, environment, cultural and religious factors, and public health and administration.

Rather than following the 1973 model of dividing the lectures and reading material into two separate volumes, the present volume consolidates both parts of the material by having each lecture followed immediately by the required reading material. Since all of the recipients of this volume are on the mailing list of the Law and Population Monograph Series, those reading materials drawn from the Monograph Series will merely be noted at the end of a lecture instead of being reproduced.

It may be appropriate to add that the present volume will soon be supplemented by another useful teaching material on Law and Population: namely, the soon to be published UNESCO textbook on Readings in Population for Law Students, which this Law and Population Programme helped put together. It is hoped that, along with the two-volume material prepared for the 1973 seminar, the UNESCO textbook and the Law and Population Book and Monograph Series, this volume will contribute further to an understanding of the interrelationship between law and population.

I wish to take this opportunity to express my sincere gratitude to all the lecturers and members of the seminar whose interest and cooperation have made this volume possible.

Luke T. Lee

LAW 216: LAW AND POPULATION

SPRING 1975

Date	Lecturers	Topics
February 6	Professor Luke T. Lee Director, Law and Population Programme Fletcher School of Law and Diplomacy	Introduction to Law and Population
February 13	Professor J. Mayone Stycos Director, International Population Program, Cornell University	Sociology/Demography
February 20	Professor Robert Seidman Boston University Law School	Law and Development
February 27	Dr. David Kline and Professor Walter McCann Harvard University Graduate School of Education	Education and Population Law
March 6	Dr. D. Stryker Associate Professor of International Economic Relations Fletcher School of Law and Diplomacy	Economics and Population
March 13	Mrs. Harriet Pilpel Partner, Greenbaum, Wolff & Ernst Counsel, World Population-Planned Parenthood	Legal Development of Family Planning in the United States
March 20	Dr. Malcolm Potts IPPF, and Director, International Pregnancy Advisory Services	Public Health and Population Law
April 10	Dr. Michael Teitelbaum Ford Foundation and Oxford University	Population Policy
April 24	Dr. Elihu Bergman Assistant Director, Harvard Center for Population Studies	Political Science and Population Law

CONTRIBUTORS

Dr. Elihu Bergman is Assistant Director of the Harvard Center for Population Studies.

Dr. David Kline teaches at the Graduate School of Education of Harvard University. He is a frequent Consultant to UNESCO.

Dr. Luke T. Lee is Director of the Law and Population Programme at the Fletcher School of Law and Diplomacy. He is also Executive Secretary of the International Advisory Committee on Population and Law, accredited to both ECOSOC and UNICEF.

Professor Walter McCann is Chairman, Programs in Administration, Planning and Social Policy, Harvard Graduate School of Education. He is co-author of a textbook, "Public School Law: Cases and Materials."

Mrs. Harriet Pilpel is a Senior Partner in the New York firm of Greenbaum, Wolff & Ernst, and General Counsel, Planned Parenthood-World Population, as well as Vice Chairman, National American Civil Liberties Union. She has been instrumental in many United States legislative decisions in the field of family planning.

Dr. D. Malcolm Potts is a Consultant to IPPF and Director of the International Pregnancy Advisory Services.

Professor Robert Seidman is Professor of Law at Boston University. He has written on law and development and has lectured and taught widely in Africa. He has been Professor of Law in universities in Ghana, Nigeria, Tanzania and Zambia.

Dr. J. Dirck Stryker is Associate Professor of International Economic Relations. He is a frequent Consultant to AID and the World Bank.

Dr. J. Mayone Stycos is Director of the International Population Program of Cornell University. He is a past Chairman of the Department of Sociology and a former Director of the Latin American Program, also at Cornell.

Dr. Michael Teitelbaum is a member of the Population Division of the Ford Foundation and is currently lecturing at Nuffield College, Oxford University, England.

SEMINAR ON LAW AND POPULATION

LECTURE BY DR. LUKE T. LEE

First of all, let me tell you how happy I am to have you here in the Seminar. Having said that, I should also express my trepidation about conducting this seminar. First of all, the relating of law to population is a rather new thing. This is only the second time that the Fletcher School has offered a Seminar on Law and Population. I still remember that in 1965 when I was attending the World Population Conference in Belgrade, out of some one thousand participants, there was only one lawyer and that was myself. Out of some hundreds of papers presented at that particular conference, not a single paper was devoted to the legal aspects of population. Many people there asked me what my trade was. After telling them what I was doing, they all appeared surprised and thought that I was attending the wrong conference.

But in the course of nine years a great deal has changed. In the 1974 meeting of the World Population Conference at Bucharest, which I also attended, a large number of legal topics were discussed. I myself was involved in three programs at the Population Tribune: one on abortion, another on law as an instrument of policy, and the third in a session conducted exclusively for lawyers to see what lawyers can do in population matters. In addition, I prepared the UNFPA's background paper on Law and World Population for the Conference.

So, the first difficulty is the newness of the subject. The second is that a great deal is still unknown about the relations between law and behavior. We are all very familiar with the fact that there are a lot of laws which are broken, unenforced, or even unknown. But even if laws are unenforced, there would still be some effect. Take, for example, the abortion law. Anti-abortion laws are on the books in many, many countries; yet, abortion is common with very little attempt at enforcement. Even though the abortion law is not enforced, you can still see the impact, namely, driving abortion into the back alleys. The cost is made higher, the medical standards lower, and the maternal mortality rate higher. A lot of women die unnecessarily as a result of illegal abortions. So here you have an instance of law not enforced but with a great deal of consequences.

There are laws against advertisement of contraceptives. They are usually enforced; you don't see advertisements on the sale of contraceptives. Now, why in one case is law enforced and in another case not enforced, and what kind of consequences flow from enforcement and non-enforcement? In the case of enforcement against advertisement of contraceptives, the result, of course, is unwanted births to a lot of people who were denied or deprived of the knowledge or information about contraception.

Another thing which we don't know has to do with the country. You may sometimes think that in a particular country law is more generally obeyed or enforced than in another country. But again it is very difficult to generalize. Take the Netherlands, for example. The Dutch people are generally very law-abiding people, but when it comes to abortion, the Netherlands does not enforce its very strict anti-abortion law.

In developing countries you have the further problem that many of their laws were inherited from former colonial powers. The former colonial powers like Great Britain, France, Belgium and the Netherlands simply imposed their own laws upon developing countries regardless of consent and suitability to local conditions. The resistance to alien imposed law may be greater than resistance to other law. Now, you might, of course, ask why then have these new countries not started to change their laws after they obtained political independence. Why do they not have legal independence as well, instead of continuing under the old legal imperialism? This is a very good question. Part of the answer might be that the developing countries are still grappling with their day-to-day problems of nation-building, institution-building, and they have not thought very much about law yet. But this situation might change in the future.

Another problem has to do with human rights. What is the legal status of human rights? We often hear that family planning is a basic human right. Actually, this inclusion of family planning as a basic human right was expressly declared only in 1966 by twelve heads of states who, on United Nations Day, made a declaration to the effect that family planning is a basic human right. In 1967, the number was increased from 12 to 30. In 1968, there was a United Nations Conference on Human Rights in Tehran, and the proclamation in Tehran states that couples have the basic human right to plan freely and responsibly the number and spacing of their children. This is a rather interesting phraseology. Many people would attach importance to only the word "freely," and forget about the word "responsibly." What is meant by "responsibly?"

In addition to the Proclamation, there was also adopted a resolution at the Tehran Conference to the effect that the right of family planning includes also the right to adequate information and instruction about family planning. In 1969--as you can see, the meaning of family planning as a basic human right is becoming clearer and clearer--the United Nations General Assembly adopted a Declaration on Social Progress and Development. And here the Declaration provides that in family planning, the right to "knowledge" is not enough, but must include also the right to the "means necessary" to enable couples to undertake family planning. Now what do you mean by the "means necessary?" Does that include, for example, only contraceptives, or may that include also voluntary sterilization or abortion? Does it mean you have to pay for it, or should it be given free? Again these are questions unresolved to date. A lot of countries insisted that the "means" do not include such methods as abortion and sterilization, but only contraceptives. So far only one country is providing free abortion, sterilization and contraceptives, and that is the People's Republic of China. In the case of the Soviet Union you still have to pay for abortion and other services. And still in many other countries, of course, abortion or sterilization will not be considered as means necessary to enable people to practice family planning.

This is a very brief historical background. In 1970, the Law and Population Programme was established here at the Fletcher School, and this was the first time that any organization attempted actually to relate law to population. This program has been in existence now for about five years. Since 1970, a number of interesting developments have further taken place. Take, for example, this year, 1974. In January there was held a United Nations Symposium on Population and Human Rights in Amsterdam, and one of the recommendations adopted by this symposium was a call upon international organizations to render assistance to Governments in their compilation and review of laws bearing on population. It did not go very far then; it only called upon international organizations to give the necessary assistance. In February UNESCO conducted a Workshop on the Teaching of Population Dynamics in Law Schools to prepare a textbook on population law for the use of law schools throughout the world. Thirty-five law professors and deans from as many countries participated in that Workshop, which we helped to organize. The very fact that the UNESCO itself has now taken the strong leadership here in pushing population law is an important step forward.

In June there was held in Tunis a Symposium on Law and Population sponsored by the UNFPA and the UN, in cooperation with WHO, ILO, UNESCO, IPPF, the Tunisian Government and the International Advisory Committee on Population and Law, for which the Law and Population Programme serves as the Secretariat. The Symposium adopted a number of recommendations on legal reform, the text of which will be available shortly. And then, of course, the Bucharest World Population Conference. Many criticisms were made on the World Population Plan of Action adopted by the Bucharest Conference. But to me it was actually a tremendous step forward, for preserved intact in the World Population Plan of Action was paragraph 78, subparagraphs G and H. These two subparagraphs call upon all countries to compile and analyse their national laws and international laws bearing on the population factor. Furthermore, they call upon countries to systematically review, study and disseminate human rights as they bear upon population.

So you can see that in the course of only a few years, from Belgrade to Bucharest, a tremendous advance had taken place. Now, in spite of these developments, there are still many questions unresolved, which you can detect in a number of international meetings. In Amsterdam, the question was raised: is the use of compulsion compatible with human rights? In other words, must family planning be entirely on a voluntary basis? Every time any kind of compulsion or incentive or coercion is used, would it infringe upon human rights? This raised a great deal of controversy, I remember, at the meeting I asked a question about the right to education: Does the right to education not include a compulsory education system? Isn't a compulsory education system a form of compulsion? And if that were so, compulsion is then not necessarily incompatible with human rights. We have the right to good health, but does not the right to health include the right to freedom from smallpox? All of us, I am sure, have had smallpox vaccinations, whether you like it or not. Now is that not compulsion? Is that in conflict with human rights?

How are we going to distinguish "individual" human rights from "collective" human rights? We all have the individual human right to free speech, but does that mean that in a theater you can shout "fire?" Does it mean that a government cannot impose censorship in time of war? Does it mean that you are free to defame other people or ignore their copyright? All of these are questions, as illustrated in the Pentagon Papers case, which are difficult to answer. But can you say simply that because you are unable to draw precisely the line, therefore the right does not exist? It is clear that even though you cannot draw the line, a precise line, allowing or disallowing free speech, free speech remains a basic human right. You might therefore use the same analogy by saying that even if you cannot at the moment define the right to family planning precisely--namely, at what point does the individual human right to have as many children as an individual wishes must give way to the collective right not to have too many children--the right to family planning still exists.

As most of you have had international law, you know the division between the naturalist school and the positivist school.

In my article, "Law, Human Rights and Population: A Strategy for Action," which I gave you as a required reading, you find some arguments on page 310 on the status of human rights. Then on page 311 there is discussion on natural law; on page 312 customary international law, and on page 315 general principles of law. Article 38, paragraph 1 of the International Court of Justice Statute specifically lists four sources of international law, which include customary international law and the general principles of law. Both of these are relevant to our discussion on the legal status of human rights. Again, however, this is an area full of controversy--jurists of equally high standing would differ honestly among themselves. Professor Leo Gross here, you probably all know, would adhere to the strict construction of what international law is. On the other hand, you have other international lawyers, just to mention a few, like Professor John Humphrey of MacGill and Mr. Stavropoulos, former Legal Counsel for the United Nations, who would hold the opposite view.

Finally, my trepidation in connection with this course has to do with the political sensitivity or prejudices that people may have in regard to population and law. To many developing countries, population might not appear as a pressing problem. Although in India and Bangladesh nowadays there is increasing admission that over-population is harmful to their economic or social development, in many Latin American and African countries the instinctive reaction of many people to the population problem is that the problem is racist in origin, in that the white people would like to keep the number of non-whites down. They would argue that in Africa, for example, there might even be problems of under-population, sub-fertility or infertility, rather than over-fertility. Therefore, more, not less, people are needed in the interest of military strength, production, consumption and so forth.

Maybe it's time for me now to describe briefly the main activities of our Law and Population Programme, since our activities have a great deal of bearing on what we are going to study here. We have twenty-five Law and Population Projects, each of which is of two years' duration, established at the leading university of a developing country. The first year is devoted to the compilation of laws bearing directly or indirectly on population. Thus, in addition to laws regulating contraceptives, voluntary sterilization and abortion, we also look into laws on social welfare, maternity benefits, child allowances, labor (child labor, woman labor), minimum age of marriage, divorce, land tenure, education, migration, etc. Even medical practice law (whether paramedical personnel are allowed to insert IUDs, prescribe pills, or whether these must be restricted to doctors) can have important bearing on the population problem. For example, India has had the longest officially sponsored family planning program. Yet so far, the Indian program has not met with any degree of success. Actually, the situation has become worse. One possible explanation, one among many explanations, is that there is no coordinated legal review or legal study on the impact of Indian laws upon behavior and how these ought to be changed in order to facilitate family planning programs. The Indian Medical Association, like the American Medical Association, is very strict and narrow in its outlook, very jealous of preserving its prerogatives, not wanting any competition from any non-doctors. Consequently, in India even today, only medical doctors can insert IUDs and can prescribe pills. Now how can you expect any family planning program in India to succeed when there are so few doctors in relation to the size of the population? These doctors are generally concentrated not in the rural areas (not much money can be realized there) but in the urban cities--Bombay, Calcutta, New Delhi, and so on. Thus, the great majority of the population residing in the rural areas are deprived of medical services. How would they be able to get any IUDs or pills? On top of that, the Indian women are very modest, and they would not like to be examined by male doctors, but only by female gynecologists. But how many women gynecologists are in India, let alone in the countryside? Finally, there is the caste system. Would a higher caste Indian woman go to see a lower caste gynecologist?

In brief, the first year of a Law and Population Project is devoted to putting together all the laws that affect population directly or indirectly. By laws we mean not only legislation but also regulations, decrees, judicial decisions, and indeed, also, customary law which very often plays a much more important role than positive law in shaping human behavior. But this is easier said than done: finding legislation may be easy, but how are you going to find a ministerial decree implementing a law? Furthermore, there is the problem of reproduction and translation.

During the second year, the University offers an interdisciplinary seminar on law and population like the one we have here. Guest lecturers from different fields, such as economics, public health, sociology, and public administration come to broaden the students' understanding in regard to the population problem. Furthermore, the students would be required to prepare term papers which would first set forth the present laws in specified fields (e.g., education or labor), and then analyze the relationship between

the existing laws and the human rights standards as, for example, listed on pages 316-319 in my article. In the event of a conflict or incompatibility between the existing law and these human rights standards adopted by their own governments, what should be the ideal law? A proposed revision of the law should then follow.

These proposed revisions or model codes would be examined by a board of advisors made up of judges, professors, and policy-makers in relevant fields, such as justice, health, labor and education. This would serve a number of purposes: one is to get these high officials themselves interested, involved. Second, the model codes should be realistically formulated, taking into account the actual social, cultural, economic conditions of the country, and not building castles in the air! After the board of advisors has given its advice and comments, the final text would be published and disseminated as widely as possible. It is hoped that this kind of study could help policy-makers in their actual formulation and implementation of population programs, policies and laws.

It is gratifying to know that a number of countries have already used this method to advantage.

READING MATERIAL

Lee, Law and Family Planning, Law and Population Monograph Series No. 1.

Lee, Law, Human Rights and Population: A Strategy for Action, Law and Population Monograph Series No. 6.

SOCIOLOGY AND POPULATION

LECTURE BY DR. J. MAYONE STYCOS

Generally, we can identify three broad classes of demography: historical demography, functional demography, and intervention demography. Demography is essentially the scientific study of population. The adjectives that go with it--historical, functional, intervention--tell us something about the way socially oriented demographers look at the scientific study of population.

What is "historical demography?" We are discovering that this is a very complex and difficult field of study. How do we determine the size of populations during specified periods of time? How did population change over time? These questions absorb the activities of archeologists, historians, and physical anthropologists, who develop complex methodologies for assessing the waxing and waning of populations. We still know very little about the important question of population trends in the distant, and even recent past. Even our knowledge of Western population change is very limited. For example, were the marked increases of population during the sixteenth and seventeenth centuries in Europe due to declines in mortality, or increases in fertility? What were the populations of specific geographic units at a given point in time? Historical demography attempts to establish the dimensions of population size and change in the past, and the elements causing population changes--fertility, mortality and migration.

Functional demography deals with the adjustment of population from one equilibrium state to a new level of equilibrium which is stimulated by inputs from the environment, resources, and technology. If you look at historical population trends over time, you will find adjustments of population to these types of inputs. For example, if we look at a graph covering trends going back one million years, we note three major changes in population associated with the Paleolithic Revolution, the Agricultural Revolution, and the Industrial Revolution. In each case, either as a result of, or concomitant with a revolution related to the human environment--largely technological--a population adjustment took place, almost invariably an increase within and in relation to the new environment. After an initial change, population reaches an equilibrium until the introduction of some new factors causes population to rise again. The population changes following a period of equilibrium are of great interest to demographers. The decline in mortality has received a great deal of demographers' attention. The increase in population due to declines in mortality (other things being equal) places population and resources out of equilibrium. What happens as a result? Now we look at the functional consequences of this disequilibrium. The responses to changes in equilibrium can be categorized as demographic or social-organizational. As sociologists, we are interested in both of these.

Demographic response consists of changes in mortality, fertility, and population redistribution. I have mentioned that a decline in mortality can result in rising population. Another mortality-related response, frequently found in the animal kingdom, is called the population crash. When a population outlives its food supply, it may not be able to survive the winter, and everybody dies. This could happen in human famines. The population crash may have occurred in societies which no longer exist. Mortality increased as a result of a response to population, and you move to a new equilibrium state. Although some countries today, such as Bangladesh, are not too far from population crashes, what is more likely is that malnutrition and nutritional deficiencies in response to population pressure lead to vulnerability to disease and possible increases in the death rate.

A second demographic response is fertility. Fertility control is possible through shifts in mating and shifts in the use of birth control. I include these factors under the heading of fertility control, but Davis and Blake's variables spell them out in detail. For my purposes, sterilization, abortion, and contraception will all be birth control. Shifts in mating patterns will be a separate category, sub-divided into voluntary and non-voluntary. Non-voluntary mating shifts, for example, can be responses to demographic changes but which in themselves are not intended to affect the birth rate. Religious celibacy is an example of this. Perhaps as a result of population increase in European countries, son number three would be pushed into the priesthood. This had an impact on fertility, although this was not the specific intention.

Imbalance in sex ratios as in Jamaica and the West Indies results in a low birth rate. High out-migration of men from Jamaica, a direct response to demographic pressure of excess population, causes a shift in mating patterns attributable to the resulting imbalance in sex ratios. Finally, we see a change in the birth rate. Birth control, another aspect of fertility control, is also affected by voluntary and non-voluntary factors. A typical example of non-voluntary birth control is sterility or infertility which is an indirect result of increased population density.

The third and final type of demographic response is population redistribution; external and internal migration. The United States was totally populated by Europe's excess population. As the population rose in Europe, the excess was transported to North and South America--approximately 55 million people migrated to the U.S. alone during the nineteenth and early twentieth centuries. Another such example is the Irish population which would have increased from one million to twelve million by around 1920 at the nineteenth century growth rates. In fact, the population in Ireland declined to below three million. The difference between the projected population and the actual lower level attained is the result of the vast emigraton of the Irish.

Another example of external migration as a demographic response comes from ancient Greece, whose excess population stimulated navigation development. Consequently, Greeks colonized many sea-coast cities and populated them with Greek citizens. The Romans tried to do the same thing, but they failed to convince enough of their population to go abroad and their lives became more meagre. More insidious types of external migration appear in the Second World War. Germany, Italy, and Japan explicitly used their need to migrate as an excuse for their territorial expansion. All three powers based their need for new territories on internal population pressures.

Internal migration is even more common. Urbanization, for example, was an important feature of Western European society in the eighteenth and nineteenth centuries, and is now a dominant feature in Latin America, Asia and Africa. The trip to the cities is in part a result of growing population in the rural areas. This urbanization occurs not only because the city is attractive--but there is also a push from the rural areas. In the Margin of Life, this is shown to be the case in Honduras and El Salvador. In these two small countries, although the migration was only a matter of a few miles (in this case across the border), it occurred as a result of a disequilibrium of population which forced one group out.

There is a great difference between the early urbanization patterns of Europe and contemporary urbanization in the developing countries. The shift from rural to urban in European society was very functional. At the time of rapid industrialization, the cities actually needed that rural population for manpower. The same is not true of many developing countries today. Their cities are growing in population without the commensurate rates of industrialization. Keep in mind, too, that the rates of rural population increase in Asia and Latin America are far greater than in the rural areas of France, Germany, Italy, and England, during the Industrial Revolution. The rural push in the developing countries is now much greater. These trends are closely inter-related to technological shifts in the rural areas which displace rural workers. In many developing countries, the introduction of labor-saving devices is pressuring rural population. This technological push had its counterpart in European changes in landholding patterns, and the disappearance of common pasture in the English enclosure movements.

Now we come to the second category of functional demography, the social-organizational response, which normally consists of changes in the development and distribution of social and economic resources. In the social-organizational category, there is a close interaction between cause and effect. The arrows invariably go both ways. Social-organizational responses can both cause demographic change or, in turn, be a result of demographic change.

First, let us consider the redistribution of social and economic resources as a social-organizational response. Change in inheritance systems provides a good example. Suppose that a decline in rural mortality leads to an increase in the numbers of living sons. If the customary inheritance system in this example distributed equal shares to the children, very soon the per capita supply of land would virtually disappear. Thus, depending on the system that exists, a change in population may require some change in the inheritance system. Another opportunity might leave the inheritance system intact but change the population distribution as excess children are forced to leave the land. The excess children begin to migrate. As in the example of the inheritance system, the change in population can effect social-

organizational response in various ways and degrees.

Changes in such things as inheritance systems, in turn affect what Davis and Blake call the "intermediate variables." A change in the inheritance system may result in a change in the age of marriage, or in the proportions married. Here we see the intermediate effects tending to shift population toward a new equilibrium. The age of marriage is late in Ireland precisely because of the inheritance pattern which made marriage difficult during the period of great population growth.

Responses such as changes in inheritance may also affect what Davis and Blake do not discuss: the normative system. Changes in inheritance, for example, may change attitudes toward the number of children desired, and in turn affect the trends in population. If the inheritance system is changed from equal division among offspring to primogeniture, or vice versa, other things being equal, the result will be a change in the attitude toward numbers of children desired by a family. This occurs even in the absence of modern contraception. One need only study trends in seventeenth century France, where as a result of population increase, urban and rural birth rates began to decline at about the same time. This was not a result of contraceptive technology, but because of attitude changes resulting from transformation of the land system, which in turn was an initial result of population increase.

Slavery is another form of redistribution of population and resources. Slavery is one response to a shortage of labor and a way of redistributing wealth through shifts in population.were not the only cause of slavery, in some cases they contributed to the demand for labor.

The second kind of social-organizational responses may be called "techno-resource development." The Agricultural and Industrial Revolutions represent major innovations in technology and the use of resources. These major changes could be both a result of and a cause of shifts in population. We do not know which way the forces flow. Toynebee's theory of challenge and response states that as a population grows, technology develops to compensate for new demands. The fantastic irrigation systems of the ancient world, developed long before their time, were probably particular responses to acute population problems. Thus, technology followed population pressure. The Green Revolution, the development of new hybrids, likewise resulted not from the desire for better taste, but as a result of population pressure. Specific resources are developed to create new types of agriculture. In brief, these social-organizational responses, coupled with demographic response, comprise the approaches of functional demography.

We come now to our third broad class of demography. Intervention demography involves the attempt to change population trends through applied direct and indirect means. People usually change as a result of powerful social and economic changes. Intervention works on the intermediate variables and on the normative variables, leadingin turn to fertility control. The World Population Conference at Bucahrest reflected a move toward a politically consolidated consideration of intervention, where China and the Vatican began to talk the same language.

What will have an impact on fertility? We find that when people are educated, and put in the cities, they will realize that children are expensive. They want to raise the quality of life of their children, they want them to go to school. Therefore, in this example, they will have fewer children or get married later as a result. Or, if women had meaningful alternatives to marriage, they might not get married, or would marry later in life, or make other arrangements.

There are many problems associated with this approach. First, we do not know enough about the interaction of the variables. They do not always intervene in the desired way. It is true that there is a rough relationship between things such as urbanization, income, and education, but the relationship is very rough and we are not sure how it works. A second problem involves politics. Should we attempt to change the entire economic structure in order to get a small result on the fertility end? Politics enters the picture because there are many people with bigger axes to grind than fertility. They are grinding the ax of more equality for women, the ax of revolution or income redistribution, or better education as the solution to mankind's problems. They argue, for example, what have we got to lose by promoting education? Family planning is a waste of time, it will never work. Increase my budget for education and you will get your fertility decline.

In the end, we hopefully have a new dynamic emerging. Demographic variables affect development and development affects the demographic variables. Just as education might influence the use of birth control, the use of birth control could ultiamtely affect the levels of education. More than ever before voluntary intervention is entering the picture. Previously, when a demographic change occurred, the response in society was unplanned. If the response did not work, we do not know about those societies--they disappeared.

Now man is trying to intervene to affect his future. He does not want a population crash; nor does he want development slowed down to a point which would increase mortality. He is aware that external migration is no longer a feasible alternative for virtually any country in the world. Internal redistribution of population is creating as many problems as it is solving. As a result, more policy-makers are turning to direct and indirect measures for affecting the demographic future through family planning.

Discussion

Kellogg: You mentioned that the Vatican and China began to talk the same language at the Buchharest Conference. But the Vatican did not go along with it.

Stycos: The Vatican, along with China, said that people were the most precious of all resources. The Chinese point of view was that technology and physical resources, if properly marshalled, will solve the population problem. What you are saying is that the Vatican did not vote for the resolution in the end. In the discussions, however, China and the Vatican were amazingly close together, as were Argentina and Cameroons.

Student: About Ireland, you said that the decline in population was mainly due to migration. As far as I remember, the case of Ireland was influenced by migration to some degree, but that a decline in fertility caused the principal decline. The change in fertility was a result of changes in inheritance laws and so forth. Is it possible that Ireland exaggerates the case of emigration?

Stycos: I oversimplified the case to show where the trend would have gone in the absence of external migration. Your point is well taken.

Lee: I have a very practical question. I just came back from Dacca, Bangladesh. Staying in the same hotel with me were 4 officials from the World Food Program. They invited me to join them in discussion. The theme was, and I am asking for your opinions, since in Bangladesh the population is outstripping the food supply, and right now they're receiving massive food aid, can this opportunity be utilized to tie food to birth control? Very drastic measures were proposed: namely, those who want food must, if they have more than 2 children, subject themselves to voluntary sterilization. You might not consider it "voluntary" in this case. What is your opinion?

Stycos: This is a good stimulating question. Why don't we get some opinions from the class?

Student: I don't think that any of us could put ourselves in the position of either a woman in Bangladesh or a person in charge of a ministry and ask what can be done about the future of the country.

Student: Is there an option in terms of how many children the person would already have, before this process would take place?

Lee: That wasn't stated very clearly: we may assume that it isn't settled.

Student: If all these things that you talk about affect population changes, then if you do something drastic like this, wouldn't you mess up the social structure?

Stycos: The question is, if it worked, then one might mess up the inheritance system, social organization, the family. This is a good point. One shouldn't enter such a program without thinking through the demographic, social and economic consequences. One would have to project what that would do to Bangladesh's age structure, e.g. It would do some funny things. Let's say if every woman, in the next couple of years, got sterilized after 2 children, you would have in 15 to 20 years a very distorted age structure. What you're messing up is the whole family structure and the way the whole society is organized. I think that in the Bangladesh case, there is one major problem. If you limit to 2 children per family, you have to do something about mortality. You're not guaranteeing 2 children per family, first thing. Secondly, sterilization will never be favored. It's not just the fertility that is important, with all the other problems.

Lee: Is coercion bad in itself? Whenever we talk about human rights there is inevitably some element of coercion. Does not the right to education necessarily include compulsory education? The right to health means what? The right to vaccination, vaccination against smallpox, among others. Even

in our marriage law there are a lot of compulsions. There, you have a waiting period of 3 or 10 days. You can't marry more than one wife, you can't marry anyone closely related to you. So you have all these coercions, why can't you add another in the interest of society?

Student: When you think that far, I think in developing countries, the reason why women have that many children is because of coercion. They don't have enough knowledge, information, the cognitive side is lacking, the will is lacking because they don't know. Coercion is already there. But when you talk about, say, only 2 children, then sterilization.

Lee: The alternative could be worse. I was flying back with an official of FAO 2 weeks ago. You recall there were 2 articles in the New York Times on the triage system. That's actually happening internally in Bangladesh. A joint secretary of the Ministry of Cooperatives and the Rural Development was inspecting a district with the FAO official and passing through a particular region. The Bangladesh Joint Secretary of the Ministry said to forget about this district. "It's hopeless, let's save our energy and resources for where it can be of help." So you don't have the luxury of your idealism. I think the Western idealism based on the Biblical story that a good sheperd is one who, when he has 100 sheep, when 1 of them goes astray, he will leave the 99 and go and look for that one. Can we leave the 99 and look for that one?

Student: My first response was yes, go ahead and do it. But I wonder how much coercion would be involved. I agree it's too late; a lot of people don't want large families, but it's the social conditions, for example, jobs are scarce, the salaries are low. You pretty much have to depend on your children. So there are reasons for large families, and not so much desire, and perhaps in such a situation coercion wouldn't be all that bad. A lot of people may choose to have sterilization if available.

Stycos: In many places there's a favorable attitude toward small families but even if you provide the technology, the will to use it is not very intense. They will not practice the existing technology with the efficiency that is necessary. Even with modern technology such as the pill, women might go to the point of accepting it, but will not take it faithfully. It could be agreed that we have to make the motivation just strong enough to adopt a method which would take away the risk of failure, which you would do with sterilization. Does that justify such a drastic method? I think that I agree with Professor Lee that ethically it could be in the interest of the society to do so, but my objections to this measure would also be political. It would have repercussions in the international area. It would pull the case and be used by those who argue that it's really the super powers that are trying to hold down by coercive techniques the strength and vitality of the developing countries.

Lee: Strictly speaking, in this particular case the government itself wanted it.

Stycos: Of course. I think that the question that is more relevant for the class is not so much what the Bangladesh should do (for they can do anything they want without interference in internal affairs) but what should an international organization assist them in doing.

Student: It could also imply that if the World Food Program was to develop a program for Bangladesh, that it might be forced to develop policies for other countries. Theoretically, you could develop all the way down the line to doing a proof that the birth of children in the U.S. has a greater effect on world resource depletion than the birth of a child in Bangladesh, and therefore why shouldn't that policy be implemented in the U.S. The other comment I would like to make is that the street people in Bangladesh tend to be Biharies, who have immigrated from the state of Bihar in India. They are undesirable in Bangladesh because they're from Bihar and because they also sided with the West Pakistanis during the revolution. So that policy would have a very ethnically discriminating effect.

Student: Another aspect to consider is that they would have to change the religion, for they're Moslems and Koran prohibits sterilization. They have to change the whole social and economic organization for such a program to succeed.

Lee: In the case of Bangladesh even before independence, there was a very successful campaign for voluntary sterilization, and we usually have in mind that Moslems would not favor sterilization. The one exception I noticed was Bangladesh.

Student: But in the meantime we have the food shortage. Suppose they solve the problem by saying that they have 2 children at a certain age, maybe that would reduce the mortality problem.

Student: That wouldn't solve the immediate food problem.

Student: Well, if you have food coming in plus this program, then next year you have less people to feed.

Stycos: What this is doing is making your food investment yield higher dividends. With your $100 worth of food, you also have an impact not only on abortion but also on the fertility rate.

Student: Earlier you were talking about the international implications of this policy in Bangladesh. I think if the Government decides to do something like this, it should be internationally accepted, because even at Bucharest when it was decided that there should be a World Plan of Action, it doesn't seem to me that it was such a great idea for different countries having different problems and different resources, and for the same reason if one looks at the Bangladesh case realistically, it should be accepted.

Stycos: The international community can't accept everything. Suppose one country decides to sterilize its Jewish community and wants some technology and assistance to do that, or suppose a Moslem community decides to sterilize the Catholics. There may be internal policies, but international organizations don't have to support them!

Student: What motivational impact does education have on population?

Stycos: In the U.S.A. the kind of national publicity being given to population problems appears to have an impact. There is a new atmosphere that says you really have to think before you bring a child into the world these days. Second is the improvement in technology, which has made much less motivation necessary. Birth rates began coming down around 1960 in this country, just a little before the pill became popular so there was something happening, but I think that was accelerated by the availability of contraception. In the underdeveloped countries, if you don't know whether or how you can affect your future, you have no will to affect your future. We have so much fatalism in many societies because there isn't really much that you can do about your fate. Now if you let people know that there is something available that can change their lives, this not only changes their cognition, but their whole attitude toward what they want. For they know now that they can control certain forces, which previously seemed beyond their capacity to affect. While I don't want to overdo the implications of technology, in this country the emergence of the pill, the IUD, and abortion all within 15 years has had profound impact on youth.

Student: How about the role of communication. If there are more televisions, this process can be hastened.

Stycos: In underdeveloped countries I would put more money into radio than television.

Student: Coming from Africa, I know that the ignorance of women and the unavailability of contraceptives and the ignorance of how to use them are major problems. I don't think that you're overstating your case about technology, because it is extremely important.

Stycos: In a number of countries where contraceptive technology has become readily available, you still do not get adequate acceptance or utilization. You don't get a major jump forward, let's say, from 5% to 15 or 20% practicing contraception, but if we're talking about affecting demographic rates you've got to get to 50% or 60% to reach this level, you need more than the provision of technology.

Student: I'm from Sri Lanka. We have technology, but very few practice it.

Stycos: When I say technology I also include a delivery system. Although the technology exists, the delivery system is not always adequate. For example, in many countries women are not used to going to a clinic or a doctor when they're sick. So doctors set up a clinic like Park Avenue. They wear white coats, they sterilize the instruments, and make sure that the nurse first interviews the patient and scares her. This may be the first physical examination which the women have ever had, just to get a simple contraceptive. In this country we go to the drug store, but they've got to go through this routine. Would you? So before we jump to coercion systems, we have a number of things that we have to try first and if they fail then you increase your gradient. After the delivery system comes the communication system. A lot of people don't know that clinics are there. That's a lot simpler than changing their basic attitudes in school. You can do it next month, you don't have to wait 12 years to change their basic attitudes. And when you start talking basic education, there are ethical problems. Little kids heads are stuffed up already 6 hours a day. If you want to add sex education, population education, family life education, and birth control, you have to subtract something from their program. Before you do this, you should try such obvious things as getting rid of doctors.

Student: In an area such as Bangladesh, have they tried the various alternatives, such as other ways of birth control, before jumping to sterilization?

Lee: Of course, before independence Bangladesh was part of Pakistan, and Pakistan had taken a number of innovative programs, like lady home visitors, use of paramedicals. They had a vasectomy campaign which was very widespread, but then it petered out. At present time they're at the end of the road.

Student: It seems that when a problem gets to be grave that people start to think about it wholeheartedly. Perhaps it has to do with lack of foresight.

Student: I was going to ask something like that. What affects people's perception of when they need to have population control?

Stycos: Well, that's a tough question. Actually, a survey was just done by the U.N. in which they asked the governments' officials whether they had too rapidly growing population or whether there was just enough or whether it wasn't growing enough? Only 27% said it was growing too fast, the rest of them either thought that it was adequate or a substantial minority (something like 20%) thought they weren't growing fast enough. Now here you have an ethical question. What do you do in an international organization when Argentina comes to you and says our birth rate is too low, can you help us? My system works in reverse perfectly. We could put on pro-fertility campaigns, clean up gonorrhea and the legislation, instead of being liberal on abortion will be rough; we won't allow abortion, won't allow the importation of contraceptives, etc. As a matter of fact Argentina has done some of these things. One reason is nationalistic. They are worried about the Brazilians next door. The same is true of Francophone African countries who feel they're too small. You have to face the fact that most countries are small, 54% of the countries of the world are under 10 million. They don't feel they have too many people.

Student: Perhaps one advice the international organization could give us is that of immigration from other countries. Why not adopt some starving people from Bangladesh and send them to Argentina.

Stycos: International organizations say every country should invite immigrants from other countries. But how do you expect them to enforce it? Argentina would be delighted to get some lawyers and doctors but not unskilled labor.

Student: But I meant children.

Stycos: Argentines like Argentines.

Student: Well, these people become Argentines.

Stycos: Well, you have heard of ethnic problems?

Lee: I'm expressing the sentiment of everybody here by telling you how indebted we are. It certainly is a great eye-opener for me to see all of these vaguely familiar things being put in a logical and cohesive order. Thank you very much, Professor Stycos.

READING MATERIAL

SOCIAL STRUCTURE AND FERTILITY: AN ANALYTIC FRAMEWORK

Kingsley Davis and Judith Blake

(Source: Economic Development and Cultural Change, Vol. 4 (1956), pp. 211-235)

A striking feature of underdeveloped areas is that virtually all of them exhibit a much higher fertility than do urban-industrial societies. This well-documented but insufficiently analyzed fact is known to be connected with profound differences in social organization as between the two types of society, and is therefore significant for the comparative sociology of reproduction. The clarity and importance of the contrast, however, should not be allowed to obscure the equally important fact that underdeveloped areas themselves differ markedly in social organization, and that these differences appear to bring about variations in fertility. Though the demographic statistics of backward regions have generally been so poor as to place in doubt the validity of reported differences, there are cases in which the evidence is reliable (e.g., as between Puerto Rico and Jamaica, or Arab Palestine and Ceylon). Of equal interest are the cases in which societies with differing social organization have the same level of fertility, for they may reach this common result by quite different institutional mechanisms. All told, ample opportunity exists for the comparative analysis of social structure as it affects fertility. In view of the bearing of future population trends on economic development, the pursuit of such analysis has a practical as well as a theoretical significance.

The present paper represents an attempt to set forth and utilize an analytical framework for the comparative sociology of fertility. It first presents a classification of the intermediate variables through which any social factors influencing the level of fertility must operate. It next tries to show,

in broad outline, how some types and elements of social organization, acting through these variables, appear to enhance or depress societal fertility. Our hope is that as more sociological and demographic information becomes available, the theories advanced can be refined further and tested empirically.

The Intermediate Variables

The process of reproduction involves three necessary steps sufficiently obvious to be generally recognized in human culture: (1) intercourse, (2) conception, and (3) gestation and parturition.[1] In analyzing cultural influences on fertility, one may well start with the factors directly connected with these three steps. Such factors would be those through which, and only through which, cultural conditions can affect fertility. For this reason, by way of convenience, they can be called the "intermediate variables" and can be presented schematically as follows:

I. Factors Affecting Exposure to Intercourse ("Intercourse Variables").

A. Those governing the formation and dissolution of unions in the reproductive period. 2/

1. Age of entry into sexual unions
2. Permanent celibacy: proportion of women never entering sexual unions
3. Amount of reproductive period spent after or between unions
   a) When unions are broken by divorce, separation, or desertion
   b) When unions are broken by death of husband

B. Those governing the exposure to intercourse within unions

4. Voluntary abstinence
5. Involuntary abstinence (from impotence, illness, unavoidable but temporary separations)
6. Coital frequency (excluding periods of abstinence)

II. Factors Affecting Exposure to Conception ("Conception Variables").

7. Fecundity or infecundity, as affected by involuntary causes
8. Use or non-use of contraception
   a) By mechanical and chemical means
   b) By other means 3/
9. Fecundity or infecundity, as affected by voluntary causes (sterilization, subincision, medical treatment, etc.)

III. Factors Affecting Gestation and Successful Parturition ("Gestation Variables").

10. Foetal mortality from involuntary causes
11. Foetal mortality from voluntary causes

It is clear that any cultural factor that affects fertility must do so in some way classifiable under one or another of our eleven intermediate variables.[4] Hence the latter provide a framework in terms of which the relevance of cultural factors to fertility can be judged. In fact, attempts to explain causal relationships between institutions and fertility without such a framework have led to inconclusive and confused writing on the subject.[5] The cultural factors, or "conditioning variables," are presumably many, and no effort is made here to classify them; but the "intermediate variables" offer a means of approach to selecting and analyzing these factors.

It is also clear that each of the eleven variables may have a negative (minus) or a positive (plus) effect on fertility. If by examining all societies we could find the range of influence of a given variable, any effect more negative than the midpoint of this range would be on the minus side, and any influence more positive would be on the plus side. If, for example, a society uses contraception successfully, it has a minus value with respect to variable number 8; if it uses no contraception, it has a plus value on this variable. The value of each variable refers to how it affects fertility in each case; so a positive use of something (e.g., contraception, abortion, abstinence) may mean that it has a "minus" fertility-value.

One cannot say, as is frequently implied in the literature, that some of these variables are affecting fertility in one society, but not in another. All of the variables are present in every society. This is because, as mentioned before, each one is a variable -- it can operate either to reduce or to enhance fertility. If abortion is not practiced, the fertility-value of variable number 11 is "plus." In other words, the absence of a specific practice does not imply

"no influence" on fertility, because this very absence is a form of influence. It follows that the position of any society, if stated at all, must be stated on all eleven variables.

Societies differing in their social organization do not necessarily have different fertility-values with respect to all the variables. On some of the variables they may exhibit quite similar values. A nomadic tribe may have the same age at marriage as a settled agrarian village; a primitive group may practice the same rate of abortion as an industrial society. Two contrasting societies are not likely, however, to manifest similar values for all the variables; they are not likely to do this even when their general fertility level is practically the same. The actual birth rate depends on the net balance of the values of all the variables. Though societies which generate a high fertility tend to be predominantly on the plus side, no society has the highest plus value on all eleven variables; and societies with low fertility turn out to be amazingly positive on a number of them.

It should, of course, be mentioned that cultural influences affecting our eleven variables do not necessarily represent rational attempts to govern fertility. Many fertility consequences stemming from socio-cultural conditions (especially in underdeveloped regions) are by-products, being unanticipated and unrealized by members of the society. Surely by now social scientists know that they cannot confine their attention only to rational actions or treat non-rational actions as somehow defying systematic analysis. The requirements of a given society can be met just as well, and just as ill, by an unintentional level of fertility as by an intentional one.

Institutional Patterns and the Intermediate Variables: A Preliminary Analysis

From the standpoint of comparative sociology, an important question is how the fertility-values of our intermediate variables distribute themselves in different kinds of societies. A preliminary generalization is that under-developed societies tend to have high fertility-values for numbers 1, 2, 8 and 9 on the list; they may have high values for 3a, 3b, and 10; and they often have low values for 4 and 11. As for the remaining variables -- 5, 6, and 7 -- it is hard to prove that there are any consistent differences between pre-industrial and industrial societies. If this generalization is roughly accurate, then it becomes meaningful to re-group the eleven variables as follows:

The Intermediate Variables According to their Values in Pre-industrial Societies

Usually High Values

1. Age of entry into unions.
2. Permanent celibacy.
8. Contraception.
9. Sterilization, etc.

Usually Low Values

4. Voluntary abstinence.
10. Foetal mortality -- involuntary

High or Low Values

3a. Time between unstable unions.
3b. Post-widowhood celibacy.
11. Foetal mortality -- voluntary.

Indeterminate

5. Involuntary abstinence.
6. Frequency of coitus.
7. Involuntary sterility.

In attempting to analyze in a preliminary way how different institutional patterns affect the variables, we shall find it convenient to follow the order just given.

Number 1. Age of Entry into Unions. In beginning with age of entry into unions, we are dealing with one of the variables governing exposure to intercourse. It should be noted that these particular variables, however favorable they may be to fertility in themselves, may be counteracted in practice by other factors governing conception and gestation. For example, even though sexual unions begin early, pregnancy or childbirth may be prevented. This is

often the case when the sexual union is not a marriage. Many societies, even though they permit premarital intercourse, strongly forbid illegitimate pregnancy.[6] With respect to marital unions, however, reproduction is specifically sanctioned, indeed expected. As already mentioned, there may be, in addition, non-marital unions in which reproduction also normally occurs. Consequently, in dealing with age of entry into unions, we shall separate those unions in which offspring normally appear (including both marital and non-marital types) from those in which reproduction is so strongly condemned that it is infrequent. We shall now deal with the first general class (paying attention mostly to marriage itself), leaving until later the discussion of non-reproductive sexual unions.

Since in pre-industrial societies the age of entry into reproductive unions is generally young, the question must be raised as to why the fertility-value of this variable is usually positive when on certain other variables it is often negative. From a broad functional standpoint, the explanation stems from high mortality. Not only does a high death rate normally prevail in underdeveloped societies from year to year, but there is always the danger of a sudden catastrophic rise in mortality. Early marriage therefore represents the maximum possible hedge against the threat of failure in population replacement. Entering a union at a young age does not commit one irretrievably to a large family, because all other means of reducing fertility come <u>after</u> this point. If a particular union is resulting in progeny that are too numerous under current circumstances, this eventuality can be obviated by abstinence, contraception, abortion, or infanticide. These means, precisely because they come later, can be utilized at a time closer to the actual impingement of new individuals on the resources of those responsible. If, on the other hand, the age of entry into unions is late, the potential fertility that is lost can never be recovered.

The threat of mortality, from a societal standpoint, has reference not only to the potential offspring but also to the parents themselves. Early formation of unions helps to guarantee that the young adults will achieve at least some reproduction before they die.

This broad functional explanation does not, however, enlighten us concerning the specific institutional mechanisms by which early marriage is insured. These can best be understood in terms of family and kinship organization (involving rules of residence and rules of descent) and the control of property. Such mechanisms apply most clearly to formal marriage, although they may apply as well, though in lesser degree, to informal reproductive unions.

From the standpoint of kinship organization, an essential distinction is that between a joint household and/or clan system, on the one hand, and an independent nuclear family organization on the other. When the clan is the unit controlling the property (whether the latter consists in herds or land), the question of inheritance does not normally arise, because the clan is immortal. When the joint family is the controlling unit, the question arises only when the joint family divides; the joint family, however, does not divide when the offspring marry, but rather, at the earliest, when the father dies. Thus, in societies having a joint household (and a fortiori in those having a strong clan organization), marriage is in no way made contingent on the possession of separate property by the newly married pair.

Furthermore, with strong clan or joint-household control (or both), marriages are usually arranged by the elders, who are often motivated to make the arrangements early in the lifetime of the prospective mates, i.e., before puberty. Religious prescription may require this result, and the economic exchanges involved in betrothal may be structured in such a way as to yield an advantage to the parents who marry their daughter early. If the system is one of

patrilocal residence, for example, a grown daughter remaining in her parental home is an anomaly. Not only does her presence run counter to the normal division of labor by sex, which assumes the complementarity of husband and wife, but she must adjust to the wives of her brothers coming into the household. Add to this fact that the daughter, as a prospective spouse, is most in demand by other families when she is young, first because she then has a greater potential fertility ahead of her, and, second, because she is more attractive sexually and fits more easily into a subordinate status in her husband's parental home. If, then, there is a substantial bride-price or groom-price at marriage, the girl's kin stand a better chance of a favorable bargain if they marry her off early. This may help them in procuring wives for their sons.

In societies having neither a strong clan nor a joint family, the forces leading to early marriage may be overbalanced by others. The Irish family, for instance, has long been organized in terms of neolocal residence and hence marital rather than filial solidarity. This being true, land had to be obtainable or marriage postponed. During the greater part of the eighteenth century land was scarce and could not be subdivided because the economy was predominantly pastoral. Consequently, an obstacle to early marriage "was the difficulty of acquiring a settlement upon which a new family might depend."[7] Later, during the sixty years before the Famine, when the potato became the staple food and the economy shifted from pastoralism to cultivation, couples could get property at marriage by subdivision of the land, thus removing temporarily the main obstacle to early marriage. But with the crisis of the Famine, the futility of progressive subdivision led to the Land Purchase Acts stipulating that the loans which transformed tenants into owners were granted only on condition that no subdivision would take place. Since the annuities ran for 35 years, this represented some restraint on subdivision.[8] A more powerful restraint was the fact that, once

the tenants became owners, they grew unwilling to subdivide in behalf of their sons. The tendency was to retain only one on the paternal land, the remainder of the children being dispersed, partly through migration abroad. The independent nuclear family was maintained, but the son who remained at home could not establish such a family until the father was willing to resign both authority and property. As a result the average age at marriage in Ireland became extremely advanced, reaching 29.1 for women by 1926.[9]

Lest our characterization of Irish family organization as neolocal appear surprising, it should be noted that although the Irish have been interpreted as having a joint household and patrilocal residence,[10] the opposite seems to be true. Even if one or two sons remain at home, the resulting menage is not what is ordinarily called a joint household; because in Ireland marriage implies the independence of the son. When the son brings a bride into what was the paternal homestead, he brings her into a home that has been redefined as his, no longer his father's. The father has relinquished both ownership of the farm and authority over the son. As long as the father continues to own the land, the son who remains at home cannot marry because the land is necessary for the "match."[11] If marriage occurs, therefore, the fact that the parents are still in the home is merely adventitious -- they have entered "the age grade of the dying."[12] Significantly, if irreconcilable conflict develops in the shared household, it is the parents, not the son and his wife, who must leave. "The bond between them [husband and wife] is stronger than that between son and parent."[13] Thus in Ireland the fact of sharing a house with the parents is not a reflection of the joint family ideal but of the force of circumstances. The fact of a common menage is socially defined in such a way as to comply with the ideal of a neolocal and independent nuclear family.

This independent nuclear family organization is neither unique to Ireland nor modern in development. In Northwestern Europe the custom of impartible

inheritance (e.g., by primogeniture or ultimogeniture) was found in many areas during the Middle Ages. In some sections it was apparently customary for the old people to give their land to the heir before they died. Surrendering their authority, they expected only their keep off the land. The heir's marriage was contingent on the land being turned over to him; if his sisters and brothers stayed on, they could claim their keep but not the privilege of marriage.[14] The principle of no holding, no marriage,[15] operated to advance the average age beyond what it otherwise would have been. Furthermore, the notion of the independence of the nuclear family also manifested itself in the master-apprentice relationship within the medieval guilds; for marriage often did not occur until an adequate guild status had been acquired by inheritance, purchase, or dower.[16] There is thus evidence that European society has long emphasized the marital rather than the filial bond as the basis of family organization, with a consequent tendency to delay marriage.[17]

The emphasis on marital rather than filial solidarity, on neolocal rather than patrilocal residence, which appears to have delayed marriage in Ireland and Northwestern Europe contrasts sharply with the forces operating to precipitate marriage in an extended family system. In a truly joint household the authority of the elders continues <u>after</u> marriage; the marital bond is therefore subordinate to the filial bond and does not require economic independence on the part of those getting married. Such a family pattern is well known as the ideal one in traditional China, India, Bantu Africa, and many other peasant or primitive cultures. In the Chinese case, the father maintains his tutelage over the marriad son and his control over the familial property until death. He consequently need not fear the marriage of his son as a threat to his authority, and therefore, unlike the Irish father, has no motive (at least in this regard) for postponing such marriage. On the contrary, to the extent that his son brings a wife into the house and has children, the old man's authority is extended. Indeed, it is

only by the marriage of his son that the patriarch can fulfill his filial obligation to his father.[18]

Number 2. Extent of Permanent Celibacy. If late marriage can have a minus effect on fertility, so can permanent nonmarriage. In both cases, if this effect is to be produced, there must be either continence outside of marriage, or the use of means to prevent intercourse from resulting in childbirth. In practice, non-marriage usually does produce a low rate of reproduction among the unmarried, because, as mentioned already, marriage in all societies is the preferred institutional arrangement for having children. It seems wise, therefore, to discuss "celibacy" primarily in terms of non-marriage, and to consider sexual continence only in so far as it illuminates that factor.

Although permanent non-marriage is obviously a more potent factor than mere postponement of marriage, it actually occurs less frequently and hence has less negative influence on fertility. Only rarely can a population be found where more than 20 per cent of the women complete the reproductive period without ever having married. Ireland is an extreme case, with 26.3% of its women aged 45-49 in 1946 still single.[19] If we assume that these women, had they married, would have had the same completed fertility as those who did, then their proportion represents an estimate of the loss of fertility due to non-marriage (excluding illegitimate births).[20] Thus the loss due to permanent non-marriage seems, even in the extreme case, scarcely to exceed one-fourth. Such a loss in fertility is greatly exceeded by that due to late age at marriage. For example, in Switzerland (where the data are readily available), if all women in 1941 who had ever married by ages 40-44, had married at ages 15-19 and had subsequently manifested the same age-specific fertility as those who had actually married then or did marry at some point prior to age 40, the reproduction would have been 75% greater than it actually was![21] In other words, the gain in fertility if late marriage had been eliminated would have been approximately

three times the gain (25%) if permanent non-marriage had been eliminated.

It is mainly in urban-industrial societies that the proportion of women never marrying by the end of the reproductive span exceeds 10%. In India in 1931, it was only 0.6%, in Ceylon in 1946, 3.4%; and in Malaya in 1947, 3.3%. Thus the underdeveloped areas generally show a very high plus value for fertility with respect both to variable number 1 (age at marriage) and variable number 2 (proportion ever married), whereas industrial societies often show rather low fertility-values on these.

We thus have to answer two questions: Why do all societies generally make less use of non-marriage than of late marriage in depressing fertility? Why do underdeveloped peoples make less use of both of these mechanisms than do industrial societies? Let us attempt to answer these two questions in order.

Given the low fecundity of the human species, no society can hope to replace itself unless either a majority of its women participate in reproduction or its mortality is rigorously controlled. Since most of man's history has occurred under conditions of heavy mortality -- conditions which still prevail for many of the world's peoples -- all viable societies have evolved social mechanisms that lead the majority of women to participate in reproduction. Their participation is organized through the institution of marriage, which links sex and reproduction to the care and socialization of children. This institution is in turn supported by its articulation with the rest of the social order. The marital relation thus becomes a general norm in terms of which the hopes and expectations of virtually all individuals are channelized. If for some reason the pressure of mortality is relaced, the norm still continues in effect. Not only do normative systems change slowly, but there still remains the necessity for a family organization in terms of which reproduction and childrearing are provided for. Thus individuals continue to anticipate marriage as a normal and important part of life, an event more easily postponed than foregone altogether.

In any case, an increase in non-marriage would not reduce fertility unless either coitus outside of wedlock were successfully banned or contraception and abortion were freely used. If the latter were readily available, they could be used within marriage, and the consequent reduction in marital fertility would obviate the necessity of denying marriage to a substantial portion of the population. If contraception and abortion were not readily available, non-marriage would be an effective brake on fertility only at the price of permanent sexual celibacy. Everything we know about human society indicates that this price is so high that no population is willing to pay it.

Since no society has ever attempted to incorporate permanent celibacy as a widespread custom, we have no conclusive evidence as to what it would do to a social system. We can, however, obtain some clues by examining countries in which permanent celibacy has appeared to an unusual extent and by examining organizations which have enjoined it as a rule. We can also say something on purely theoretical grounds concerning what it might do if utilized as the chief means of reducing fertility to a modern level. Limitations of space prevent our giving a complete treatment along these lines, but something can be said about each of them.

Because Ireland has an unusually late age at marriage and a high proportion who never marry, together with a strong prejudice against coitus outside of marriage, it provides the main example of a rather extensive practice of celibacy.[22] Has this adjustment exacted a price? To answer such a question is difficult. A puritanical attitude toward sex cannot be listed as a consequence, because this is part of the celibacy itself. That the Irish avoid reproduction outside of marriage is shown by their low illegitimacy rate -- 2.8% of all live births in 1921-1930 and 3.3% in 1931-1940.[23] However, such descriptions as we have suggest that a great amount of attention, community effort, and personality conflict go into controlling sexual expression. Having a social system that emphasized the mar-

ital bond and the nuclear family, the Irish cannot completely segregate unmarried females, as is done in Moslem countries. The young people must have some chance to participate in courtship and mate selection. But, given this system, the Irish seem to make an unusually strong effort to control sexual behavior. For a country not living under a dictatorship, the official censorship of literature and ideas is exceptionally rigid, and has as its main purpose the suppression of material pertaining to sex and reproduction.[24] Furthermore, the data on mental illness, which show a high rate for Ireland, indicate a possible consequence of such repression.[25] There appear to be few features in Irish life that compensate for whatever is lost through celibacy. Ireland has, for example, the lowest level of living of any nation in Northwestern Europe. All told, there is some ground for the hypothesis that Ireland is paying a price for its unusual degree of celibacy.

Celibacy as an organizational rule has almost solely applied to religious personnel. Among those few religions which have adopted such a rule for their clergy, our evidence is most readily available for the Roman Catholic priesthood. As is well known, the application of the rule in this case encountered great difficulties. It required nearly nine centuries before the edict of non-marriage itself could be enforced with relative success. Priests were first commanded to separate from their wives and remain continent in 385 A.D. After that date there were periods when the ban against marriage could be safely ignored by priests, followed by periods when the Church was militantly purging its married clergy. Pope Gregory (Hildebrand) encountered such obstacles in enforcing the rule of non-marriage that he ordered the laity to withdraw their obedience from all members of the clergy who disregarded the papal canons on simony and incontinence. By so doing, he undermined a basic principle of the Church -- clerical immunity -- and thus as early as 1074 directly laid one of the foundations of the Reformation. Only by placing the sacrament of marriage in a lower position

than that of the religious vow (Lateran Council of 1123) did the Church finally settle the issue of clerical marriage, although in practice such marriages occurred with some frequency after that -- as late as the nineteenth century in some parts of Latin America, for example. In periods when the ban against marriage was being enforced, the Church still had to deal with sexual incontinence among its priests and nuns. "Solicitation" (the seduction of female penitents) concubinage, and other violations were so common as to cause chronic public scandal. In some areas priestly concubinage became, for long periods, a customary practice, and the sons of priests received preferment.[26] We can thus see that the enforcement of celibacy even for that small fraction of the population represented by the clergy was anything but easy.

If we imagine a society in which celibacy is institutionalized and becomes a norm rivaling marriage, we can see that the result would be paradoxical and impossible. Should the celibate class be large enough to reduce the birth rate to a modern level without other means, it would have to contain at least half the population. For individuals on such a scale to be induced to make the sacrifice of celibacy, they would not only have to be firmly controlled (perhaps segregated from the rest of the community and thus divorced from the temptations of everyday life), but would also have to be ideologically indoctrinated, and, above all, socially rewarded. If the rewards were great enough to recruit people for the numerous celibate portion of the population, this class would inevitably occupy the top of the social ladder. But the celibate class would be too big to be an elite. Furthermore, the sheer fact of celibacy would not represent in itself a contribution to the productive capacity of the society. If the celibate population were given useful tasks to perform, the variety of functions would necessarily be great; and if all these received an indiscriminately high reward, some celibates would be receiving this return not because of their productive contribution but because of their celibacy. In this way, seeking to give half or more of its

population advantages that at best only a few can be given (and doing so regardless of productive merit), the society would suffer an intolerable economic and social burden.[27]

After this analysis of the relatively minor role of permanent celibacy in fertility limitation, we are now ready for our second question: Why are late marriage and non-marriage more frequent in industrial than in pre-industrial societies?

Perhaps non-marriage occurs more often in industrial societies because these societies depend less upon kinship and the family as bases of social organization. The fact of being or not being married affects less the individual's economic chances. In pre-industrial societies, where the family is a productive unit, marriage has a high value for the individual. Also, where the partners to marriage are self-selected by a competitive process of courtship, as in modern countries, there tends to be a substantial proportion who are not successful in attracting a suitable mate.

The greater postponement of marriage in urban-industrial nations can be similarly explained. The necessity of lengthy training for skilled positions in an industrial economy, the often lengthy trial-and-errorprocess of courtship, the necessity of economic self-sufficiency on the part of the newly married couple -- all are conducive to marital postponement.

But in neither type of society is non-marriage likely to be as important a depressant of fertility as late marriage, because marriage remains the institutional norm in both cases. Wedlock may be postponed with some equanimity, but individuals who actually never marry have, in most cases, hoped that this would not be their fate. In Ireland, for example, clerical celibacy is certainly valued, but not permanent celibacy among laymen.[28]

Once again let us note that neither the postponement nor the total abjuration of

marriage necessarily implies sexual celibacy. Hence no industrial society today is required to use either method as a dominant means of controlling fertility, because other less drastic, less sacrificial, methods are available. It is clear that marital postponement, non-marriage, and abstinence within marriage, if they are effective in limiting fertility, all have a common feature -- sexual denial; and all share the difficulties that this entails.

Number 8. Use or Non-Use of Contraception. Whereas the "intercourse variables" have a negative effect on fertility only through abstinence, neither the conception nor the gestation variables require this drastic behavior by the individual or the institutionalization necessary to insure such behavior. With the "conception variables" (of which the use or non-use of contraception is one), the pleasure of intercourse is not foregone. The individual, thus released from paying a heavy appetitive penalty for the decision not to have children, is much freer to decide this issue in terms of his economic and social interests alone.

With reference to contraception in particular, its apparent efficient might lead one to expect a widespread use of it as a depressant of fertility. Yet we have already stated that this is one of the three variables which almost universally have a strong plus fertility-value in pre-industrial societies. Why, then, do these societies so widely exhibit the non-use of contraception? To answer this question, we must consider separately the two types of contraception.

8a. Contraception by chemical or mechanical means. In many primitive and peasant cultures the idea of chemical and mechanical contraception is known and attempts are made to apply it. Yet, even in situations motivating the individual to limit his fertility, this is not usually the means adopted, simply because the technology of underdeveloped societies cannot supply effective methods. In the absence of a knowledge of reproductive physiology, people in these societies have little sense of even the kind of instrumentalities to look for. Similarly, there is not enough knowledge of chemistry to give command over materials. The methods,

therefore, tend to be hit or miss, with magic rather than science playing a prominent role. Lack of experimental technique leads one method to be valued as highly as another.[29] Even the methods that would actually accomplish the purpose of contraception are apt to be clumsy, sexually unsatisfactory, and unhealthful, e.g., insertion of an okralike seed pod in the vagina (Bush Negroes of British Guiana); insertion of rags or finely chopped grass (Bapindas and Bambundas in Central Africa); insertion of dung (Egypt and other societies).[30] Furthermore, granted that a really satisfactory method is hit upon, such as possibly the use of a douche containing lemon juice or a decoction of the husks of mahogany nut (Martinique or Guiana),[31] the materials are likely to be available only in one locale or in certain seasons of the year. Thus the technology and economy of pre-industrial societies have not been equal to the task of providing a chemico-mechanical contraceptive that would be at once cheap, satisfactory, effective, and readily available.

8b. Contraception without chemical or mechanical means. Clearly such methods as withdrawal, intercourse without penetration, and various heterosexual "perversions" do not depend on scientific and technological progress. They are known and practiced in one form or another in nearly all societies.[32] Yet they seem to be insufficiently employed to represent a major control over fertility. They may be so employed in a few primitive societies, but apparently not in the civilizations such as that of China, India, and the Near East where huge population aggregates are found. For the most part, it seems, they are employed in extra-marital relations or in those cases where premarital intercourse is permitted but premarital pregnancy forbidden. But it is doubtful that such practices represent an important contribution to fertility control in whole societies. Numerous societies -- some with a good share of the world's people -- either do not permit the ordinary female to engage in premarital intercourse, or have such a young age at marriage that such intercourse would play a small role in any case. As for

extra-marital relations, those societies which permit them under certain circumstances are not particularly concerned about the woman's becoming pregnant, because biological paternity is not stressed. Only those societies branding adulterous children as illegitimate would condemn the married woman's pregnancy by another man than the husband, and these would be societies which restrict extra-marital intercourse. For these reasons, to have an independent and significant effect on fertility, non-mechanical contraceptive methods would have to be used within marriage. We are therefore forced to ask why such methods are not more widely used within wedlock in pre-industrial societies.

The reader should recall that any society with a high mortality must in general motivate its members to view legitimate reproduction favorably. Under this presure the cultures in question, as already pointed out, are so organized as to maximize fertility values in the early stages of the reproductive process -- e.g., by early marriage. Although intercourse is one step later, it is still so early as to involve a risk of inadequate fertility. If conditions subsequently make children undesirable, measures can still be taken after conception.

An additional consideration is that the physical burden and danger of childbearing, and the responsibility for nourishing and rearing the child, fall mainly on the mother. If therefore there is a wish to avoid childbirth, this wish is apt to be hers rather than her husband's. It happens, however, that the non-chemico-mechanical methods of contraception are the ones requiring the co-operation and partial frustration of the male. Since he is not under the pressures that affect his wife in this matter, he may be reluctant to aid her in avoiding pregnancy.

The social insulation of the two sexes is often carried so far that communication between them is difficult. This insulation is particularly observable in regard to sexual behavior, which tends to be surrounded by taboos and rituals. As between husband and wife, sexual intercourse, by virtue of being the special bond and therefore the focus of anxiety and conflict between them, may be the

topic they discuss with least freedom. Thus the cooperation necessary for contraception is made difficult.

In such terms we can understand why the available methods of contraception receive scant use in underdeveloped societies. Which of the considerations mentioned plays the greatest role is hard to say, but the fact should be emphasized that not all the reasons for limiting births are predictable at the time of intercourse -- particularly in simple societies that live close to the environment and are threatened by quick catastrophe. The individual couple may, therefore, as we shall see later, limit fertility after rather than at the time of intercourse.

Number 9. Voluntary Control over Fecundity. Like chemical and mechanical contraception, satisfactory control of fecundity is beyond the technical capacity of pre-industrial societies. Neither the reduction nor the enhancement of fecundity by harmless medical measures appears possible in such cultures. Operations on the male external genitalia can be performed, such as subincision and castration, but these are either too drastic to be harmless or have little effect on fecundity.[33]

We may conclude, then, that pre-industrial societies are plus on variable number 9. But so are industrial societies. The latter may have even more of a plus fertility-value on this variable than simple societies because they can, and usually do, forbid sterilization and, at the same time, foster medical treatment for sterility, thus enhancing the fecundity of partially sterile couples.

Although modern science makes harmless sterilization possible, it has not yet been used, except in Puerto Rico, as a popular method of avoiding children.[34] The Puerto Rican case suggests, however, that sterilization may in the future become more widely diffused in underdeveloped areas. If the operational technique were improved to the point where it could be easily reversed -- so that it could be used for the spacing, as well as for limiting the total number, of children -- it might become the principal means of reducing fertility in backward areas.

Number 3a. Time Between Unstable Unions. Any negative effect on fertility from variable 3a is a function of both the rate of dissolution of unions and the time lost between them. If unions are stable, or if they are unstable but no time is lost between them, fertility will not be affected adversely.

With reference to marital unions, preindustrial societies seem generally to have a low rate of dissolution. True, there are certain exceptions to this rule. Some of the Islamic peoples show a tendency toward marital instability, and in some primitive societies the clan or joint household takes such precedence over the nuclear family that the latter tends to be somewhat unstable.[35] On the whole, however, the institutional structure of pre-industrial groups buttresses marriage in such ways as to give it considerable stability.

When a society has a significant proportion of informal unions which it regards as inferior to legal marriage but in which reproduction is nevertheless expected (e.g., "consensual unions" in Latin America and "common law" unions in the British West Indies), one of the features of such unions is that they tend to be unstable. In such cases the woman may wait some time before entering a new union, and the fertility lost may be substantial. For a small sample of women in Jamaica (where around 70% of the births are illegitimate) the reduction in fertility due to the instability of unions was approximately 37%.[36] The informal type of union arises as an institutional form from various historical causes. In societies that have been disorganized by Western contact, they may appear abundantly, and legal marriage itself may become unstable.[37] In other instances where the social order has grown largely out of a former slave class, informal unions may be both more numerous and more unstable than legal marriages.[38]

With reference to premarital unions, there is every evidence that in the many societies where these are permitted they are, as a rule, highly unstable, amounting in many cases to adolescent promiscuity. However, there is ordinarily little time lost between such liaisons; few societies permit reproduction in them; and, given

a young age at marriage, most such unions occur at an age when adolescent sterility seemingly reduced the number of conceptions.

It follows that pre-industrial societies generally have a plus fertility-value with respect to variable number 3a, but the exceptions are more numerous than was the case with the other variables so far considered.

Number 3b. Post-Widowhood Celibacy. What effect the high rate of widowhood found in pre-industrial societies has on fertility depends on the institutional position of the widow. In many such societies she loses little time from exposure to intercourse, because she soon marries again. In other pre-industrial cultures, however, the widow either must wait for a protracted period or is subject to a distinct prejudice against remarrying at all. An important problem in analyzing the institutional impingements on fertility is the discovery of why some societies take one course in this regard and others take the opposite course.

If we study those societies in which remarriage occurs universally and soon, we find that they are the ones requiring the widow to marry a kinsman of the deceased husband (levirate). Such societies are usually primitive, practicing a shifting cultivation, hunting, or pastoral pursuits, and are characterized by strong clan or lineage organization. Marriage involves substantial economic exchanges and, if the system is patrilineal and patrilocal, these are weighted in favor of the bride's lineage (brideprice). The woman brought into the clan or lineage as a wife is conceived as belonging to this clan, which has paid the brideprice; her children, who are automatically members of the husband's lineage, represent her contribution in return for the cost of procuring her. When the woman is widowed, the lineage retains control over her, not only because a price has been paid for her but also because her children must remain with the lineage. If she still is fecund, the lineage feels it would be losing potential children if she did not remarry. But remarriage to an outsider would be unsatisfactory, because the chil-

dren of that union would belong to another lineage. Hence the remarriage must be within the clan. Since in the exchanges cementing the first marriage, the husband's nearest relatives bore the main cost, it is natural that his close kin (notably his brothers) should have first claim on the widow. If the deceased husband has no actual brothers, one of his "classificatory brothers" can be substituted. In anticipation of her possibly entering a levirate union, a woman's relation with her husband's actual and classificatory brothers is often one of privileged familiarity. The term for "husband's brother" may be the same as that for "husband." The social structure clearly demonstrates that the clan is thinking of the widow in terms of her potential production of children. Among the Nuer, for instance, even if the widow should take as a lover a person outside the clan (she cannot legally marry outside), the children are viewed as the descendants of the dead husband and therefore as members of his, not the lover's, clan.[39]

In many societies, on the other hand, the widow is forbidden to marry a close relative of the deceased husband. These seem to be cases in which the clan, however important it may once have been, has receded in economic and political significance, seemingly as a result of technological advance and greater class stratification. The economy is that of a more stable agriculture in which the same land is intensively cultivated year in and year out. Under such circumstances the joint household acquires more independence and more significance as an economic unit than it seems to have in most primitive societies. The distinction between relatives in different households thus takes precedence over their solidarity as members of the same lineage or clan. To be sure, the woman marrying into the joint household may do so in terms of some form of economic exchange, but this exchange is between individual households rather than clans. The widow and her children accordingly belong to the deceased husband's household. Remarriage to one of her dead mate's brothers or other close male

relatives, however, would be structurally inappropriate, because the joint household is always subject to dissolution and must be so organized as to minimize the complications of such dissolution. Unlike the clan or lineage, which is immortal and indefinitely expandable, the household is a residential economic unit which can easily grow too large for its immediate resources. With stable agriculture, the household must be near the land it works. If its memberships increases, it must ultimately break up because the land required for sustenance will be too distant. When the household does break up, usually at the death of the male head, it does so by the separation of its nuclear families.[40] Accordingly, even when the nuclear family forms part of a joint household, it is visualized not only as a separate unit but also as one that may in the future have its own independent residence. A widow's remarriage to one of her husband's relatives within the household would conflict with this idea of potential independence. It would inextricably merge two nuclear families. It would require polygyny and would emphasize the solidarity of the sibling relationship rather than the father-son relation so central to the independent joint household.

Stable agrarian societies not only forbid the widow to marry within the circle of her husband's kin but also often frown on her marrying anyone at all. This additional prejudice seems likewise to be explicable in structural terms. For the widow to marry outside would require that some agency make a match for her, because marriages in traditional agrarian societies are arranged by persons other than the parties to the union. However, her family of orientation is no longer responsible for her. The family of her deceased husband is restrained from taking the responsibility for several reasons. It would, in seeking a mate for the widow, have to treat her as a daughter, which might interfere with the rights of the actual daughters. Furthermore, since she is a widow and is older, she has become less valuable than upon her first marriage, so that it is difficult to get her married at a social level reflecting favorably on the family's prestige.

If the widow has children, her marriage outside the immediate kin would require her separation from them. It is thus understandable why traditional agrarian societies, especially where the joint household is normally preferred, should exhibit a prejudice against widow remarriage. Such unions certainly do occur, particularly in the lower classes which cannot carry out the joint family ideal, but the prejudice may be strong enough to prevent a high proportion of widows in the upper classes from remarrying.[41] In India the caste controls reinforce those of the joint household in preventing widow remarriage. Since such unions are thought to lower the caste's prestige, and since marriage is endogamous within the caste, both parties to a remarriage are condemned. For this reason the reduction of fertility due to widow agamy is probably greater in India than in any other country, especially because of the early age at marriage and the high mortality there.

Number 11. Voluntary Control over Foetal Mortality. Underdeveloped societies have few means for lessening foetal mortality, but they do have readily available means, through abortion, for increasing such mortality. In fact, abortion is widely practiced in pre-industrial societies, being the individual's principal means of limiting fertility.[42] Since medical measures to avoid foetal mortality do not, at least as yet, have as much influence on fertility as voluntary abortion can and does, we can say that whether a society has a plus or minus fertility-value with respect to variable 11 depends primarily on the extent to which it practices abortion. Accordingly, some pre-industrial societies are on the "plus" side (forbidding abortion and practicing it little) but many others are on the "minus" side (practicing abortion to a considerable extent). If we grant that interference with conception is less hazardous to health than interference with pregnancy, an important question for us is why abortion is so much more frequently used in underdeveloped societies than contraception.

In answering this question, one can point to the following considerations: (a) as compared to mechanical and chemical means of contraception, abortion is technically simple;[48] (b) in contrast to such non-chemico-mechanical methods as coitus interruptus or coitus inter femora, abortion is not applied at the time of intercourse and does not require cooperation between man and woman. It is a woman's method and can be practiced without the man's knowledge. (c) Unlike contraception, it is completely effective. (d) Once an undesired pregnancy has occurred, the need for abortion is certain, whereas at the time of intercourse there is always the chance that pregnancy will not eventuate anyway. (e) Although a child may be desired at the time of intercourse, subsequent events may alter this attitude, at which time abortion rather than contraception is a remedy.

A Note on Infanticide. Although infanticide is not dealt with as an integral part of our analysis because it does not affect fertility, one should note that it is virtually a functional equivalent of abortion in controlling family size, and that it too is practiced widely in pre-industrial societies, much more so than contraception. The rationale for its use is much the same as that for abortion, but it does differ from the latter in at least three respects. First, infanticide allows the progeny to be selected by sex, as shown by the custom of female infanticide. The logic of this practice is exemplified by the Netsilik Eskimos:

> The most glaring consequences of the struggle for existence is manifested in the way in which they try to breed the greatest possible number of boys and the fewest possible girls... girls are killed at birth, if they have not already been promised to a family where there is a son who some day is to have a wife... They hold the view that if a woman is to suckle a girl child it will be two or three years before she may expect her next confinement... A hunter must take into consideration that he can only subject himself and his constitution for comparatively few years to all the strain that hunting demands... Now if he has sons, they will as a rule be able to step in and help just when his own physique is beginning to fail. Thus it is life's inexorability that has taught them the necessity of having as many sons as possible. Only by that means may they be certain that they will not need to put the rope around their own neck too early; for it is the common custom that old people, who can no longer keep themselves, prefer to put an end to their life by hanging... 44/

Olga Lang discussed the persistence of the immemorial custom of female infanticide in China. The hospital records used for her study "contained matter-of-fact references to infanticide made by Chinese social and medical workers indicating that it was taken for granted. Much more often, however, infant daughters have not been killed outright. What happens is that the small amount of food available for the family is unequally distributed: the son gets the larger share and the daughters are practically starved. Hence the frequent epidemics have taken a heavier toll of girls than of boys."[45] Much the same could be said of India.

Second, infanticide also allows the offspring to be selected according to physical status, weeding out those with deformities, bad health, or unacceptable physical or racial characteristics.[46] Third, it can be practiced when the circumstances of birth are considered to be abnormal and ritualistically taboo. Twins, children born with feet first or with teeth, infants whose mothers died at their birth,[47] and offspring born on unlucky days are typical victims.[48] Fourth whereas abortion may injure the health of the mother, infanticide obviously does not.

A <u>disadvantage</u> of infanticide may seem to be that since a child has already been born, a living person is being killed. However, the newborn child is often not viewed as a member of society until he has passed through some sort of ceremony (<u>amphidromia</u> in ancient Greece, presentation of the child to the father in China) which defines him as such. The destruction of the child is therefore viewed psychologically in much the same light as abortion.

<u>Number 4. Voluntary Abstinence within Unions.</u> Abstinence within unions is practiced much more, on the average, in pre-industrial than in industrial societies. The effect of such abstinence on fertility, however, depends on the circumstances; for there are at least four types of restriction -- post partum, occasional, gestational, and menstrual. The first two types tend to limit fertility, while the last two, if they have any effect at all, tend to increase it.

Post-partum abstinence occurs in nearly all societies, including our own. The amount of time involved, however, varies greatly -- all the way from one to two weeks in some societies to two to three years in others. Many pre-industrial societies insist upon abstinence for an arbitrary period of time after birth, usually for several weeks or months. In a few instances the duration of abstinence is fixed by some developmental stage of the child, e.g., when the baby first crawls, sits up, walks, or cuts its teeth. In many cases the taboo on coitus extends through the lactation period, which may last two to three years.[49] Not all of the time involved, of course, represents a loss of fertility, because ovulation is often delayed or occurs sporadically for a time after parturition. It is only when the period of abstinence extends to two months or more that a loss of fertility can be assumed, although even then it may not be quite commensurate with the amount of time covered. These longer periods, though found frequently in primitive and peasant societies,[50] are not customary in industrial countries.

Long post-partum taboos on intercourse obviously help to space out children, but this is not the reason usually given in communities that practice such taboos. Instead, a violation of the taboo is viewed as being magically dangerous to the child or the parents.[51] Such notions probably lead to the observance of the abstinence rules. In addition, it should be noted that in many instances the male has access to another wife (if he is polygynous) or to a concubine or other available woman. The social structure may encourage observance of the taboo in another way. When, as in India, the wife customarily goes to her parents' home to bear each of her first two or three children and stays there for a few months after confinement, the taboo is enforced with ease. Thus the fact that 80% of Indian villagers in one study reported post-partum abstinence of six months or more indicates a significant loss of fertility from this cause.[52] Doubtless similar or greater losses occur in many other agrarian societies.

The "occasional" restrictions on sexual intercourse are those occurring in con-

nection with regular holidays and special ceremonies, tabooed days of the week, and important communal tasks (war, economic undertakings,[53] etc.). The exact amount of time lost to reproduction in this way has seldom been calculated, but the Indian field study just cited found that the average number of days of avoidance for religious reasons was 24 per year in a rural village, while in a middle class housing project it was 19.[54] If these days occur sporadically, they hardly represent much loss of fertility, because they are practically comprised within the normal frequency of intercourse; but in many societies the abstentions extend over substantial periods. "The natives of the Mortlock Islands, a part of the Caroline group, proscribe any sexual intercourse in time of war; a man who violated the rule would die a sudden death. During the fishing season, which lasts for six to eight weeks, every Yap fisherman is subject to many restrictions.... Women are very strictly tabooed to him..."[55]

In contrast to post-partum and "occasional" taboos on coitus, gestational abstinence obviously cannot diminish fertility. The only question is whether it may slightly <u>increase</u> fertility. Most societies proscribe intercourse during some part, but seldom during all or even the major portion, of the gestation period. Only seven of the primitive groups in Ford's sample extended the taboo to the greater part of the period.[56] Usually it is toward the end of the pregnancy that the prohibition applies. If intercourse during the later stages occasionally induces miscarriage or causes puerperal infection, as is sometimes claimed,[57] then the taboo may enhance fertility, but only slightly.

Similarly, the almost universal prohibition of coitus during menstruation can have little or no negative effect on fertility. Such abstention, when fertilization is least likely, tends to concentrate sexual activity in the more fertile part of the menstrual cycle. In some pre-industrial cultures the taboo is extended for a few days after the menstrual flow has ceased (as among the ancient Hebrews), which has the effect of concentrating coital activity still more directly on the days when conception is most likely.

On the whole, primitive and peasant societies appear to have a greater fertility loss through intra-marital abstinence (variable number 4) than do industrial societies. They have considerably more post-partum and "occasional" abstinence, and the effect of these in inhibiting reproduction is not fully counterbalanced by the fact that underdeveloped societies also occasionally have longer menstrual and gestational taboos (which may slightly enhance fertility).

The Other Intermediate Variables. There remain four variables -- number 10 (which usually has a low fertility-value in non-industrial societies) and numbers 5, 6, and 7 (which seemindeterminate in their values). All four of these variables appear not to be clearly determined by institutional patterns in different cultures. If there is any difference in their fertility-values as between one type of society and another, the difference seems to be more a function of the general level of living than of the specific institutional structures. Perhaps one clue to this circumstance lies in the fact that three of the four variables (10, 5 and 7) are defined as involuntary in the sense of not being under control and hence not amenable to motivational determination. The other variable (number 6, frequency of coitus), though subject to individual control, is possibly too private and too linked up with organic capacity to be culturally controlled.

With respect to number 10 -- foetal mortality from involuntary causes -- we have said that the fertility-value is generally low in pre-industrial societies; because the data available indicate that stillbirth rates are greater in such societies. However, the conclusion is tentative, because adequate comparative information does not exist for miscarriage rates.

Number 5 -- involuntary abstinence -- presumably varies according to several disparate factors. In so far as health or sickness may be involved, the non-industrial peoples would probably exhibit a higher degree of such abstinence. The same inference might be drawn with regard to impotency, except that this condition is often caused by psychological determinants which may be more prevalent

in industrial cultures. Another cause of involuntary abstinence, the separation of couples due to migration, would seem to vary according to the particular historical circumstances of the society. Except under conditions of European contact, indigenous groups apparently have little individual mobility. Clearly, these divergent influences affecting involuntary abstinence can run counter to each other. It is therefore difficult to claim, for this variable, any consistent overall differences between societies. We are also handicapped by an almost total lack of data, for no comparative information has been collected with this issue in mind.

Variable number 6 -- frequency of intercourse -- possibly favors fertility more in underdeveloped than in industrial societies. But at best the evidence for this view is indirect, drawn solely from a few advanced societies where coital frequency appears greater among the manual than among the sedentary classes. Such direct evidence as we have supports no view at all. Average figures on "coital frequency" given in the literature, usually stated as so many times per week, are ambiguous, because it is unclear whether they mean <u>every</u> week or only those weeks when coitus is not impossible because of sickness, absence, menstrual, or other taboos, etc. Also, the comparative frequency figures cited in the literature are fantastic, showing variations from one society to another that are wholly inexplicable.[58] We have found no reliable evidence that the average frequency of intercourse for comparable age groups varies significantly as between one society and another, and certainly none which indicates that this is a significant factor in inter-societal variations in fertility.

With respect to variable number 7 (involuntary sterility) we again have little evidence. The hard conditions of life in pre-industrial societies may give rise to a considerable amount of low fecundity or absolute sterility -- particularly in the latter part of the woman's reproductive span; and in given instances, after contact with highly civilized peoples, venereal disease may have a pronounced effect

of this sort. On the other hand, the nervous tension and artificial modes of life in urban-industrial populations may possibly tend to lower fecundity to some extent.

Patently, the comparative fertility-values of the four intermediate variables just discussed are unknown. Not only is evidence lacking, but there is no sound line of reasoning by which the behavior of these variables can be linked up with specific institutional patterns. At most, there may be some connection in each case with the general level of living. The evidence for this is best with respect to number 10, but the other three must be left for the time being as indeterminate.

Conclusion: The General Pattern

Any analysis of institutional factors in fertility must first explain the well known fact that underdeveloped societies in general have a higher rate of reproduction than industrial societies. The explanation, in brief, is that the pre-industrial peoples, in the fact of high mortality, have had to develop an institutional organization which would give them sufficient reproduction to survive. However, analysis at this level does not carry us very far. In order to study the effects of institutional factors, one needs to break down the reproductive process itself so as to distinguish clearly the various mechanisms through which, and only through which, any social factor can influence fertility. In trying to do this, we have found eleven "intermediate variables." When analysis is made along those lines, it can be seen that the generally high fertility of underdeveloped areas does not mean that these areas encourage high fertility in every respect. As we have seen, they do not have high plus values on all the intermediate variables. Why, then, do they have low values in some respects and not in others?

It is possible to discern a systematic difference between underdeveloped and developed societies with reference to the eleven variables. In general, the pre-

industrial societies have high fertility-values for those variables farthest removed from the actual moment of parturition and which, therefore, imply an overall outlook favorable to fertility. To a much greater degree than industrial societies, they tend to encourage early exposure to intercourse -- exhibiting a far younger age at marriage and a higher proportion married. They thus lose little potential fertility by delaying or avoiding the formation of unions. After unions have been formed, these societies tend to enjoin more abstinence than industrial societies do (and therefore have lower values on variable number 4), but such "sexual fasting" arises from religious and magical motives rather than as a deliberate fertility control measure, and it does not appear to be great enough to have a substantial negative effect on fertility.

Underdeveloped societies also have high fertility-values for the conception variables. They practice little contraception and virtually no sterilization. Consequently, the tendency is to postpone the issue of controlling pregnancy until a later point in the reproductive process, which means that when a couple wishes to avoid children, those methods nearest the point of parturition -- abortion and infanticide -- are employed. These have the advantage, in societies living close to privation, of being nearer to the actual moment when the child must be supported.

Industrial societies, on the other hand, exhibit low fertility-values for those variables involving the early stages of the reproductive process, especially age at marriage, proportion married, and contraception; and they manifest high fertility-values for the variables in the later stages, especially infanticide. It follows that for many of the variables the two types of society exhibit opposite values. This is true for age of entry into unions, permanent celibacy, voluntary abstinence, contraception, and (if included as a variable) infanticide. It is not necessarily true of the time spent between or after unions, of sterilization, or of abortion; and it, of course, is not true of those variables characterized as "indeterminate" -- involuntary, abstinence, frequency of coitus, or involuntary

infecundity. But the general contrast is sufficiently clear to require explanation.

A key to the position of the industrial societies lies in the fact that, as compared to pre-industrial cultures, they have achieved their lower reproduction, not by acquiring low fertility-values for all the intermediate variables, but by singling out particular ones as the means to that result. They took those means of reducing fertility which involved the least institutional organization and re-organization and which involved the least human cost. In the secular decline of the birth rate they relied more heavily on the mere postponement of marriage than on non-marriage. They relied less on abstinence, which makes heavy demands on the individual, and more on contraception and abortion, which do not. They dropped infanticide altogether and, in the later stages, tended to reduce abortion. In other words, they have undertaken to lower fertility, not primarily by extending further the negative effect of the variables by which fertility was lowered in the pre-industrial stage, but by using readily available institutional mechanisms with respect to marriage and by employing the possibilities of their advanced technology for conception control. Marital postponement was easily extended in the early and middle stages of industrialization because the basis for it already existed in Western society and because contraception and relatively safe abortion freed those who married late from the necessity of premarital celibacy. Gradually, in the late stages of industrial development, contraception has gained such predominance that it has made low fertility-values on the other variables (including abortion and late marriage) unnecessary.

* * * * * * * * * * * * * *

F O O T N O T E S

1. Although the physiologist sees more steps in the process, these can all be subsumed under the three headings given here. We are concerned only with the steps in reproduction as they may be socially recognized and utilized.

2. Since sexual intercourse is not confied to wedlock, the term "sexual union" seems preferable to "marriage." A union is here defined as any heterosexual relationship in which either actual intercourse occurs or orgasm is produced for at least the male partner. Every society has a type of union (marriage) in which reproduction is expected, approved, and even enjoined. At the same time every society runs the risk of unions in which reproduction is condemned, either because they lack the legal form of marriage or because they violate one or more institutional taboos (adultery, incest, caste, or class endogamy, etc. -- see K. Davis, "The Forms of Illegitimacy," Social Forces, Vol. 18, October 1939, pp. 77-89). Between the fully approved and the strongly proscribed unions, there may be other types which have a lesser grade than marriage but in which reproduction normally occurs. Such unions may be frequent, in some cases representing the majority of reproductive unions. Any satisfactory sociological analysis of reproduction must keep straight the different types of unions.

3. Means of contraception other than mechanical and chemical include the "rhythm" method (which can also be classed as voluntary abstinence), withdrawal, simulated intercourse without penetration, various "perversions," etc.

4. The reader will note that our list of variables does not include infanticide or child care. The reason for this omission is that our analysis is focused on factors affecting fertility strictly defined. Infanticide does, of course, affect family size and natural increase and may serve as an alternative to factors affecting fertility. It is therefore discussed briefly at a later point.

5. For instance, Frank Lorimer, Culture and Human Fertility, Paris, 1954, by failing to make clear the ways in which fertility can be affected, gives in some ways a confused picture of how it is affected. The reader may wish to compare our framework with a half-page outline of direct and indirect factors affecting fertility given by Raymond Pearl at the end of an article on "Biological Factors in Fertility," Annals of the American Academy of Political and Social Science, Vol. 188, November 1936, p. 24.

6. Among the 250 societies for which he had information, Murdock found that, apart from incest taboos, "premarital relations are fully permitted in 65 instances, and are conditionally approved in 43 and only mildly disapproved in 6, whereas they are forbidden in only 44. In other words, premarital license prevails in 70 per cent of our cases. In the rest, the taboo falls primarily upon females and appears to be largely a precaution against child-bearing out of wedlock rather than a moral requirement." George P. Murdock, Social Structure, New York, 1949, p. 265. On p. 5 the author gives slightly different figures, but the majority of his societies still permit premarital sexual relations.

7. K. H. Connell, The Population of Ireland, 1750-1845, Oxford 1950, p. 89 (underscoring ours).

8. See Elizabeth R. Hooker, Readjustments of Agricultural Tenure in Ireland, Chapel Hill, 1938, esp. pp. 55-57, 106, 151, 208.

9. A. M. Carr-Saunders, World Population, Oxford, 1936, p. 91. Cf. James Meenan, "Some Causes and Consequences of the Low Irish Marriage Rate," Journal of the Statistical and Social Inquiry Society of Ireland, 84th session, 1932-33, pp. 19-27.

10. E. g., Conrad M. Arensberg and Solon T. Kimball, Family and Community in Ireland, Cambridge, 1938, p. 80.

11. Arensberg and Kimball, op. cit., pp. 107-122.

12. Ibid., p. 123.

13. Ibid., p. 128.

14. George C. Homans, English Villagers of the Thirteenth Century, Cambridge, 1942, Chs. 9-10.

15. Josiah C. Russell, "Demographic Values in the Middle Ages," Studies in Population, George F. Mair, ed., Princeton, 1949, p. 104.

16. Josiah C. Russell, British Medieval Population, Albuquerque, 1948, pp. 163-164.

17. Of course, not every society with neolocal residence shows a retarded age at marriage. In a primitive economy with high mortality, where no formal training or other obstacles to adult status must be hurdled, and where scarcity of persons rather than scarcity of land is the felt need, independent nuclear families may be formed by early marriage, e.g., the Netsilik Eskimos, Fox Indians, Andaman Islanders, Ruthenians.

18. Marion J. Levy, Jr., The Family Revolution in Modern China, Cambridge, 1949, pp. 168-170. When the family head dies there is the problem of one of the sons assuming authority over the others. It is precisely at this point that the joint household often dissolves; but if it survives this crisis, as it may, it does so because of the past institutionalization of relative age as a factor in authority.

19. Other cases of high proportions never married are Sweden (1945), 20.9%, Switzerland (1941) 20.1%, England and Wales (1931) 16.8%, Belgium (1930) 13.3%.

20. Differences in mortality and possible fecundity as between married and unmarried women may introduce a small but probably not serious error into this estimate.

21. This calculation excludes non-marriage as a factor, because the women who had never married by age 40-44 were subtracted from the women under consideration in each age group. In other words, 21.4% of Swiss women at ages 40-44 had never married. But the remaining 78.6% had married at various ages. If this 78.6% had all married at ages 15-19 and had from that age experienced the same age-specific fertility as those ever married at each age, their total

fertility would have been 76% greater. Stated in terms of the potential fertility lost by late marriage, the figure is approximately 64%. The calculation is rough, because the data refer to 1941 and thus do not represent a true cohort analysis; but a refined calculation on a cohort basis should yield rather similar results.

22. David Glass, Introduction to Malthus, New York, 1953, pp. 27-54, shrewdly notes that Ireland is the only country which has come close to following Malthus' rules of conduct -- "moral restraint" and no birth control. In other countries of Northwestern Europe, such as Sweden and Norway, a late age at marriage does not imply sexual abstinence, not only because illegitimacy is more tolerated but also because contraception is more freely practiced.

23. Ibid., p. 37.

24. For attitudes toward sexual behavior see Arensberg and Kimball, op. cit., Ch. 11; and also such literary and popular sources as Frank O'Connor, "Ireland," Holiday, Vol. 6, December 1949, p. 40; Sean O'Faolain, "Love Among the Irish," Life Magazine, Vol. 34, March 16, 1953, pp. 140-157. Regarding censorship, the following passage from O'Faolain is pertinent: "...Our censorship of books and publications, instigated by the clergy and submitted to, willy-nilly, by everybody, is a symbol of this fear of sex... In the 150 close-packed pages of the official register of books and periodicals banned by the Irish Censorship Board we find the names of almost every single Irish writer of note, some for one book, some for several. The banning is done in secret. There is no appeal to the courts of law..." See also an article, "Irish Challenge Censors' Methods," The New York Times, August 14, 1955, where it is pointed out that the Irish Censorship Board "has banned books by the most reputable Irish authors, including Sean O'Casey, Liam O'Flaherty, Sean O'Faolain, and Ireland's most brilliant short story writer, Frank O'Connor. Nobel prize winners have even come under the interdict...many works of worth are condemned on a few isolated marked passages, while the general tenor of the book is ignored. Even the works of Roman Catholic authors approved by the church authorities in Britain have not escaped the five Irish Roman Catholic Censors."

25. In 1949 the proportion of hospital beds devoted to mental cases was 57% in Ireland, whereas it was only 49% in the United States. The rate of mental patients per 100,000 population in 1948 was 603 in Ireland as contrasted to 382 in the United States. Adventitious circumstances seem not to account for this result. Though Ireland has a larger percentage of persons in the advanced ages than does the United States (24.7% at ages 50 and over as against 22.4% at these ages in the United States), she has a higher proportion under age 30. The fact that Irish medical services are less developed than in this country suggests that the comparison understates the difference in mental illness. In 1949 Ireland had only one hospital bed per 1,000 inhabitants, whereas the United States has 9.6, so that a higher proportion of mental cases in Ireland may never appear in the statistics.

26. For the history of clerical celibacy in Europe, see Henry C. Lea, History of Sacerdotal Celibacy in the Christian Church, London, 1932 , and A History of the Inquisition of the Middle Ages, Vol. 1, New York, 1888, pp. 31-32; Alexander C. Flick, The Decline of the Medieval Church, New York, 1930, Vols. 1-2, passim; J. R. Tanner et al. (eds.), Contest of Empire and Papacy, Vol. 5 of Cambridge Medieval History, New York, 1926, esp. pp. 11-14, 40, 61-62, 73, 695; Eileen Power, Medieval English Nunneries, Cambridge, 1922, Ch. 11; Geoffrey Baskerville, English Monks and the Suppression of the Monasteries, New Haven, 1937, pp. 261-266; Joseph McSorley, An Outline History of the Church by Centuries, St. Louis, 1944, pp. 83, 154, 206-207, 237; H. J. Schroeder, Disciplinary Decrees of the General Councils, St. Louis, 1937, p. 193. For Latin America, see J. Lloyd Mecham, Church and State in Latin America, Chapel Hill, 1934, p. 48; Mary Watters, A History of the Church in Venezuela, 1810-1930, Chapel Hill, 1933, p. 211; Gilberto Freyre, The Masters and the Slaves, New York, 1946, pp. 446-452.

27. Of course, a society could be imagined in which half or more of the women were forced to be celibate, the rest of the people living in polyandrous marriage. But such a speculation would evoke more paradoxes than that already sketched. A society capable of such deliberate organization could scarcely be expected to use celibacy along as its means of controlling fertility. With other less drastic means available, the end would hardly justify the means.

28. Arensberg and Kimball, op. cit., p. 69.

29. Norman E. Himes, Medical History of Contraception, Baltimore, 1936, pp. 53-54, 99. See also Clellan S. Ford, A Comparative Study of Human Reproduction, New Haven, 1945, pp. 40-42.

30. Himes, op. cit., pp. 10, 18-19, 63.

31. Ibid., p. 17. Also see M. Soors, "La dénatalité chez les Mongo," Zaire, Vol. 4, May 1950, pp. 525-532.

32. Himes, speaking of Europe, says that "coitus interruptus is doubtless the most popular, widely diffused method of contraception...and has been for centuries... /It/ is probably nearly as old as the group life of man." Op. cit., pp. 183-184. He also cites numerous primitive tribes in which coitus interruptus is practiced. I. Schapera, writing of the Kgatla of Bechuanaland, says: "The commonest method of contraception locally practiced is coitus interruptus... It is widely employed not only by married people, but also by unmarried lovers." Sometimes the woman, by moving her hips so as to extrude the penis just before ejaculation, accomplishes coitus interruptus without the male's cooperation. Married Life in an African Tribe, New York, 1941, pp. 222-223. Coitus inter femora is practiced in many societies, particularly bh the Bantus in Africa. Girls may wear special girdles designed to avoid penetration. C. Daryll Forde, Marriage and the Family among the Yakö of South-Eastern Nigeria, London, 1941, p. 14. Bantu tribes, permitting sexual relations but not pregnancy before marriage, teach (or did teach) their young people how to have intercourse without penetration, the unbroken hymen in some tribes being regarded as an important index of virginity, insisted on at marriage.

Alfred C. Kinsey et al. found "petting to climax" to have been practiced by 24% of the male sample (blown up to represent the U.S. male population) by

age 21, and by 50% of college-educated males. The cumulative incidence among females was less but still substantial, being 24% for the college-educated at age 20. Sexual Behavior in the Human Male, Philadelphia, 1948, pp. 531-542, and ...in the Human Female, 1953, p. 270.

33. Castration is so drastic that it is apparently never used with enough frequency to affect group fertility. Subincision, the splitting of the penis in such a way that the semen is expelled from the lower part rather than through the glans, seemingly has little effect on fecundity, depending in part on the position assumed during intercourse. Also the practice has a very limited distribution even in primitive society and seems unknown in more advanced pre-industrial societies. Among the Australian aborigines, where it is found, opinion differs as to its effects. German theorists, according to Himes, have generally held that the operation lowers fertility and is so intended. Modern anthropologists, on the other hand, have denied both these contentions. Himes himself believes it may have some negative effect of this kind. Op. cit., pp. 41-51.

34. See J. M. Stycos, "Female Sterilization in Puerto Rico," Eugenics Quarterly, Vol. 1, June 1954, pp. 3-9.

35. See Ralph Linton, Study of Man, New York, 1936, Ch. 10. Murdock, op. cit., p. 3, criticizes Linton for holding that in some societies organized on a "consanguine" basis the nuclear family plays an insignificant role, but the fact is that in such cultures marital instability may have little disorganizing effect. See K. Davis, "Children of Divorced Parents," Law and Contemporary Problems, Vol. 10, Summer 1944, pp. 700-710.

36. Judith Blake, "Family Instability and Reproductive Behavior in Jamaica," Current Research in Human Fertility, Milbank Memorial Fund, New York, 1955, pp. 26-30.

37. Margaret Mead, Changing Culture of an Indian Tribe, New York, 1932, pp. 14-15, Ch. 10. Schapera, op. cit., Ch. 10; Migrant Labour and Tribal Life, London, 1947, pp. 183-189; and "Cultural Changes in Family Life," The Bantu-Speaking Tribes of South Africa, London, 1937, pp. 380-385. The literature covering the impact of Western culture on native peoples is so enormous that one could document indefinitely the tendency of such contact to produce illicit sexual unions and instability in such unions and in marriage.

38. T. S. Simey, Welfare and Planning in the West Indies, Oxford, 1946, passim. F. M. Henriques, Family and Colour in Jamaica, London, 1953, passim. G. W. Roberts, "Some Aspects of Mating and Fertility in the West Indies," Population Studies, Vol. 8, March 1955, pp. 199-227. R. T. Smith, "Family Organization in British Guiana," Social and Economic Studies, Vol. 1, February 1953, pp. 87-111.

39. E. E. Evans-Pritchard, Kinship and Marriage among the Nuer, Oxford, 1951, pp. 112-123.

40. For mention of the joint household's vulnerability to change and its consequent fissive tendency, see Murdock, op. cit., p. 36.

41. Levy, op. cit., p. 46, points out that although the Chinese gentry have always frowned on widow remarriage, the peasants have usually practiced it. In fact, if a peasant widow was young and lacked grown sons, remarriage was inevitable. As the peasantry is said to comprise as much as 80% of the population (p. 44), widow celibacy is hardly characteristic of China as a whole, although gentry patterns set the ideals for the entire society. Olga Lang, without distinguishing between gentry and peasantry, says that remarriage is frowned on. Chinese Family and Society, New Haven, 1946, p. 53. She says (p. 126) that poor men often marry widows because they are easier to get than virgins. Any divorcee or widow can find a husband if she is willing to marry beneath her status. With regard to the absence of anything like the levirate in China, it is interesting to note that Miss Lang says (p. 21), that "early in the feudal period, under the Chou dynasty (ca. 1027-256 B.C.), the clan began to divide into economic families." Today, even in the South where clans are of some importance, they have no real authority in family matters. The strongest clans in Central and North China lack the essential of clan life, a fair amount of common property (pp. 177-178).

42. Ford, op. cit., pp. 50-51, found that most of his tribes took cognizance of abortion. In eleven it was specifically stated to be forbidden, and in eight it could be inferred to be forbidden; in 21 it was permitted to the young girl who finds herself pregnant, and in 4 this could be inferred to be the case; and in 12 a married woman was allowed to practice abortion if she believed that she had become pregnant through an adulterous intrigue. Himes regards abortion as widespread in primitive societies (op. cit., p. 52). A recent study by George Devereaux, Abortion in Primitive Society, New York, 1955, pp. 25-26, cites cases of tribes where abortion is quite frequent.

43. Premature labor can be induced by killing the foetus. This can be done by beating, pressing, or massaging the abdomen; by drinking poisons or strong emetics or laxatives; by piercing the foetus or amniotic sac with sharp reeds or instuments; or by wearing a tight belt. See Ford, op. cit., p. 52; Devereaux, op. cit., pp. 27-42.

44. Knud Rasmussen, The Netsilik Eskimos, Copenhagen, 1931, pp. 139-140.

45. Lang, op. cit., p. 150.

46. Hutton Webster, Taboo: A Sociological Study, Stanford, 1942, pp. 59-61.

47. Ibid., pp. 59-65.

48. Linton, Study of Man, op. cit., pp. 194-195, with reference to the Tanala of Madagascar, in a letter to W. Lloyd Warner quoted by Himes, op. cit., p. 8, Linton says, "I do not think that there was any idea of limiting population in it /infanticide/, but the losses were severe. In at least one tribe all children born on three days in each week were killed."

49. Clellan S. Ford and Frank A. Beach, Patterns of Sexual Behavior, New York, 1951, p. 219.

50. Webster, op. cit., pp. 67-71.

51. Ford and Beach, op. cit., p. 219.

61

52. C. Chandrasekaran, "Cultural Patterns in Relation to Family Planning in India," Proceedings of the Third International Conference on Planned Parenthood, 1952, Bombay, p. 78.

53. Ford, Comparative Study of Human Reproduction, op. cit., pp. 28-29. Webster, op. cit., pp. 132-139.

54. Chandrasekaran, op. cit., p. 78.

55. Webster, op. cit., p. 134.

56. Ford, op. cit., p. 48.

57. Ibid., p. 49.

58. Thus Ford and Beach report as an apparent fact that "the Aranda of Australia have intercourse as often as three or five times nightly, sleeping between each sex act," and that for Chagga men "intercourse ten times in a single night is not unusual." Nothing is said about how these bizarre statistics are gathered, or about what age groups in the population are being considered. The authors say simply, "it is reported that," or "it is not unusual that," etc. Such reports are all the more questionable since societies apparently with a similar level of living are said to have extremely different figures -- some at "once a week" or "once or twice a week" -- without any explanation of why they should be so low and others fifteen or twenty times as high. Op. cit., pp. 78-79.

SEMINAR ON LAW AND POPULATION

LECTURE BY PROF. SEIDMAN

I thought I might introduce my subject by explaining how I got into it. I had been practicing law for fourteen years in Connecticut, practicing togetherness on half an acre with my wife and family, and got an opportunity to go and teach in Africa. I knew absolutely nothing about Africa, much less about law and development. I was just a standard American legal practitioner. We went to Ghana and spent four years in West Africa, getting deported and undeported, living through two coups (one in Nigeria, and one in Ghana).

It was very difficult not to be attracted to the rhetoric of Nkrumah during that period. His speeches to this day read better than those of most other African leaders, in terms of aspirations. The model that best represented the Nkrumah regime, however, was embodied in a line from Shakespeare, where a girl comes out after the first night with her unwanted husband and says, "Strange how desire doth out run performance." That might have been the motto for the Nkrumah regime. One of the reasons why the Nkrumah regime did not succeed in its very high aspirations was that they really didn't know how to go about inducing radical change. It was unbelievable that so many of their laws produced absolutely no change.

About this time I ran into Gunnar Myrdal's book, Asian Drama. In that book, he identifies "soft" development as a principal difficulty of developing countries. That phenomenon occurs when laws are enacted but do nothing, when policies are announced, but they do not produce change. I became interested in the problems of how the state induces changed behavior.

Like most American lawyers, I do not define law merely as a set of rules. Few American lawyers do so any more, although many laymen, and some lawyers from other countries, do. Most American lawyers, I think, would agree that law is the whole process of government. One cannot make sharp divisions between rules, law-making structures and process, and the structure and process of enforcement agencies.

I then became interested in the question, What kind of knowledge one would need to generate in order to help professionals in government to use the instrument of the law to induce the kinds of social change that one labels "development?" That led very quickly to a study, not simply of the gap between law and behavior, but also to other considerations: What is good law? What is wise law? Does it make sense to seek to induce the sorts of behavior prescribed?

Now if one were to develop a body of knowledge about law and development, which would help practitioners (whether lawyers, civil servants, or political policy-makers), what would that knowledge concern? It would be knowledge about the limits of law, about law as a tool, as an instrument for accomplishing certain kinds of social change in terms of policies that somebody wants to implement.

Obviously, it is silly to formulate policy which considers only the ends to be accomplished and not the means at hand. The means at hand are basically the legal order. But, the legal order has limits. A knowledge of these limits will condition the end which one tries to achieve. Means limit ends, as well as ends determining means. I became interested in trying to develop a body of knowledge defining the limits of law in conditions of development.

What kind of propositions would such knowledge include? The propositions had to have a high degree of generality. Only so would knowledge about law and development be teachable, something that one could use if one were interested in enacting a tax statute, changing land tenure, amending a mining statute, seeing the customary courts function well, and so forth. Law has the broadest conceivable range of subject matter, knowledge reaching all of them must be expressed in very general propositions. They must be very general in their reach.

These propositions will be of three sorts. First of all, there must be propositions stating an agenda of how to go about acquiring knowledge. Knowledge of this sort must be of two kinds, expressed in propositions that explain why things are the way they are, and in normative propositions, stating that it is a good thing under certain circumstances to introduce laws of certain sorts. Until we are at the point of being able to propose normative propositions, we have not really generated usable knowledge. My first sorts of propositions had to be a set of instructions with respect to methodology--that is, how to go about generating knowledge in this area.

Secondly, I had to formulate a set of propositions that spoke to the question of the control of values. "Law" is in a sense a value-neutral tool. Like a scalpel, it can be used one way or another. At the same time every particular law is value-laden, because inevitably any law helps some people and injures others. Even the law that continues our driving on the right hand side of the street instead of the left-hand side favors those who have automobiles against new car dealers. If you were to shift tomorrow to the left side of the road, the older cars would be worth very little--the steering wheel would be on the wrong side. Every law favors one group against another. What was required was a set of propositions advising how to deal with values.

Lastly, we need some categories into which to put data. We need as it were a map of the world. Now a map in a one-to-one scale is the only one that would include all the details but it would be useless. The nature of maps is to simplify in order to understand. What was required was a set of categories that simplify the world but at the same time identify what is important. That is, to supply a vocabulary. Words determine how we think.

Out of this one would get a set of propositions telling one how to go about generating reliable knowledge about the limits of law, on a fairly general level. For example, I believe it to be true, almost truistically, that if a law is not communicated to its targets it will not influence their behavior. This is a very important bit of knowledge about the limits of law especially when one realizes how little is done to communicate law. (Actually, what happens in this country is that we rely upon a whole set of informal communication systems, usually ending with a lawyer who advises a client.

Poor people who don't have lawyers never find out about the law. Until there were welfare rights organizations many of the poor didn't know their rights.) Communication of law is particularly difficult in conditions of development, where the communication system between the center and the periphery is weak.

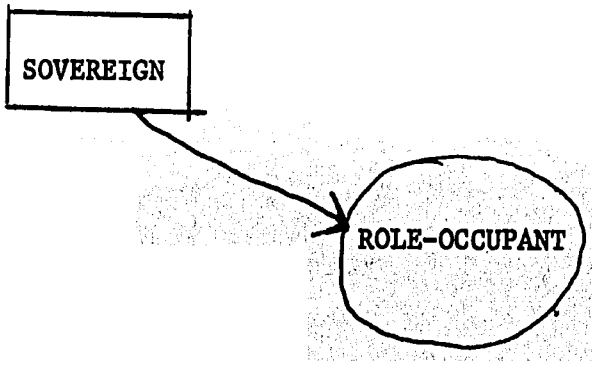
Thus, one could develop a set of propositions concerning sorts of communications systems and law. Obviously, this tells the person who is formulating a rule, or policy, that it is useless to develop a policy until one solves the problem of how to communi-ate it to the people whom it is supposed to affect. If one cannot solve the communication problem, then find another policy. The communications system is a limit on law's effectiveness.

Now if we could develop a whole set of propositions of that sort, we would end up with a body of knowledge which would tell development practitioners how to go about using the instrument of the legal order in an effective way. Our knowledge explaining why some laws have not worked become statements of the limits of law.

Now obviously I'm thinking about law in a very different way than the usual notion of law as what takes place in courts. I'm talking about law as a normative system to channel behavior, as opposed to a more usual notion that law is a process to settle conflict. An adequate theory of law and development--that is to say, a theory that might lead to propositions instructing a practitioner to how to go about solving real-life problems and the discovery of propositions expressing reliable knowledge about the limits of the law--would consist of propositions about methodology, about perspectives, and about categories, together with propositions about the limits of law.

I think the most useful thing I could do here is to discuss the question of categories. The literature is full of notions of the relationship between law and human behavior. It works both ways: What are the origins of law? What are the effects of law on behavior?

The most popular of these theories in American and English jurisprudence was that by John Austin, the English jurisprude, in the middle 19th century. He said thatall laws are the command of the sovereign. This can be represented thus:



65

I use the language of sociology, "role-occupant." Any command is a norm. A norm is by definition a prescriptive proposition directed to a role-occupant.

The question we want to explain is, Why does this role-occupant behave the way he does in the face of law? That is the start of an explanation of why the role-occupant does not obey law. We thus can begin to learn about the limits of law. If a law does not induce the behavior it is supposed to induce, it must be because inducing change in those circumstances in this way was beyond its limits.

So far as I can see, the behavioral sciences offer two different sorts of explanations for why people behave as they do. Much modern sociology regards us as pre-conditioned by society, programmed into our values, attitudes and the norms. Alvin Gouldner in his book, The Coming Crisis of Western Sociology, says that this is a pathological way of looking at man. It says that the society dominatesus. We do not dominate society--which man created. It is self-evident that if we are to develop knowledge about law and development, which implies conscious control by human beings over the human environment, we cannot well begin with a theory that says that we are inevitably controlled by the very environment we want to control.

An alternative notion is found in the writing of the Swedish anthropologist, Frederick Barth. He says that the simplest model of man and society is that of individuals or groups of people making choices within the constraints and resources of their environment as they perceive them. If we use that model, if our role-occupant does not obey the rule, it must be because the constraints and rewards of his environment are such that it is to his advantage as he perceives it to refuse to obey.

How does law purport to induce changed behavior? A part of the answer to this has been most clearly stated by Hans Kelsen, an Austrian jurisprudent. He says that every rule of law can be construed as having two aspects. On the one hand, it is addressed to the citizen. It says, "Thou shalt not kill." On the other hand, it is addressed to the whole enforcement process. He says, "If it appears before you that somebody has committed murder, the policeman shall arrest him, the prosecutor shall bring him to court, the judge shall impose a sentence, and the hangman shall pull the trap." So that it does not matter to whom the law is formally addressed. It is always in fact addressed simultaneously to citizens, to tell them how to behave, and to the enforcement agency, to tell it to apply sanctions.

Now what I suggest is that this starts opening up a new range of questions that we can ask. If we want to know why the role-occupant is not obeying the rule, why there is a rule for land reform and the land is not reformed, we must ask what is the rule addressed to the role-occupant, what are the constraints and resources of the environment within which he is making choices, including among those constraints and resources the activities of the sanctioning agencies with respect to it. If we want to explain the activitiy of the

sanctioning agencies, we can examine them as role-occupants. We can consider any bureaucrat or official as a role-occupant, and ask why he behaves as he does. If we want to ask why a bureaucrat engages in corruption, we must look at the total social environment, the laws addressed to him, what sanctions exist, how the sanctioning agencies behave.

When I talk about the social environment, I include the role-occupant's perceptions of the environment. It is self-evident that what he perceives counts, not only what actually exists.

And if we want to know why the law-making processes behave as they do, we must ask the same range of questions. What are the choices that law-makers make within their environment? One can put anybody in the position of role-occupant. Take the President of the U.S. If you want to know why Richard Nixon acted the way he did, you must inquire as to the rules addressed to him, the range of choices that he had available to him, the perceptions that he had of them, and what sanctions might be applied.

Finally, I must further complicate this model, because from the time a law is enacted its interpretation changes, and the behavior of the enforcement agency changes. The behavior in response to the law is therefore always changing. Take the laws that prohibit adultery. (There are such laws. You may not believe it, but there are. There is a statute making it a crime to commit adultery in Boston.) When these adultery statutes were enacted before American Independence, perhaps they had some effect on behavior. Today adultery is America's favorite indoor sport. The statute has no observable effect on behavior. The only circumstances when it is enforced is when a wife is particularly mad at her husband and wants to get even with him. She then gets the prosecutor to bring an adultery prosecution.

The laws and behavior are constantly changing. They change in part because the environment is changing, but also in part because of various kinds of interaction between these various actors. The way that the addressees of a law complain to the legislature or complain or interact with the enforcement officers may change the way in which legislature and officials act. I include some kind of notion of feedback to explain that interaction.

Now our model does no more than to provide us a set of categories that we ought to investigate if we want to understand how any particular law works. When I say "works," I mean the behavior it induces. It gives us an agenda of questions to ask.

Let me take a case that I have been thinking about recently. The Public Corporations of Zambia were set up with various kinds of public goals in mind. One of them in particular was to start some investment in the rural areas. Population in Zambia is very much concentrated along what is called the line-of-rail, literally along the railroad, from the Rhodesian border in Livingstone up to the copper belt. This is highly urbanized. In the colonial period whites drove the blacks off the line, 20 miles on each side of the railroad. The large settler farms were all located between the cities along the line of rail. The copper mines, which are much of the largest employers in Zambia and generate 95% of its foreign exchange, are also along the line of rail. Practically all "modern" production in Zambia is, therefore, along the line of rail.

A program was developed to create a new public corporation, the Industrial Development Corporation, designed to introduce new industry into Zambia, to develop poles of growth off the line of rail so as to provide employment opportunities in the rural areas, to try to start industry with linkages to the rest of the economy, that would use inputs that were grown or produced in Zambia, that produced products that could be sold in Zambian markets that would use a low level technology rather than a capital-intensive technology, so as to include more opportunities for employment, that would try not to use imported inputs so to save foreign exchange, and so forth. What has happened is that the Industrial Development Corporation has done everything backward. Practically all their investment is along the line of rail, highly capital-intensive, using imported inputs. For example, the Kafue Textile plant desired to double their capacity. They imported a synthetic fabric plant, using imported inputs, not cotton. Zambia grows a lot of cotton. They located it in Kafue, which is along the line of rail, using highly capital-intensive equipment. And this is by a corporation, 100% of whose shares are owned by government, where the government has a policy to the contrary!

Why? What is the explanation? We shall put the management of the corporation, the decision-makers of that corporation, in the position of the role-occupant in our diagramme. The law or policy addressed to them as role occupant did not guide their behavior. Why did they make these choices? What explanations might you offer?

Student: The interest of the government bureaucracy.

Seidman: What kind of rewards can you think of that might be operating?

Student: Economic rewards.

Seidman: As it turns out, despite the fact that there are all of these policies concerning poles of growth, use of local inputs, and so forth addressed to Indeco, in fact the managers of the corporation know perfectly well that the one time they're going to be subject to serious criticism is if they don't make a profit. So long as they make some kind of profit nobody is likely to criticize them. It is more profitable in the short run to make the sorts of investment that I have described. There is a high income group in Zambia. The income distribution curve in Zambia is highly skewed. Three to four percent of the population, or thereabouts, probably receives 50% of the total cash income. That high income group, which is the effective market, does want rayon, polyester, and dacron and so on. By developing a factory for that market, the corporation will not likely run into the red. Management won't be criticized.

Can you think of any other possible explanations? The question of how to operate a public enterprise is very difficult. One explanation, I think, is that a dominant member of the board of directors is frequently the permanent secretary to the Ministry of Finance. He just doesn't care about anything, except to make sure that the corporation is making profit. Another reason is that there is absolutely no enforcement agency. If you ask government, "To whom is this corporation accountable?" government says, "To us, we are the shareholders." The cabinet regards this as "their" corporation in the

sense that they are the effective shareholders who are to give orders. And if you ask any cabinet members whom they go to find out what is happening in the corporation, guess who they go to? They go to the manager of the corporation, who is employed by the cabinet and is their boy, no doubt usually a reliable, sensible person but, nevertheless, their information and everything else concerned with corporation is derived from the manager of the corporation. The nominal "shareholders"--that is, government--do not control the public corporation. Who does? In Zambia, as in most of the developing world, there are very weak controls over the managers of public enterprise. They have become quite independent of any kind of control. After all, in large private corporations, it is now well accepted that shareholder control is completely ineffective. The managers of public corporations in Zambia, too, make decisions with respect to new investment, with respect to hiring, with respect to salaries of management and others, as they see fit.

If one defines property owners as people who have power to make decisions about property, what has happened is that the development of public corporations in Zambia has created a whole new class of property owners and entrepreneurs. And they are living very high on the hog. My wife had a colleague in the Department of Economics, very, very bright and decent young man, who had his Ph.D. in economics from Cornell. He was making about 6600 kwachas, about $10,000 a year, as a senior lecturer in economics, which isn't bad for Zambia. One day this man heard over the radio that the President had appointed him the managing director of a new parastatal to control energy--the oil pipelines, the electrical company, and the coal company--and a salary jump that day from 6600 kwachas to 18,500, about $30,000 a year. The next day 2 Mercedes Benz with drivers arrived. The next week they moved to a new house that was worth about $150,000, with guards and servants, all built into the new job. So that what had happened is that these public corporations that were set up to accomplish developmental ends have become, in fact, the vehicle for the development of a whole new entrepreneurial and ruling class.

Who controls who? Does the government run the corporations, or do the managing directors tell the governments what to do? Now one has maybe a set of explanations that is a statement of causes for this phenomenon. It is profitable to make certain kinds of investment along the lines of rail; there is no accountability; and the only criticism of the managing directors would occur if they went into the red. So they make these investments in terms of profits along the line of rail, aimed at the high income elite market, which leads to imported raw materials and the use of high technology. At the same time they start to use the corporations for their own benefits.

What are the solutions? The solutions are obviously to try to find some way to reduce the power of the managers to make new investments. The source of this difficulty lies in the fact that the investment decision lies in the hands of these managing directors, and it is that control over capital that is the source for a lot of their power. The answer is to say that public corporations cannot make new investments. They must pay all of their surpluses to a central investment board. A central investment board makes the investment.

There may be greater control over such a board, in which the planning commission might have greater power. At the same time one may reduce somewhat the power of the managers to aggrandize themselves out of the surplus. One says yes, the job of management is to maximize profit, but with respect to operations. Investments will be decided elsewhere.

From that kind of analysis one might develop a whole investment code, and a whole policy of how to handle the problem of investment in the public sector.

Actually, what I have done is to use a problem-solving methodology: Looking at a trouble, finding explanations, getting some data to test the explanations, and looking for solutions. The ultimate test would be to test it and see if it did work. I went through a problem in a skeletal way, using the categories I discussed earlier as a way of helping to find explanations.

Generalized knowledge arises out of explanations. For example, if what I have described is accurate, one might be able to say that it is a limit of law that the managers of public enterprises will exercise their discretion in such a way as to maximize their own rewards and minimize the constraints upon them, whatever the laws addressed to them. If that proposition is true, it explains a great deal of the behavior of managers of public enterprises. As normative proposition, that explanation instructs the policy-maker to ensure that corporate managers in the public sector have as little discretion as possible, rather than the usual notion that managers of public enterprise should have as much discretion as possible.

Student: This kind of rail policy was indeed the British imperial policy in colonial Africa. Do you know, if I'm correct, that this really was the policy in all of British imperial policy in Africa? Or has there been exception?

Seidman: Well, British policy on the surface was schizophrenic. In Southern and Central Africa, in Kenya, and Tanzania, they developed a settler policy in which they imported and developed white enterprise, using blacks as very, very low paid labor driven out of subsistence economy through taxes. All of these countries built railroads. The whites clustered along the railroads.

In West Africa exactly the opposite happened. In Ghana and Nigeria it was illegal for a white man to buy land. The reason why Lever Brothers had their plantation for oil palms in the Congo instead of Nigeria was that Lugard refused to sell it land in Nigeria. Whereas in one part of Africa the British were busy driving Africans off the land, bringing in whites, and developing railroads for whites; in West Africa they were doing exactly the opposite. On the surface it looked schizophrenic. The reason is that they developed peasant agriculture in West Africa. The large companies like United Africa Company, and the companies were busy making money buying the products of peasant agriculture in West Africa. It was therefore profitable to exclude white settlers in West Africa, but to bring them to East Africa. But the answer to your question is that it was not a unanimous policy to develop a line of rail in a colonial economy.

Student: Is this line of rail below the equator rather than above it?

Seidman: Not really. Kenya is right on the equator. I wouldn't think that was really the dividing line.

Student: Why do you think that was the case?

Seidman: Well, I think the principle reason is that in Nigeria and in Ghana peasant agriculture sprang up. By 1911, Ghana was already supplying 1/3 of the world's cocoa. It was profitable for British enterprise to buy the cocoa cheaply and sell it abroad. That did not occur in Kenya or Tanzania. It did occur in Uganda, with cotton.

Student: In the development process, you know in some countries especially there is political interference. The managers are unable to interpret the law, put the law into implementation. The legislature the same thing, they don't want to implement it, and they bring influence to bear on bureaucracy.

Seidman: That is to say, politicians structure the environment so that it is to the advantage of the bureaucrats that they make choices antithetical to the law.

You do raise one problem, which perhaps I should mention. I'm constantly told by some students that law and development is a lot of nonsense. Law is inherently authoritarian. There are law-makers. I do not "make" law. My participation in law-making is the chance to vote every four years for U.S. "dictator," as Schumpeter said. The legal order of the state is essentially authoritarian, bureaucratic, hierarchical. People from some countries argue there is no point in talking about law and development. It is obvious, they say, that we aren't going to get any development so long as we have the present rulers, and if we get rid of the present rulers there isn't going to be any trouble in developing. In that view, the solution to the failure of development is to take to the hills.

That argument raises a very interesting question. For a long time I found this argument a real stumbling block in my own thinking. If one is not careful, this kind of analysis can very easily make the lawyer nothing but a hired gun for whoever happens to be in power.

First of all, it is obvious that one will never get any progressive laws so long as the interest of the political elites to talk about change through law is a myth. That's what you suggest when you say they interfere—that is, that the politicians really do not want change in favor of everybody.

Obviously, a great amount of law is passed only throw up fluff in the eyes of the mass. Many land reform laws are no more than that. How do you deal with that? Is it true? How do you study it? Why do you study it? I got from these questions into a whole range of problems relating to constitutional law. The question, I think, is this: Why is it that so many countries in the developing world the government that takes power really talks a fine rhetoric of development, but few of them actually succeed? In Africa, where this is markedly true, I can't believe that they were all cynical hypocrites.

Nkrumah, Kenyatta, and many others had too illustrious records to charge them with being hypocrites. Yet by and large my own assessment is that they have failed in trying to develop their countries.

Now why is that true? What explanations can be given? Well, I can give a series of explanations relating to the way in which law organizes the law-making processes. For example, a hierarchically organized, compartmentalized civil service is not functional for making decisions relating to change. They can run the machine. They can't change it. All of these countries inherited such a bureaucracy in the colonial civil service and have not changed them. The solution is obvious: One must develop new forms of public administration and administrative law. Secondly, if it is true that law-makers will never introduce rules that look to radical, social, political, economic change so long as they are allied to the economic power elite, one must explain why it is that almost all of the elites in Africa have become part of the economic ruling class. They have been bought off. President Kenyatta has become a rich man. Many high civil servants in Zambia own estates. The head of civil service in Zambia is said to be the largest taxi-owner in Zambia. These people have moved into areas formerly reserved for upper-class Europeans. They have obviously become a new ruling class. The response has been in Tanzania and now in Zambia to develop a Leadership Code, which purports to lay down a law trying to exclude political leaders from the private sector. It is apparently working moderately well in Tanzania. It was first implemented last June in Zambia. It is a novel way of trying to prevent that kind of alliance. One might think of other explanations for the failures of the African revolutions, and out of that develop a whole theory of constitutional law.

Lee: Ethiopia just tried to change the seat of power, but hasn't had any improvement.

Seidman: Well, I don't know if it has led to any improvement or not. The fact that obviously there is a lot of difficulty and disorder in Ethiopia may or may not be too bad. Countries get born in periods of great strains. This may be one of those periods. The news that I get from Ethiopia is far from clear as to what's happening. So I think myself it is well to reserve judgment, at least I don't know enough. I had the occasion last June to be at a conference with a lot of Ethiopians including the people who are in the constitutional reform commission, and it was a beautiful example of how not to go about making a constitution. They had a constitution reform commission composed mainly of Ethiopian political scientists, well-trained in the British and American political science tradition and what they were busy fashioning was a British or American constitution for Ethiopia, debating whether unicameral government is better than bicameral government, and what should be the form of the bill of rights, without even a thought about what kind of behavior this is going to induce.

Student: Does change precede law?

Seidman: In my view, everything changes all the time. This picture that we sometimes hold of tropical societies, stagnant, poor, but happy, waiting for the modernizers to come and change them, so that the choice is do we stay as we are or do we change, is a myth. Things are changing all the time. Zambia today is vastly different than Zambia two years ago or ten years from now. If we make no new laws, change is going to take place. Maybe desirable or undesirable change, but change will take place. This occurs because we take very much for granted the basic infrastructure of the law. We go around thinking that contract law or property law, which lie at the very basis of the legal order, are sort of natural. They exist. The statement, "This watch is metal," and "This watch is mine," have the same form. You might think that they have the same content. One is a normative statement, however, the other a factual statement. This watch is metal is a statement of fact. That this watch is mine implies a whole set of laws about what people ought or ought not do about this watch. This is so deeply built into our consciousness that we don't even think about it. But, the shape of the property law, and contract law determines all our relationships. I own shares in a corporation. I get dividends from that, yet I don't lift one little finger to do the work of corporation. Why? Because we have property laws that make that possible. Some of you may have read an article in New York Times Magazine about what's happening to the taste of American food, how chicken doesn't taste like chicken, only four sorts of apples are marketed, and so on. What the article says is that the great corporations have structured our range of consumer choice to a very limited number of things. You can't buy green cooking apples in Boston. Nobody sells them. They sell only Red Delicious apples. Why is that? What gives somebody the power to structure my choice? If you look into it, it is ultimately the law of property and contract which makes it possible for the food companies to define the kind of companies they have and the structure of the market within which I make my choice. So the state is constantly intervening all the time. So the question is not which comes first, the law or behavior. Behavior always takes place within a context of law. The laws always constrain behavior. What constrains the law is the possible, that is, all the limits of the law.

Student: In one of your papers, which I read before, about the East African model, written in the 60s, you mentioned quite a few terms, you mentioned planning in terms of trying to change the whole society. In terms of Tanzania what would you suggest, in terms of right now? Have they been successful in trying to change the traditional structure of society and in trying to implement a development plan?

Seidman: I think the answer is yes, but let me qualify that. You have to remember that Tanzania started with the lowest economic base of English speaking Africa. They have more problems, they have less aid, they have the fewest natural resources. At independence they had not quite a hundred unisity graduates, to run a country of 11 million people. Within these constraints they have done remarkably well. Just let me tell you one or two things they have done. Obviously it is essential to develop the Party as a two-way channel if you are going to communicate any kind of policy to people, if you have any sense of being responsive to the people, or of any kind of participation.

Five years ago they started the ten-house cell system in TANU (the Tanzanian African National Union). Every ten houses in the country were to be organized into a party cell with a party leader, who would have the obligation of dealing with local problems, of representing the unit in higher echelons within the pa-ty, and carrying messages up and back. They have over 500,000 of these ten house cells operating now. Now that's a remarkable social change. Five hundred thousand people working without pay, in roles that did not exist a few years ago is a remarkable change. One gets conflicting stories about how well the Ujamaa village program. A former student of my wife's took us out to a village about 50 miles outside of Dar-Es-Salaam. The village had just been started. People lived all over the place. They had not yet built their houses near each other, though this was in the plan. They had perhaps 25 families in the village. They each had their own farming plots as usual, mainly casava, but they had put in about 15 acres of bananas, and were busy working on another 15 acres. They were selling bananas. They were selling quite a lot of charcoal. They had a chicken house and were selling chicken in the Dar-es-Salaam market. This is a very poor part of the country. Their cash income was about $115 per family, which is high for that area. It was accomplished because there were governmental incentives and programs onto which they could latch. They did this, however, without money from government. They did get some advice, help in marketing, and of course land.

Student: I wonder what effect the Ujamaa concept has had on the population?

Seidman: One does hear rather disquieting statements, that Tanzania is moving from the use of voluntarism to form ujamaa villages to coercion. Whether this is true or false, good or bad, I can't tell from here. I do have a natural leaning against coercion, although I recognize that it is necessary sometimes. If one was on the ground one might decide that coercion here is taking place and is necessary. All too frequently, however, coercion can arise from the over-enthusiasm of officials who want to show a good record. They start whipping people into line. Nyerere's notion was that ujamaa villages would be based upon the existing attitudes of the population, which he perceived as being based upon traditional cooperative values and norms, ujamaa was not designed to change their attitudes, but build on their existing attitudes. There are a lot of questions whether that is possible. David Feldman examined tobacco cooperatives in Iringa, in Southern Tanzania. These were cooperatives which were started and were encouraged by the government. The land tenure rules said that one could get land if in a cooperative, one could get credit if in a cooperative, and so forth. Then came the unilateral declaration of independence by the Southern Rhodesia and the boycott. Tobacco became a very valuable cash crop in Tanzania, to take up the former Rhodesian market. A large number of Tanzanians started to grow tobacco. By 1968-69 these early cooperatives were all breaking down into individual units. If values and attitudes were all that were important, one would have thought that they would have remained together, since Africans are brought up in small cooperative groups. Feldman did some research to discover why it did not happen that way. It is a paper which matches beautifully this model. Here you had a policy of cooperation, and role-occupants who were disobeying it.

He explains the failure of the policy in terms of a number of factors of production. When you start to grow tobacco, you're pretty ignorant about how to grow it. A drying shed will serve about four acres of tobacco. Each person can grow an acre. After you get more expert, one can manage many more acres, and you do not need partners. Also, there were problems of women participating in the cooperatives. Traditional norms had women growing subsistence crops and men cash crops. Women were therefore not involved in growing tobacco. There were constant pressures by the women to leave the cooperative. In addition, there were no dispute settling mechanisms set up. When disputes broke out, people just separated for there was no way of solving the disputes. There were a number of other reasons for the change. Feldman argued that the notion that values and attitudes were going to keep them together, because these were the attitudes in which they were socialized, was nonsense.

Lee: You stated earlier that law uncommunicated would be useless. I have two questions. One is, how best to get law communicated. Two, what kinds of law ought to be communicated for development.

Seidman: First, let me address the question of the language in which law is written. Law in our culture is written in legalese, not in English. The reason why it's written in legalese is because our perception of law is that it is enforced at the point where there is a dispute. It is therefore important to have a law that defines as accurately as possible who's going to win that dispute. Law which is designed to affect the behavior of ordinary people shouldn't be written in legalese. Most of the kinds of law we are dealing with in development will never end up in a law suit--a law creating cooperatives, a law creating a university, and so on. Such laws are rarely litigated. They're designed to get things going. The first thing that we must learn is to write law in a new way. Take family planning. That is an area in which legalese plainly won't serve.

Secondly, I think you have to distinguish the addresses of the law. In every African country, one can perceive of the country as made up of an export enclave designed to produce raw materials to export overseas, and a hinterland consisting of peasants working very close to the subsistence level, in which the hinterland is a source of cheap labor for the export enclave. The export enclave ships raw materials overseas and brings in manufactured goods, and exports profits and dividends overseas to the benefit of expatriate firms. Now on the ground you can see that separation in many countries in Africa. In Lagos, Nigeria, the Island of Lkoyi makes the fanciest residential district of Cambridge, Massachusetts, look tacky. That is where the Europeans used to live. Now there are a number of members of the African elite who live there as well. The same occurs in Oyster Bay in Tanzania or Woodlands in Lusaka. In all these countries, the peasants are desperately poor. The countries are physically divided and socially as well.

Communication channels map out society. African communication channels map out African society. It is easy for one member of the elite to reach another member of the elite. If one has the kind of law addressed to a member of the elite--say, a bureaucrat--there are existing channels within

the export enclave that will serve. In the private sector, there are usually law firms. One of the major functions of the lawyer is to be a communicator of the law. You communicate to your clients.

When you start talking about communicating from the center to the hinterland, however, the gap that exists on the ground and socially is reflected by the communication channels. The central problem of communicating law that exists, as far as I can see, is, How does government penetrate into the hinterland?

It is particularly a problem because the government transmits law mainly through the bureaucracy. The bureaucracy obviously does filter the law that they want the people to hear. You all know what happens here with welfare rights. The bureaucrats in any welfare organization tell the clients just as much law as they want the client to know. It took welfare rights organizations a long time to organize, just to tell people what their rights were. Knowledge is power--and who wants the client to have power? The bureaucracy is the most obvious way the law gets communicated to the mass--and that has problems.

Another way to communicate across the gap may be the party in one-party states. But, most governing parties become really another arm of bureaucracy.

The question of communication is deeply tied to the question of power relationships. I wish somebody could study China and see if they have solved these communication problems.

Lee: Last week in Bangladesh, we were trying to find some way whereby the population control program there could be expedited through a change of law. But there are a number of preconditions there. One, the law had to be adopted and enforced cheaply, since the Government has no money and doesn't want to rely on foreign aid all the time. Two, the law ought to be simple and effective in order to reach a large segment of the population. One law that was proposed is that henceforth the Government will open its civil service positions only to people who have two or three children. It will not penalize the people who already have more than two or three children, but their opportunity for advancement will be contingent upon not having any more children. A number of advantages was cited: (1) It would not cost the Government anything to promulgate this law; it would actually save the Government a lot of money for maternity benefits, child allowances, and later in public services, etc; (2) administratively, it would also be simple, for the burden would be upon those who apply for Government positions, and the Government needs to deal with it only when faced with the application; (3) by having this particular law, you motivate not only youth, who look to government service as a life-long ambition, but also their spouses, parents, relatives, friends. They all want you to be in the government service. Therefore, all of a sudden, you are not only aiming at wives, and husbands, but also you are aiming at all

elements of the society. And on top of all that, government servants can be found everywhere; even in the remotest corner of the country you will always have postal workers, police, and tax collectors, hence the visibility value. Finally, jurisprudentially, it is sound, because a government servant must set himself as a model for others to follow. When you have a Government which has adopted a strong policy of population control, then the government servants ought to set themselves up as an example. If somebody is unable to do that with all kinds of contraceptive information and services available, then it is evident that he is not a conscientious worker and ought not to be in the government service. Now, may I have your comment?

Seidman: Well, it raises for me in the first place a question about the extent to which accultured values and attitudes limit law. I assume that in Bangladesh, as in most agricultural countries, there is a value in having a large family; it provides a work force for the farms. And there are theories of law which argue that it is impossible for a law to work which violates the customs of people. That's obviously nonsense, for there are many places in the world in which law has been initiated without any custom. On the other hand, that is not to say that values and attitudes are not a problem, I'm sure they are. My first reaction is what a great place to do some research on that issue; because if your scheme works, a whole group of people have incentives to encourage their young people not to have children. So you start changing a whole set of perceptions very quickly. Grandma will be made if you have a child, instead of the other way around. Secondly, however, I would like to ask what incentives there are for people, or what the constraints and rewards are within which these young people operate, which drive them to have large families today. Is it just having a large family, or is it as in many parts of Africa, economically sensible for people to have large families? If one out of every two children dies before age two, and I depend upon them in my old age, if children are part of agricultural work forces, it doesn't make sense to have a small family. Now you're opposing to that the possibility of some day getting into the civil service. Is it enough?

Lee: Well, you have two points there. In regard to the first point, I think Bangladesh provides a rather interesting case, for it is the only Moslem country in which voluntary sterilization has taken place on a massive scale. In practically all other Moslem countries, even in Tunisia where the President urged voluntary sterilization, the men just didn't like the idea. Whereas in Bangladesh, it was very successfully waged. On the incentive thing, I think a great deal of it can be traced to habit, lack of precaution, and also as you pointed out, you may have this economic incentive, but if you have a government position it is economic security, you have a life-time guarantee of a job, and therefore you might overcome the other desire of having children.

Student: Who would keep checking people that they have only two or three children?

Kellogg: The other guy that wants the job will check on that.

Student: Presently, are births recorded? And is it usually the midwives that give birth? And is it usually recorded in most cases?

Lee: Not really. Maybe this would be a beginning point for compulsory registration of birth. So you have a number of other legal reforms.

Seidman: You may ask another thing. There may be a high degree of disobedience. Does that mean that it's a bad law? You know the general perception of Prohibition in this country is that it was a failure. On the other hand, it cut down on alcohol being drunk in the U.S. by an enormous percentage. There were a lot of bad side-effects, like bootleggers, but for the amount of money we invested in prohibition we probably got a lot of prohibition. There may be a lot of disobedience in your scheme, but on the other hand I bet it would cut down on population growth despite that.

Student: You have all these bureaucrats, who are in these situations, and they're debating whether they should obey the law or not. And most often in order for him to maintain his power and economic benefits, he has to go against the law. Now the guy above him is trying to decide whether he should enforce it or not, and he's also considering this personal power gain. So we get to the guy at the top, like what's going to make him enforce it? The moral aspect or the great dedication to people? It seems that on a global basis we can't depend on moral leaders. So how about the ultimate factor being the people whom the law effects? The guy that's at the very top in a selfish pragmatic way decides that he will lose his power if he doesn't enforce this law, because of the power of people to take away power. Do you think that this is the only alternate argument?

Seidman: Well, you know the traditional model that we all ahve of how the world is bureaucratic. We all are born in bureaucratically organized hospitals. We are educated in bureaucratically organized schools, work in bureaucratically organized factors, we die and are buried in bureaucratically organized cemeteries. Bureaucracies are authoritarian. Government is bureaucratic. It is authoritarian. The principal control over the people on top is to vote the rascals out of office. That is a very weak control. How to control the governors? This is the central problem of political science. Starting with the American Revolution and the French Revolution, those products of Enlightenment, European man had the notion that he controlled his world. He controlled it through democratic constitutions. It didn't work. The 19th century was a bust and the 20th century has been worse. Social scientists devoted great time and effort to explaining this. Marx said that it was beacuase of the class struggle, Pareto said that it was the result of "residues" or values, Weber said it was that society runs our values. There are many explanations for why we can't run a rational world. They are all built on the notion that bureaucracy exists.

There are other ways of organizing the world which are not bureaucratic. I don't know what they are. I think that they must center around small face-to-face groups. There is a lot of work done on how to get genuine participation in the face-to-face groups. But, consider this question: In what sense does a Ph.D. in agriculture participate with a peasant in deciding what kind of

fertilizer to use? If you solve that, you understand participation, at least on a face-to-face level.

But now how do you get genuine participation in any real sense on larger issues? That is, where the mass is the control mechanism? How do you get participation on national questions? I don't know how people can participate in foreign policy decisions. I can't even imagine how it could be done. Of course, the ordinary notion of democratic elections representations doesn't work in any genuine sense. That is only electing our dictators every few years.

Lee: Back to the subject of proposed law for Bangladesh. Do members of the class have any ethical problems with that? Or simply administrative ones?

Student: The only thing that I can see is that it might divide the society.

Lee: Divide the society in what sense?

Student: You would have government servants.

Lee: But the government servants are already there. That's not an ethical problem.

Student: How about if one civil servant decides that his wife shouldn't have their child. Are they going to provide an abortion law depending on the number of children? Also, this would have an impact on other countries. Also, how would laws in one country affect laws in other countries? Such as the Edelin case here. What effect would abortion law have on other countries? Although the case was not specifically looking at abortion, but because of the impact of the case, I'm sure it has spread through the world. What effect would the abortion law have on other countries because of the effect of the case here? But again what would be the outcome of the law depending if a fourth child is on his way, would they have to get rid of the fourth child?

Lee: Adoption of this law must be coupled, of course, with government provision of contraceptives as well as free abortion services. Now there should be as wide as possible opportunities for the means to practice family planning. That is planned in Bangladesh. As to its applicability elsewhere, you might be interested in knowing that I first proposed this law in Ghana, in an African setting, and I was strongly denounced for being a racist, etc. I got so scared that I didn't mention it again until this trip and the reaction was just the opposite. They loved it, and the director of the Planning Commission liked it so much that he was going to bring it up to the President himself. Even the President urged that the abortion laws be liberalized, as one of the top priorities.

Seidman: Let me pick this question of is it ethical or not. It's a fascinating question. Go beyond that and ask, how would you go about determining what agenda, what steps you would take to decide whether it's ethical or not? Do we search our navels and say, I don't like it, so it's unethical? How do you deal with it?

Student: You look at the alternatives. If the alternative is worse, then you take another course.

Seidman: How does that reach the ethical question?

Student: Your perception of ethic is relative.

Student: Your proposal looks like a very interesting one, but how about Bangladesh's immediate problems with mass starvation.

Student: I think when you look at just this law you have to look how readily available methods of contraception are to them and how they're accepting them now. If the law is going to cause a lot of hardship on the third child being born, you may want to reconsider it.

Lee: Prof. Seidman, you have already answered one of my two questions. Now can you say a few words about what kind of laws ought to be communicated, e.g., anti-corruption law or mineral rights law or corporation law?

Seidman: That question is usually subsumed under the heading of ends as opposed to means, what ought to be the appropriate heading for development law. And I reject that. I think that you do better to start off asking what are the difficulties that are perceived by the people who are in the country. And go and solve those perceived difficulties. I don't think I'm capable, or anybody is, to sit here and devise a set of categories or plan for any other country. All we can do is to propose a methodology for developing a programme. Just as scientific method is interchangeable from one country to another, I think it's possible to devise ways of problem-solving and sensible decision-making which are transferable, which can be tested by using them. The philosopher, John Dewey, says taht you start off with a trouble. You explain it--that is, discover its causes. Then you test your explanation. You find some kind of solution and you assess its costs and benefits in the light of the resources available. Then you do it. In the course of doing it, you learn whether or not your earlier steps were correct. By doing it you test everything that has happened before. Since nothing ever works perfectly, implementing the proposed solution reveals new troubles. So the whole process starts again. In that sense we learn through doing.

I really think that the answer to your question is to go out and find out what are the difficulties thatpeople who are there perceive. Looking at the trouble in the local context, try to devise explanations and solutions for them.

In all of this you have to train people. There is a complex interchange between the people who are on the spot, and the expert. The key to discovering what to do next lies in a problem-solving methodology in which there's got to be a high level of participation.

I might also add that the purpose of talking about law and development is to induce change--that is to say, to change behavior. We all know that you can't observe something without changing it. As a matter of fact many of you

have learned about unobtrusive measures in methodology courses. If we are concerned about problems of development we have to start thinking about research as a method of having the most obtrusive possible measures, that is, using research to initiate a process of change. To the extent that people can participate in the decision-making (and I include research in the decision-making process), to the extent that you get people included in the decision-making, they participate in deciding what law enacted, and its implementaion.

That is one answer to the question raised earlier about participation. I have put forward here a very authoritarian model of law. I think that is built into a bureaucratically organized legal order, which we have. I should add that, therefore, it is a poor instrument to change, bureaucracies are poor instruments to change things. I think that we're stuck with this legal order, but the more the bureaucratic authoritarian nature of it can be broken down, the more useful it will be to induce change.

Participation is obviously its opposite. I think the long-term answer to the problems of development is participation in decision-making.

Lee: I see our time is up. I thank you very much, Prof. Seidman.

READING MATERIAL

A VOCABULARY FOR LAW AND DEVELOPMENT: A GENERAL MODEL

by Professor Robert B. Seidman *

To generate knowledge relevant to the solution of problems in the existential world requires at the outset some categories within which to classify the world. I undertake to specify these by developing a very general model (or explanation) for the domain of study, i.e. by creating an ideal type. To do that, I discuss first, the structure of choice; second, the available tools for social engineering through law; third, a model that purports to relate law to behaviour; and, finally, a few of the implications of the model.

I

THE STRUCTURE OF CHOICE

Human history, as contrasted with geology, for example, concerns acts, not events.[1] Acts imply choice.[2] The most simple and also the most general statement about human society is that it consists of men and collectivities making choices among the constraints and rewards of their environments as they perceive them.[3] A science of law and development must begin with a model which directs attention to the categories that are useful in explaining choice.

There are two questions that one can ask about choice. First, the environment of the actor provides a complex web of rewards and disrewards, resources and constraints. What are the constraints and resources, the rewards and punishments within which the actor must choose his course? Second, why does this actor choose as he does, within these constraints and resources?[4]

Boston University School of Law, Boston, Mass. 02215

This model of behaviour denies any dichotomy between determinism and freedom. Both are always present. The environment imposes constraints. Within those contraints there is always the potential for choice.[5]

Alternative courses of action are defined by all the social and physical forces of the world: Technology, geography, the behaviour of others. In a society built upon human interdependence, the expected behaviour of others is the most important and pervasive. For example, if a farmer requires credit, and the only source of credit in his village is a money-lender who charges extortionate rates of interest, the choice for the farmer is structured by that fact: He can either borrow money at the extortionate rate and continue farming, or he can cease farming.

Within the range of resources and constraints defined by the existential world, however, people do make choices. Despite this it is the case that people act in repetitive ways. That fact defines society, as opposed to anarchy. Why do people make <u>repetitive</u> choices?

What has been called the "role perspective"--i.e., the perspective of role-theory--suggests an answer:

> Individuals in society occupy positions, and their role performance in these positions is determined by social norms, demands and rules; by the role performances of others in their respective positions; by those who observe and react to the performance; and by the individual's capabilities and personality.[6]

Norms are statements of expected behaviour. The attendant sanctioning statements prescribe the consequences to be expected from breach. The individual exercising choice does so because he believes that he know what

behaviour to expect from others, both as they occupy their own positions, and as they respond directly to his own behaviour.

It is the concept of norm which bridges the internal world of the actor as he makes choices, and the existential world of society. To explain why a person makes the particular choices he does, we must take into account his notion of what he ought to do as well as what he believes he is compelled to do by circumstances. To understand the normative structure which an individual knows about, of whose consequences he is aware, and towards which he may (or may not) hold sentiments of obligation, is in part/to understand why with any given range the individual makes the choices he does. - but only in part -

This perspective holds the potential for <u>conscious</u> social change. Social prescriptions are susceptible of statement in words. Rules explicitly stated hold a potential for influencing choice. Both human and animal colonies exhibit a high degree of regularity of behaviour. The human condition, however, is distinguished from that of the lower orders by the normative system.

> By contrast, the intricate interactions of an ant colony or a beehive, like those of a prairie dog village, are governed mainly by the instinctive reactions of natural and social stimuli.... Obviously if the structure of human societies is to be understood, if human behaviour is to be adequately explained, the normative aspect must be dealt with.[7]

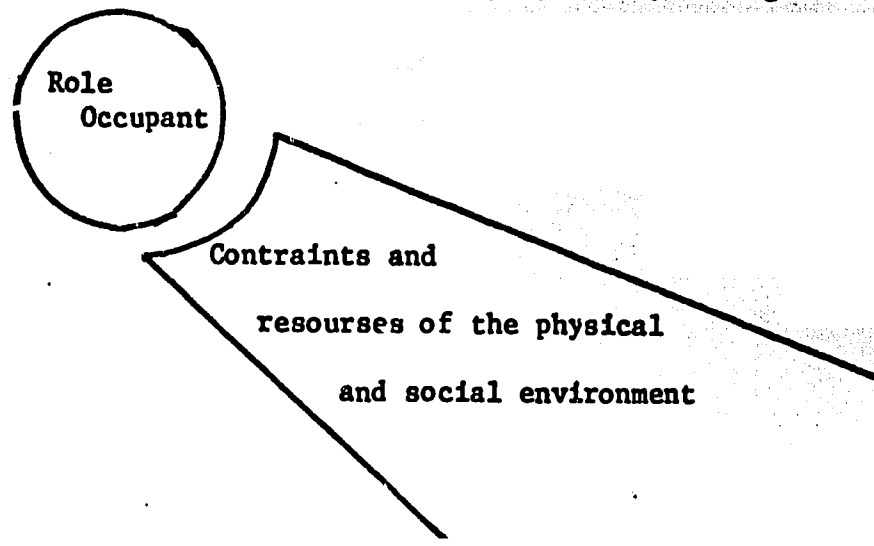
It is precisely because human beings do possess consciousness, and hence can, to some extent, be induced to respond to a change in the prescriptive rules addressed to them, that there is a possibility of consciously induced social change.

The words "role," "norm" and "sanction" thus become important building blocks for a theory of controlling behaviour through law. None of these

words has a clearly accepted common meaning, either in common speech or in the literature.[8] Their definitions must be stipulated.

By the word "role" I mean only "a norm or set of norms defining what the behaviour of a position should be." The position may be that of an individual or a collectivity (a corporation, a cooperative, a Marketing Board.) The individual who happens to be occupying a particular role at any particular time is the "role-occupant." How a particular role-occupant or set of role-occupants behave is called "role-performance." The role-performance may or may not correspond to the behaviour prescribed by the norm. By the word "norm" I mean only "a rule prescribing the behaviour of a role." Since it is addressed to a role, it is also addressed to each role-occupant. Finally, the word "sanction" has usually been defined in jurisprudence as a pain or punishment imposed by the State in consequence of a breach of a law. I discuss below, in Chapter the insufficiency of this definition for our purposes. The State has other tools besides punishment to use to induce behaviour conforming to a rule of law. I shall call these several tools collectively "conformity-inducing measures". (I recognize the difficulties in these definitions--e.g. the circularity of definition between "norm" and "role". They are, I think, nevertheless sufficient for my purposes here.)

I represent this perception of man-in-society by a simple diagramme:



The behaviour of any role occupant is a function of his making a choice within a range of constraints and resources thrown up by his physical and social environment. Since the role occupant is a human being, the actual choice made is dependent upon the perceptions, domain assumptions, internalized norms and so forth of the role occupant--that is, how he views the environment within which he lives. The model thus directs attention to the two sorts of causal explanations for human behaviour: Propositions describing the range of constraints and resources within which the role occupant must choose, and propositions explaining why the role-occupant chooses among that range.[9]

The problem is to identify those tools which government has available to change behaviour. I turn now to that question.

II

THE TOOLS OF LEGAL ENGINEERING

What is Law? is the oldest chestnut in jurisprudence. Physicists do not debate with each other over what is physics. Plumbers do not worry about what is plumbing. Lawyers concern themselves about the "nature" or "essence" of Law because they are so generalist a profession. To define Law is to state what the author believes to be the proper concerns of lawyers. My definition of law reflects a concern with the use of law as a tool of social engineering.

Every rule of law is a norm. John Austin grasped this proposition when he defined law as a "command." It is a rule prescribing the behaviour of the set of role-occupants--i.e., of the role. One can divide all norms between law and custom. By custom I mean any norm which people come to hold or to follow without its having been promulgated by an agency of the

state. By "a law" or "a rule of Law," I mean any norm so promulgated. A custom becomes a law when it is so promulgated.

Whether a rule of law has been internalized by a role-occupant is irrelevant to this definition. It is a rule of law if it is a norm prescribing the behaviour of a role-occupant, promulgated by an agency of the state. The definition leaves problematical, whether role performance will match the behaviour prescribed by the rule. What has been called "phantom" laws--i.e., rules promulgated by the state which do not induce the prescribed behavior--may still appropriately be denoted "rules of law".[10]

Soft development arises, in the main, because the rules of law do not induce the desired behaviour. In the terms used by the legal realists, there is a wide gap between the law-in-the-books and the law-in-action. In the vocabulary of role-theory soft development exists when role-performance does not match role-expectation. That is the event to be explained by a model for law and development.

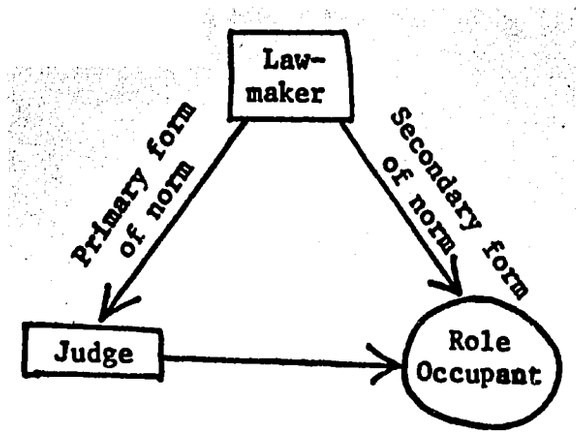
To say that role-performance does not match role-expectation is to say that the role-occupant is not making the choices with respect of behaviour that the law-maker desires him to make. Since behaviour is a function of choice within perceived rewards and constraints, to say that role-performance does not match role-expectation is only to say that the structure of choice facing the role-occupants, as he perceives it, leads him to solve his problems by behaviour different from that prescribed by the rule of law. He behaves deviantly.

Role-occupants behave deviantly because the net rewards for deviant activity within their social "field", as they perceive it, are greater

than the rewards to be received if they conform. Of this "field", the behaviour of state officials is the variable over which the governors believe themselves to have the greatest control.[11]

The relationship between rules of law and behaviour-inducing activity by State officials is suggested by Kelsen's idealized model of the legal order.

He taught that "the legal norm does not, like the moral norm, refer to the behaviour of one individual only, but to the behaviour of two individuals at least: the individual who commits or may commit the delict, the delinquent, and the individual who ought to execute the sanction."[12] The law that instructs a role-occupant not to commit murder, simultaneously instructs the judge to convict him of the crime if he disobeys, and to sentence him to punishment. He maintained that the first norm, (which he called the "secondary" norm) which forbids the substantive delict, was only an epiphenomenon of the primary norm addressed to the judge. He conceded, however, that "the representation of law is greatly facilitated if we allow ourselves to assume also the existence of the first norm."[13] We can represent the form of the legal order thus postulated:

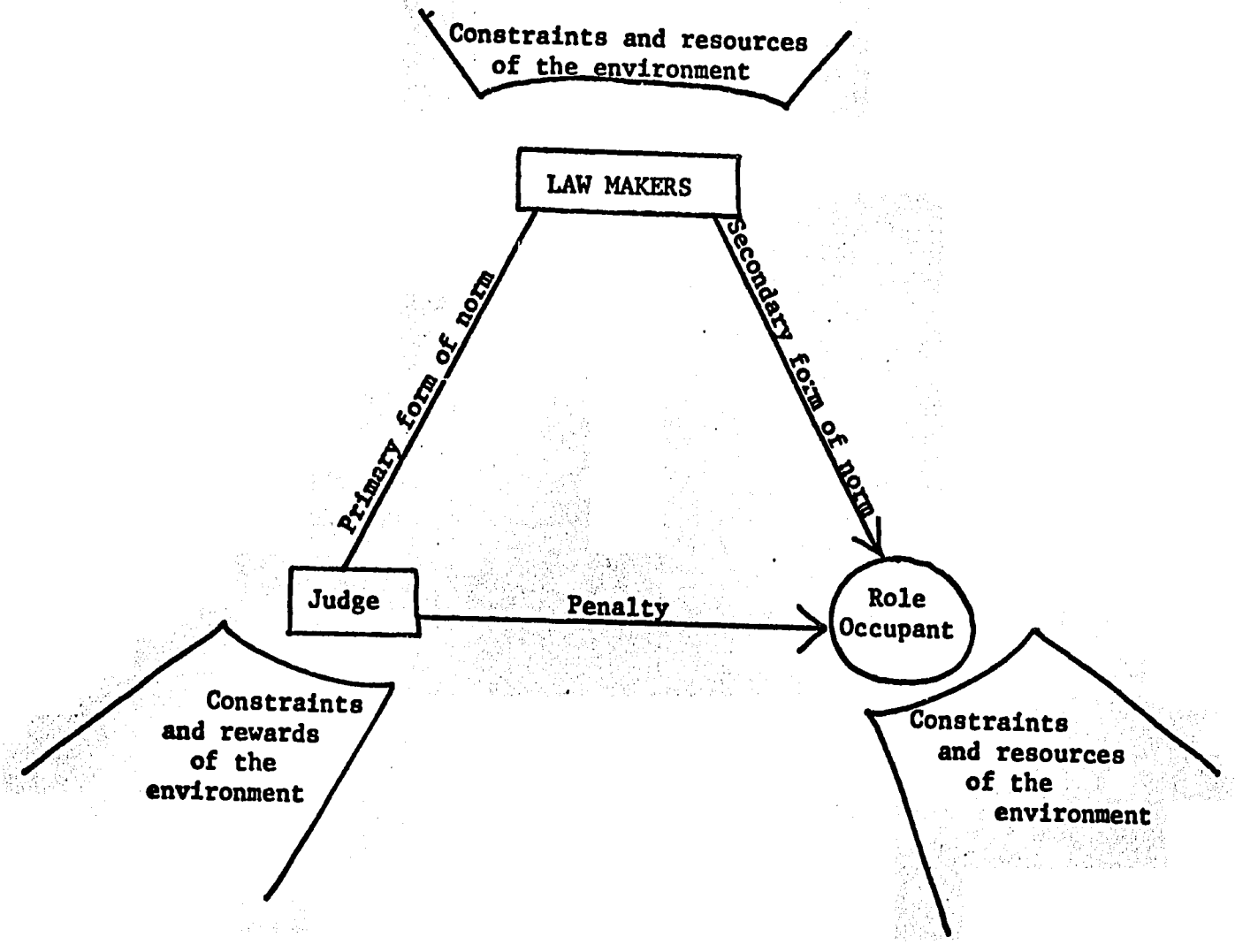


This model holds a clue to how law affects behaviour. The role-occupant, as I have already argued, makes choices within the contraints and rewards of his environment as he perceives them. The rules of law, and the behaviour of officials in sanctioning them, are part of that range of choice. Law operates by structuring the choice of role-occupants through rules and through sanctioning processes. It does so, in Kelsen's model, (1) by stating a rule which the role-occupant may feel obligated to obey, or (2) by instructing the judge to act in such a way that the benefits and rewards offered the role-occupant in consequence of his behaviour will be altered. "The secondary norm stipulates the behaviour which the legal sanction endeavours to bring about stipulating the sanction."[14]

III

A MODEL OF LAW AND DEVELOPMENT

Kelsen's model is only a model of the relationships between the rules of law themselves. The various actors in the model however are themselves, of course, all role-occupants. Each of them acts within a "field" of social forces. We can assimilate our two diagrams:



The demand of the American legal realists to study "law-in-action" --i.e., behavior--as well as the law-in books--i.e., the normative structure --led them to much the same sort of model. The model is, however, insufficient for five reasons. First, it assumes that the judge is the principal sanctioning institution. That assumes that the legal order is based on universalistic norms, with an autonomous legal system. As we saw earlier, to focus on these concepts inevitably directs attention to the courts. This is plainly too narrow a facus. The objection is met, however, by broadening the category of "judge" to include the entire machinery of government concerned with inducing desired activity - the bureaucracy, the police, State corporations, and so forth.

Second, the realist model directs attention only to explicit laws addressed by law-makers to role-occupants--i.e., to Austinian "commands," for the breach of which there is a stipulated sanction. It does not address the question, whether a particular law or set of behaviour-inducing activities is achieving conformity to less formally articulated policy.

An example may help. A government wishes to induce citizens to hunt and kill coyotes (a wolf-like predator in the American West). It offers a reward or bounty for each one killed. The form of that offer is contained in a law directing county agricultural extension agents to pay one dollar for each pair of coyote's ears presented to him, with a small criminal penalty if the county agent fails to make the payment on demand and production of the pair of ears. The realist model would concern itself with the law directed to the county agent, and his behavior. That question is, however, relatively trivial. The important question about the law is whether it induced the desired activity in the citizen. In fact, it is reported that

farmers bred coyotes for the bounty. Because the realist model limits itself to rules of law, however, it does not explicitly provide a guide for examining the relationship between the activity of the county agent, to whom a rule of law is direct, and the activity of the citizen to whom a policy, but no explicit rule of law is directed.

In short, the realist model does not accomodate itself to the study of law and government policy. We can adapt it to that study if we broaden the concept of the norm addressed to the role-occupant, defining the role expectation held for him by the government. It may be formulated in a rule of law, symbolized in the diagram by a straight line. It may also be articulated in exhortation or other form of persuasion, indicated by a wavy line. A government may wish to induce farmers to grow cash crops. If it enacts a statute (such as exists in Tanzania) making it a crime to fail to grow a stipulated acreage of cash crops, the rule addressed to the role occupant can be symbolized by a straight line. If it merely exhorts the role-occupant to grow cash crops, and seeks to induce the activity by rules addressed to bureaucrats directing them to provide credit, seed, adequate marketing facilities and the like for cash crops, the exhortation directed to the role-occupant can be symbolized by a wavy line. The test of the success of the rules addressed to the bureaucracy is then plainly seen not to merely whether they provide credit, seed, and marketing facilities, but the more important question of whether it induced farmers to grow cash crops.

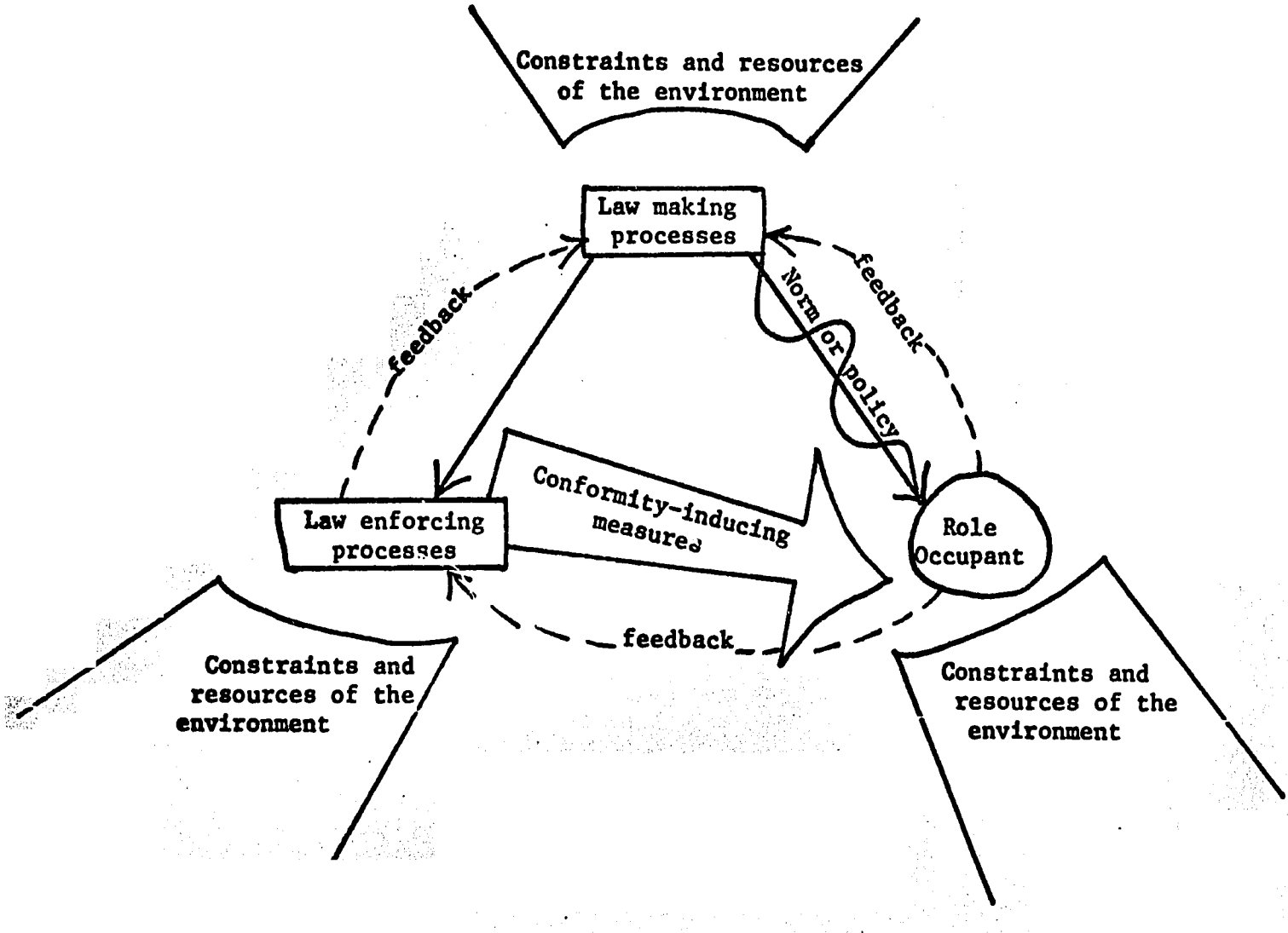
Third, any law, once passed, changes from the day of passage, either by formal amendment, or by the way the bureaucracy acts. It changes because the various forces embodied in the social "field" change. Of these, it is important to identify various messages between the several actors in the model. Citizens express their reactions to a particular law or program to lawmakers.

They send signals to bureaucrats about the acceptability of sanctioning behaviour. Bureaucrats communicate to lawmakers. In addition, there are various sorts of monitoring devices, both formal and informal, by which lawmakers and bureacrats learn about the relative success or failure of a rule. We include all these various sorts of communications under the very general rubric "feedback".

Fourth, the crude concepts of "lawmaker" and "bureaucracy" require explication. Laws are not generated by a single "lawmaker". They arise out of a process of lawmaking involving many roles in complex relationships. Sanctions are not applied by individuals; they are the consequence of complex sanctioning processes. These sanctioning processes are compact of a set of roles, each defined by rules of law. Many of these rules of law are not right-duty rules, but power-conferring rules. Each of these roles can be analyzed, however, by substituting it for the role-occupant in our general model.

Finally, as earlier suggested, the concept of "sanction" is too narrow. As we shall see below, conformity-inducing measures may be aimed directly at the role-occupant as-rewards or punishments, at changing the constraints and resources of the environment, or at changing the perceptions of the role-occupant through education or moral suasion. Our diagram must indicate this broader category.

The proposed model can be completed thus:



I can now state, in very general terms, why role-occupants behave as they do in the face of a particular norm addressed to them by law-makers:

1. Role-occupants act pursuant to choices they make among the constraints and resources of their environment, according to the way in which they perceive reality, and the rewards and disrewards which they believe are likely to follow upon their behavior.

2. Among the resources and constraints attendant upon behavior by role-occupants is the anticipated behavior of others,

a) By sanctioning behavior consequent upon the failure of the role occupant to match his performance to the expectation of the role, or

b) By the performance of others in their roles.

3. Role expectations are defined by norms.

4. Rules of law are norms promulgated by the State.

5. Every rule of law or government program looking to changed behavior by the role-occupant changes his arena of choice in one or more of four ways.

   a. By providing psychological rewards for compliance or deviance, depending upon the acculturation of the role-occupant;

   b. By instructing government officials of various sorts to provide different sorts of rewards or punishments in consequence of the role-performance of the role-occupant;

   c. By instructing government officials to act in such a way as to change the behaviour of third parties, whose behavior in turn alters the arena of choice of the role-occupant.

   d. By instructing government officials to try to change the perceptions, attitudes, domain assumptions, etc., of role occupants.

6. The occupants of roles in the law-enforcing processes will perform or not in the face of a rule of law for all the reasons that any role-occupant will comply or be deviant, by the behaviour towards them of the role-occupant and by the fact that they occupy roles within law-enforcing institutions.

7. The occupants of roles in the law-making processes will perform or not in the face of a rule of law for all the reasons that any role-occupant will comply or be deviant, by the behaviour towards them of role-occupants and of participants in the sanctioning processes, and by the fact that they occupy roles within law-making institutions.

In what sense is this a "model"? We earlier argued that there is no such thing as a legal-system, discontinuous with society. There are, however, plainly a vast number of specific systems, involving particular laws, bureaucracies, and feedbacks. What is the relationship between the model and its existential referent?

A model is a method of organizing thought. A physical model of an airplane is not the airplane, no matter how detailed the model may be. A diagrammatic representation of the system concerning the law of the agricultural sector is not the law of the agricultural sector. The model put forward is not a diagramme of a legal system. It is no more--and no less--than a device directing attention to particular categories of data for investigation--a perspective to guide discretionary choice in social inquiry. It is an agenda for research. It cannot be proven to be valid. It can be diswarranted, however, by the discovery of instances in which significant variables not included in the model do affect behaviour in response to a rule of law.

Finally, this model implies a definition of law. It is a definition that addresses law's function in channelling behaviour. Law is a process by which government structures choice. Law as a device to structure choice expresses at once law's usual marginality in influencing behaviour, and its importance as the principal instrument that government has to influence behaviour. Since society itself determines the range of choice in most respects, it is society which determines the limits on law. We can understand law only by understanding it as part of society.

IV

IMPLICATIONS OF THE MODEL

In the preceding chapter, a variety of variables discussed in the jurisprudential literature were examined. Some of these, such as the bargaining model, appear to be special cases of a more general theory. Others, such as custom, seem to be significant variables, although perhaps they should be assigned a weighting different from that suggested by the theories discussed in Chapter Six. I next discuss how the model here offered treats these variables.

Autonomous legal system, universalistic rules, legalistic law-finding. The categories advanced by Weber, implied by Lon Fuller, and equally implicit in analytical positivism concerned the form of rules and the legal order. They operate through sanctioning processes and law-making processes, and they have consequences with respect of the behaviour of role-occupants. The model proposed, therefore, suggests lines of inquiry to discover if in fact the triad of concepts induce behaviour appropriate to a free market. In that sense, these concepts are plainly only a special case of the more general hypotheses advanced here.

The Bargaining Model. The bargaining model asserts that all behaviour in the face of law is the consequence of interactions between the various actors. The model advanced here makes that explicit in two ways. In the first place, the relative power of others is an important factor in determining the range of choice open to law-makers and other role-occupants. In the second place, the model expressly includes a feedback function. How the law-making processes operate, and how rules are enforced, is a function of the interactions indicated by that function. Unlike the bargaining model,

however, the model advanced does not take these interactions as the sole or even the principal determinant of official behaviour. The model only advises that these interactions must be investigated in order to explain specific behaviour. They must be taken into account with a host of other factors structuring the choices made by the actors in the legal order.

Custom. Custom, both in the sense that it provides a set of norms defining the behaviour of others, and in the sense that the role-occupant is likely to feel internally obliged to follow it, forms a part of the social fordes operating upon the role-occupant. It is included in the elements which structure his choices. Unlike the explanations which assert that it is the implacable, determining factor in behaviour, however, the model advanced leaves the question of the force of custom in a particular case problematical.

The Legal Culture. In Lawrence Friedman's model, the legal culture is "the term we use apply to those values and attitudes which determine what structures are used and why; which rules work, and why." That values and attitudes may be significant variables in explaining behaviour is accepted in the model advanced, for it explains behaviour in part by the ways in which role-occupants perceive reality. It does not, however, take as given that these values and attitudes necessarily determine behaviour. As in the case of custom, it identifies the legal culture as a variable, but leaves problematical its effect in any concrete historical situation.

Conflict vs. Consensus. By leaving for further examination the precise content of the constraints and resources affecting choice, the model leaves their structure problematical. I argue below that the very existence of law is strong evidence that society lacks a consensus. [Infra, Chapter Nineteen]. Nevertheless, that issue is not prejudged by the model advanced.

The dialectic between law and society. Marxist legal theory focusses attention upon the interaction between law and society, while urging that in the final analysis, the economic base determines the legal superstructure. Our model, too, draws attention to this interaction. The choices open to law-makers and to the other actors in the legal process are all limited by society itself. To that extent, society determines the legal order. Within that socially-defined set of options, human beings can deflect the course of society itself through conscious action through law. The task of developing a true science of law and social change is to generate propositions that express knowledge about that symbiosis.

Governors and Governed. Finally, Kelsen's model assumes that there are law-making and law-enforcing processes, each with their specific roles. It assumes, in short, a state of affairs in which identifiable governors are distinct from the masses of the people. That model unquestionably matches the situation in practically every modern state.

We argue below that the separation between law-making and law-enforcing processes, and the ultimate targets of these processes, is perhaps the single most serious barrier against induced social change. The bureaucratic state is designed to tend the machine, not to redesign it. The opposite of bureaucracy is participation. A model of law and development is insufficient unless it directs attention to the processes by which the transition can be accomplished.

The model described above purports to do this by its specific inclusion of feedback channels. To the extent that role-occupants and bureaucrats provide inputs to decision-making by the governors, they participate in the decision-making processes. To the extent that the institutions of feedback are strengthened, to that extent does the separation between governors and governed tend to disappear. When it does, the model we have

suggested will of course be useless. New perspectives will be required. The model, as it were, contains the seeds of its own destruction.

The obvious weakness of the model lies in the ambiguity of the arrows that represent the effect of social forces operating upon role-occupants and the law-enforcing and law-making processes. The utility of a model which leaves so large a set of residuary categories must of course be subject to suspicion. Most of the remainder of this book is an attempt to close these open boxes. Before turning to that task, however, it is necessary to analyze a set of rules that do not seem to match the model proposed. The model, at first glance, appears to accommodate only to rules or policies directly addressed to the role-occupant as imperative commands: The "shall nots" of criminal law, tort law, and the like. How do the propositions of facilitative law -- contract law, corporation law, and so forth -- fit the model? It is to that question that I turn in the next chapter.

NOTES

[1] W.G. Runciman, Social Science and Political Theory (Cambridge: University Press, 1965) 8, citing Collingwood, The Idea of History , 1946) 115.

[2] A. MacIntyre, "A Mistake about Causality in the Social Sciences," in P. Laslett and W.G. Runciman, (eds.), Philosophy, Politics and Society (Second Series) (Oxford: Basil Blackwood, 1962) 48.

[3] Supra, Chapt. Two, text at ftn. 30.

[4] MacIntyre, supra n. 2 at 48.

[5] A. Guerreirro-Ramos, "Towards a Possibility Model", in W.A. Beling and G.A. Totting, (eds.), Developing Nations: Quest for a Model (New York: Van Nostrand, 1970) 26.

[6] B.J. Biddle and E.J. Thomas (eds.), Role Theory: Concepts and Research (New York: John Wiley, 1966) 4.

[7] J. Blake and K. Davis, "Norms, Values and Sanctions" in R. Faris (e.d), Handbook of Modern Sociology (Chicago: Rand, McNally, 1964) 456,457.

[8] S. Wheeler, "The Structure of Formally Organized Socialization Settings". in Brim and S. Wheeler, Socialization after Childhood (New York: John Wiley, 1966) .

[9] MacIntyre, supra n. 2, ftn. 48.

[10] But cf. supra, Chapt. Six, a text at ftn. 38, 39.

[11] H.L.A. Hart argues that a legal system operates because its officials recognize and accept it as operative. H.L.A. Hart, The Concept of Law

(Oxford: Clarendon Press, 1962) 117. He asserts that they do so because they have internalized the norm -- i.e., they feel obliged to do so. Why they feel obliged to conform is, however, a problematical question in any given case. Perhaps they have internalized the norm. Perhaps they are afraid of losing their jobs.

[12] H. Kelsen, General Theory of Law and State (A. Wedburg, tr.; New York: Russell, 1961) 58

[13] Id. at 61.

[14] Ibid.

SEMINAR ON LAW AND POPULATION:

LECTURE BY DR. DAVID KLINE AND PROFESSOR WALTER MCCANN

This discussion will consider some of the features presented in the UNESCO study concerning law, education and population. The complex interrelationship between these factors has been considered in terms of: 1) the relationship between education and population, and 2) law as a mediating variable between the other two. Population size and growth were selected as significant factors to consider in relation to education. While population composition and distribution may also enter into the education formula, it was decided that their inclusion was less essential to the analysis. Limitations on time and space also precluded the consideration of distribution and composition. Where do the correlations between educational approaches and population change exist, and how can law effectively manipulate this relationship?

Education is considered to have both direct and indirect effects on population. Direct effects consist of the development and implementation of population education programs through school, non-school, and media. These direct effects may result in changes in population size and growth. Indirect effects consist of changes in population which result from features inherent in the educational process itself. For example, levels of educational attainment have been commonly associated with differing fertility levels. It has been argued that these indirect results are a more important target for development resources than direct population education programs. Some of these relationships are examined below by David Kline under "Population Education". Furthermore, law and legal systems have a significant impact on the manner and extent of population education. Numerous legal tools can be used and approaches to the problem vary from one country to another. These are summarized by Walter McCann in "Law and Population Education".

POPULATION EDUCATION

Mr. Kline: In the last ten years considerable attention has been devoted to development of programs of education dealing specifically with population. These comprise the direct inputs to population control. This has mainly arisen out of a dissatisfaction with the success of family planning programs in the mid-60's. There were, for example, some indications in Taiwan and Korea that after an initial gain in acceptors of family planning, over several years the programs began to take in fewer and fewer new acceptors each year. Some people began to call this the plateau effect. One explanation for that plateau effect was that in the initial stages most of the people entering the program were already predisposed to limit the size of their family. For some reason they wanted to do this already or they were at a point where they were very receptive to doing something about it, but lacked the means or the knowledge. When the services become available through family planning programs they rather rapidly took advantage of them. Thus an initial rapid acceptance of family planning was experienced. When this pool of people began to run out then the plateau effect appeared.

One response to offset the plateau effect was the suggestion that motivational programs could be developed to go along with the family planning services. This might give the family planning programs the additional "shot in the arm" needed to accelerate the acceptance back to the previous level. Initial attention was turned to population communications in terms of mass media in order to provide this motivational component. Soon after

that, in about 1966, educators and family planning specialists become interested in seeing the educational system involved. Over the years this effort with the educational system has come to be called population education.

Definition

Some definitional and historical background might offer a perspective on the relationship between population education, sex education, and family life education. One reason that the field of population education may not have developed any more solidly than it has is due to a failure to clarify at the onset what was meant by population education. The definitional issue has been argued vociferously from the beginning and continues to be argued today. As recently as six weeks ago some research and evaluation papers on population education were presented in Washington,D.C. But the first half of the day was spent talking about defintion! This seems ridiculous after six years.

But it is true that there is considerable variance in defintion. Some people view population education as simply a component of family planning programs that motivates people to accept contraceptives. Another definition regards population education as a program which focuses not only on family planning and contraception but also on family size preferences, migration, and other population variables. Through the resulting awareness of population dynamics people will begin to make decisions on their own which will lead to lower fertility rates. Still others consider it important to study population variables inside and outside of the school system, because they are an important part of our life. We have curricula on history and biology, and we ought to have something on population, they contend. More recently people are presenting the Bucharest argument that population should be treated within the context of development. Therefore educational programs which deal with population variables should also be treating population within the context of development. The extreme form of this argument is that there should not be anything called population education; there ought to be something called "development education" of which population is one component. Who knows where all this is going to lead? All of these positions on the definitions of population education exist at the present time.

Another area of ambiguity is the distinction between population education and sex education. A theoretical distinction is easy: sexuality deals with physiological aspects of human reproduction and sex education concerns values and attitudes related to human sexuality; population education, on the other hand, is concerned with demographic and social aspects of population behavior, population dynamics, and development issues. This theoretical distinction, however, rarely reflects reality. In Latin America, for example, it is very difficult to obtain approval from government for programs of population education, because of the imperialist overtones of controlling population growth. Therefore, the programs there have been labelled "sex education" because that is an acceptable term inside and outside of the school. Thus, population education in regard to demographic, social, and political information has been brought in under the rubric of sexuality. Almost the reverse is true in Asia, where sexuality within the public educational system is a non-acceptable form of education. Therefore, the programs there have been called "population education". To the extent that it is possible, they attempt to include the sexuality component. One must be aware of the ambiguties in these variabilities. There is almost no value in trying to develop any con-

ceptual system that distinguishes between them across the board. Another area, called family life education, which began before either sex education or population education, has come to include components of population education and either sexuality education or demographic education. Thailand, for example, has a family life education program. It is one of many programs sponsored by World Education, Inc. in New York. The programs are called "functional education for family life planning". They consist of family planning which is often conceived of as population education, plus a health component and a civic component.

In brief, it appears that there is considerable overlap between the terms population, sex, and family life. We can conceptually make a distinction, but operationally it is more difficult to make such a distinction (and probably less important). Family life, sexuality, and demographics are all essential to some kind of educational efforts related to size and growth of population.

Programs

There has been a tendency to divide population education into school and non-school efforts. The initial efforts were, for a variety of reasons, primarily concentrated within the school system. One reason for this is that the school system is the area that most people identify with what we call education. Secondly, schools were a likely vehicle for population education because it is relatively easy to get a school system to develop a new curriculum, train teachers, and to introduce curriculum innovations. School systems can adapt new programs because they are used to doing it, and the mechanisns already exist. It is much more difficult to develop non-school, non-formal activities, which may require the creation of the institution and the mechanisms as well as the materials for infusion in the training. Consequently, the school side was the first to come into the arena of population education and only in the last five years has there been any significant attention to bring the non-school sectors in. However, there have been efforts going on for many years in several countries, which would now be called non-school or non-formal education. They were programs such as health extension which were not originally geared for the purposes of education, but which are trying to introduce population information into their programs. This type of program is now labelled non-school or non-formal, but the field itself did not begin to draw attention until the last five years.

At the present time there are roughly 28 countries throughout the world that have efforts in one form or another in the field of population education. These official efforts consist of government or private agency programs within the country, carried on either within the school or out of the school system. Approximately $8 to $10 billion has been spent over the last seven to eight years in these programs. The best-known population education programs are found in Asia. The largest such program within Asia is the Philippines program, which is basically school-oriented and designed to train teachers and to develop curricula for the secondary level. With funds from the UNFPA and a budget of $2.5 million, the Philippines program plans to train 250,000 teachers over a period of three to four years. There are also programs in Malaysia within the school and in Indonesia both within the school and non-school. Thailand, which started out mainly on the non-formal side, is now building in-school programs. In Latin America there has also been interest in population education, though not in the form of the government progrmas of the sort found in Asia. The emphasis in Latin America has been

centered on private agency programs and university programs, but most often private demographic family planning organizations are promoting education programs there. Africa is only beginning to do something in this field.

The field of population education, while generating a considerable amount of interest, has never jelled into a real force within the population and family planning area. What are the reasons for this? First, there is too much pressure to start programs without laying the proper foundation for them in terms of research, training, and qualified personnel. Further, there is a tendency to view education as merely adjunct to the on-going population and family planning programs and not as an activity which has some value in and of itself. This has been primarily due to the fact that population education advocates tend to be population specialists, sociologists, medical people, and not educators. Only in the last few years have educators begun to enter the field for its own value.

Population education now appears to be moving into a second cycle. Previously, the considerable amount of interest on the part of people in the United States and Europe in the field was largely limited to the resources of UNFPA. After going through this first cycle, many people who had unsuccessfully pushed hard for funding moved away from the field. In this second phase, funding agencies are now taking a considerable interest in population education and are encouraging it to develop from a solid systematic research base.

Educational levels and population growth.

Let us consider some of the indirect aspects of education and population. Out paper presented some rather well-known data about the relationship between educational attainment and population. In particular we considered the influence of educational attainment on fertility behavior, about which there are several studies. The main study mentioned in the paper was carried out by the United Nations in Turkey. School level of education attained appeared to be inversely related to numbers of children born into the family. The variables in this study included literacy, primary school enrollment, graduation from primary into secondary, and secondary school graduation. The most significant reduction in family size is associated with the transition from illiteracy to literacy. Parents with fewer than five years of primary schooling (considered illiterate) had an average of 4.2 children. Those completing primary grades had 2.8, those completing secondary school, 2.0, and those completing university, 1.4. Other studies support these study findings, concluding that completion of primary school in developing countries in and of itself results in a substantial reduction in family size.

Another aspect considered in terms of education is its relationship to the age of marriage. A study in the United States shows that for women with four years of college or more the average age of marriage was 24.9. Women from 35 to 40 years of age with eight years of schooling married at the average age of 22.0. The Driver data on India showed that the average marriage age was 12.8 for women with no schooling and 18 for those with primary and more schooling.

The other variable that is involved in an indirect relationship between education and population is the perceived value of children. James Faucett has been doing a study on the subject, originally out of the East-West Center and currently in Asia. There are some indications that there is a

positive relationship between education of children and the perceived value of children. In farming households of Taiwan, where children are more economically active than in non-farming households because they work in the field, children are perceived as more valuable. This may indicate an extrapolated relationship between education and urban/rural differences. In urban industrial society, the education and child value relationship seems to be less clear. However, this is an important relationship to be investigated. Data from a study which Faucett is presently compiling may offer better insight into this relationship.

LAW AND POPULATION EDUCATION

Mr. McCann: Law can have a significant impact on population control and population education. Laws may effect population through the medium of education either inadvertently and indirectly or advertently and directly. In manipulating law, one must recognize the manner in which law can be translated into effect. One such translation factor has been called the counter-intuitive behavior of social systems. That is, a law which is designed to have a particular effect may result in something entirely different than anticipated. For example, a gentleman from Lebanon was asked to sponsor a law which would have raised the marriage age there. The intended consequence of this law was that if the people were to marry late presumably they would have fewer children because they would not start having children until later on in their lives. The evidence indicates that late marriages produce fewer children. He opposed this law even though he favored a reduction in birth rate.

He argued that such a law would not succeed in its intention. The reason that people get married early in rural Lebanon is a product of the entire social and economic system. In rural areas whether or not couples have a formal marriage that is recognized by the state, they will nevertheless have a religious or customary marriage. Their children, however, would be bastards under the new law and no longer entitled to any social benefits. Under such a law, families would have just as many children but more social problems would result because the children, whom the law would not recognize, would be denied access to benefits such as schooling. Thus, while law can be an effective tool, one must carefully consider how changes in law will effect social behavior.

Let us consider some of the ways in which laws operates in relation to education and population. For the purposes of analysis we shall define three categories of laws: 1) laws that require that something occur, 2) laws that prevent or permit something to happen, and 3) laws that indirectly encourage without explicitly preventing or requiring something. The third category includes laws which provide for or omit subsidies.

Laws that require that something happen

Judging from the evidence mentioned above there appears to be an interconnection between level of education and population growth. Thus law can be used to require compulsory education. Many countries do not have compulsory education laws for good reasons. The reasons often have to do with capacity to deliver services. It is not useful to enact compulsory education laws requiring sixteen years of schooling for everyone when financial

resources can barely educate a small proportion of the population for eight years. Where resources are scarce, it appears that laws designed to reduce fertility through education must be developed in light of existing education laws, resources, and practices as they vary from country to country.

Considerable motivation behind education lies outside of the compulsory aspect. Many individuals seek education in order to achieve a kind of life that is different from what is possible without schooling. Certain fields require educational credentials and thereby encourage an indirect form of compulsion. To the extent that professional societies in high fertility countries preclude women from admission to higher education and professions, the indirect impact on population is evident. This situation tends to decrease the overall educational level of the female population not only in the first generation, which is denied access to professions, but presumably in the generations to follow because later generations do not have models of other professional women to emulate. This may result in a serious impact over time on the birth rate, if one accepts the evidence that correlates higher levels of education of women with lower birth rate. If higher birth rates are desired, that kind of policy may be favored? Indeed, there are some countries which desire high birth rates.

Under the "legally required" heading, falls the issue of compulsory curriculum. Already mentioned are the various kinds of curriculum issues that could be raised depending on definitions of population education. The nature of population education curriculum is a topic of considerable debate. But compulsory curriculum could consist of a variety of topics, such as development in a broad sense, or hygiene and family life sex education. There are a variety of compulsory curricula being developed in different countries. The book compiled by Ed Kellogg and his colleagues offers examples of this type.

Other kinds of policies that do not directly affect curriculum can have some impact on population education. For example, what does law say about female students who become pregnant? Can they stay in school? After they have a child may they return to school? Countries and regions within a country will vary on these issues. Further, customary law, as distinct from written statements, also has an enormous impact. Informal but extremely powerful customary law, for example in Africa where much of the law is not written down but is customary and traditional, may affect the capacity of women to continue their education once they have entered the cycle of having children. They continue to bear children because educational opportunities for them are denied.

Laws that prevent or permit

This category includes the repeal of laws as well as their enactment. In some situations removing a law may foster some kind of an educational policy. From the perspective of education and population control it seems that the most critical barriers were laws that prevent the public distribution of birth control information. However, evidence that was developed by Ed Kellogg and his colleagues calls that conclusion into question. People are clever in getting around specific prohibitions in the law, particularly when they refer to public-sponsored distribution of birth control information. Birth control information can be recategorized, and private or semi-private institutions can accomplish the same results without direct public involvement. For example, one country passed a law which prevented birth control devices from passing through customs. But a clever lawyer managed to have birth control devices reclassified as medical material, so they were never

recognized in customs as birth control devices. They came zipping through the customs under a different name. There are many ways to circumvent laws.

From an educational and a legal standpoint the laws that prohibit the distribution of information are ethically questionable because they prevent people from making judgments about their own personal and social situations. The United Nations Charter and various United Nations documents provide the basis for legal arguments in the international forum for an attack upon laws of that sort. These documents may be very useful for people who face that kind of problem in their own countries.

Even when laws do not strictly prohibit the flow of information, administrative regulations and red tape can accomplish the same. Thus, not only the basic structure of the law, but also what the bureaucrats do to the law must be examined. Other situations create jurisdictional disputes among agencies that are given various pieces of population programs. Jurisdictional disputes and the red tape involved may finally result in such a legal mess that nothing is done. Thus, the way the law is administered can affect population programs.

Laws that permit or prevent certain activities can also have indirect educational effects on population. Imagine, for example, a country which provides subsidies to private education where most of the private education that is being subsidized is Catholic. If the Catholics in that country take a very strong stance against birth control, a policy conceived of for the provision of more education could have a negative impact over time on efforts to control birth, because you will be pushing people through an educational system which basically has negative attitudes towards birth control. Sometimes activities which appear to foster education generally may have a negative impact on your birth control policy. (This is not to suggest that one should not support Catholic schools.) But it is important to recognize that policies aimed at X may actually shoot Y.

Laws which subsidize

A third type of law encourages education through a kind of minimal resource subsidy. For example, one must make a distinction between free educational and compulsory education. A country which enacts a compulsory education law withour subsidizing it has not really provided anything. Such a law would not result in a significant impact on the school-leaving age or the population going to school. Areas such as compulsory education require significant subsidy. Curriculum development requires subsidizaiton of varying degrees. A good deal of non-formal education outaide of school and education through television which can have a substantial impact on birth control policy over time can be subsidized. Obviously there is a subsidization of research. The location of subsidized programs is also important.

Finally, some programs can be developed with little or not subsidy. One is an experiment or a national commission on population activities which can call attention to population matters. Another program may subsidize visiting progessors, lectures series, and so on, cost very little but which raise public awareness of these issues.

IMPLEMENTING POPULATION EDUCATION PROGRAMS

A draft of a related paper has been recently completed by Edward Kellogg, David Kline, and John Stepann of Harvard Law School. This

research, which began after the Paris UNESCO conference, investigates laws in some sixty nations as they pertain to population education. There is considerable variation from region to region in legal approaches to sexuality education and population education. A summary of this material is presented below by Edmund Kellogg.

Mr. Kellogg: In 1968, both the Teheran Proclamation of 1968 and the United Nations Resolution on Social Progress and Development stated that families are entitled to information and knowledge so as to be able to enjoy their human right to family planning. Last summer at Bucharest in 1974, the United Nations went further. The Plan of Action approved by 135 countries specifically mentioned education, and called upon educational institutions and governments to sponsor education for responsible parenthood. Following this declaration we have been able to obtain facts from sixty countries concerning their laws and practices on population and sexuality education. On the basis of this information it is possible to describe variations among the regions of the world.

Regional differences

The Northern and Western Europeans are the most advanced. The Swedes have had compulsory sexuality education since 1957. The Danes also have it, and some Danish parents have taken this issue to the Human Rights Commission of the Council of Europe. The European Commission of Human Rights decided that it is not inconsistent with the European Human Rights Convention to make the education compulsory. The Germans have also made it compulsory. The French experience is interesting. In 1972 a demonstration occurred because a married woman teacher answered a question about sex from a girl student in a class. Her father, a retired army colonel, protested. In 1973 the French government took notice of the resulting demonstrations and set up a High Council on Sex Education and Information, but they did not allow the head of the family planning association to be a member. In 1973 the department of education put out a circular, distinguishing between sex "education" and sex "information". The latter (how reproduction occurs) was compulsory for everybody, but education which involved what is right and wrong, contraception, and so on was not only not compulsory, but it had to be taught out of school hours with special permission of the parents. Teachers were also advised that embarassing questions should be "answered by the family". Despite the French attitude, Northern and Western Europe is the most progressive area in the field of sexuality education.

The Eastern European situation is very interesting. Hungary, Czechoslavakia and Yugoslavia have very good sexuality and population education courses. These courses are compulsory and in Hungary, in fact, one cannot obtain a marriage license without having completed a sexuality education course. In Romania, there is some concern about population pressures from next door Russia, and no infornation is provided unless you go to a special place to get it. Also, no contraceptives are made in Romania. The Russians are reluctant to provide full sexuality education for two reasons. First, Marx said that population problems are limited to capitalist countries. Secondly, they are concerned about the Asian Russians' fertility being higher than that of the European Russians. Therefore the Russian situation is difficult. However, a recent New York Times article states that Russian students are criticizing the schools because of inadequate sex education.

The most conservative countries of Europe with respect to sexuality education are Ireland, Italy, Spain, and Portugal. In Ireland, for example, the civilian court decided in 1973 that it is a human right to import contraceptives for personal use. In 1974, the government proposed a law that would make the sale of contraceptives to married people legal. The bill did not pass. In Ireland today, if you sell a book on contraceptives you may go to jail, but you can give out information.

In Eastern Asia there are still a great many taboos in mast countries which prevent in-school "sexuality education". Almost all Asian countries have "population education". However, there are four countries in Asia which are attempting sexuality education. The Philippine schools, with the help of UNESCO and United Nations Fund for Population Activities, have established sexuality education. The Philippines have had an historical Christian influence, and therefore many of the Asian taboos do not exist. Mainland China has strong sexuality education, and Taiwan is now experimenting with it. Japan, which has a modernized urban society, has to have a certain amount of information in this sphere. Hong Kong and Singapore, whose govenments strongly favor population control, do not dare provide sexuality education, although they have family planning programs that are active in other respects.

In the Moslem countries of Western Asia and Northern Africa, the situation is rather similar. There are taboos which make it hard to have sexuality education in the schools although in some of these countries non-school population and sexuality education exists. Two countries which are starting to sponsor programs in school on a trial basis are Egypt and Tunisia. Egypt has probably made the most progress of any country among this group.

In Africa south of the Sahara, with the exception of a few countries, the idea of population education appears to never have occurred to anybody. Sexuality education, however, has just come into existence. This subject was discussed at a meeting in Mali in 1973 which was attended by a number of countries. Mali, Congo(Brazzaville) and Togo are now setting up sexuality education in schools.

Latin America is another extremely interesting situation. A great variety of approaches to the subject exists. Barbados has one of the most progressive programs consisting of both in-school and out-of-school sex education. Barbados is doing extremely well controlling its fertility. Colombia is also experimenting with both types of sex education. Honduras and Costa Rica have sexuality education in school but forbid the mention of contraception. It is difficult to determine the position of the Catholic Church on the matter of sexuality education, but it appears that the Church may accept it if the government wants it and if contraception is not taught. In Mexico where the law requires sex education, the local teachers are loath to give it.

In the United States the federal government theoritically favors sexuality education. There are laws that have authorized federal subsidies for such education,but money has not been appropriated. Laws vary from state to state. Louisiana forbids such education. Although most state laws permit it, many states fail to give it. In thirteen

states where it has been attempted, it has been stopped by harassment from various political groups. The Supreme Court will probably rule that if a parent may withdraw his child from a course, there is no constitutional objection to the course being given in the school.

Topics covered by laws or regulations on sex education

There are seven topics which are usually convered in a law or regulation on sex education. (1) Should a course be compulsory or elective? (2) What is the age at which you should give fertility education? (3) Should there be a separate course or should the material be included in biology or some other subject? (4) Do you separate boys and girls or do yoy keep them together? (5) Do you have contraceptive methods in your course? (Michigan enacted a law requiring sexuality education but forbidding discussion of contraceptives. The law was found to be constitutional by the U.S. Supreme Court.) (6) What is the allowed degree of explicitness? Finally: (7) who is qualified to teach it?

Barriers to sexualtiy education

What are the barriers to sexuality education? Cultural barriers, such as the "extended family" in Africa which seeks to grow and which accepts responsibility for all children produced, is an inhibiting factor. Countries, primarily Moslem, which may want to limit the position of women, oppose it. Another barrier is religion. The Moslem countries tend to be very careful about in-school sexuality education. A new law from Sri Lanka allows for a discreet flow of sexuality education under the heading of "population awareness". As mentioned above, Roman Catholic countries present a variety of barriers. Political barriers also exist. Some Latin American countries, for example, consider population education as a manifestation of growing imperialism from North America. Africa suspects population education as being a plan to maintain the dominance of the white race. Another barrier is the age structure in the educational courses. If a developing country only gets half of its people to school and half of them stay in school only from age seven to age ten, can they receive sufficient sex education? Obviously, they cannot.

In conclusion, out of 60 countries studied, 27 are by and large, providing in-school and out-of-school sex education programs. Twenty-three countries are working at the experimental stage through various projects. Finally ten countries have no programs at all. Nevertheless, the patterns and programs are changing. In the next ten years, in view of present trends, there is no doubt that a great deal more of this kind of education will be made available in all regions of the world.

DISCUSSION

Lee: It is important to remember that what law says is one thing, and actual practice is quite different. One example can be given. It was mentioned that the Swedish have had compulsory sex education for a long time; yet, at the same time, Sweden has one of the highest venereal disease rates in the world, certainly the highest in Europe. How do you explain this kind of relationship?

On the relations between education and marriage age, there seems to be a contrary indication in the case of Lebanon. An in-depth study was undertaken there recently which shows that husbands who graduated from primary or secondary school married earlier than those who had not gone to school. I asked the Dean of a Lebanese university about this, and he said that educated men got married earlier because they expect their wives to work and bring in income, whereas the husbands who did not go through any schooling are expected to support their wives, and therefore must marry later. To what extent that can be generalized, I do not know.

Kline: That's new data to me.

McCann: That is not surprising. Correlations often tell you very little. One must ask why people are doing what they are doing. Correlations may tell you where to look for what is going on, but they do not always indicate what is really happening. That is why these cause and effect questions are difficult.

Student: On husband's education, in Turkey the primary school graduates have more children than illiterates or non-graduates for the simple reason of family structure. They tend to have a more extended family form while the illiterate ones have a much more nuclear form. That is social structure.

Kline: In the case of Hong Kong, it was mentioned that they were not doing population and sex education. That is contrary to my data. The data that I have received indicates that they have used the curriculum in school. Also in sub-Saharan Africa there is one country that does have a program, and that is Kenya.

Student: What kind of progress is being made with population education in universities as an aspect of professions, economics, statistics?

Kline: These programs have not emerged until recently. Few countries have looked into this. Sri Lanka is trying to get it into the medical school curriculum. There was a conference held by UNESCO in Bangkok a year ago in January on the problem of trying to get it into the universities, and the role of universities in population education. James Palmore at the East-West Center has been trying to get Asian universities more involved. For the most part these programs occur much less at the university level than at the primary, secondary and non-school level.

Student: Many of these difficulties we are encountering are due to the civil service, which is in a position to enforce or ignore laws. If population education is almost absent from curriculum, how is a civil servant who never has studied this going to deal with the problems confronting him? The point is that the universities everywhere ought to include it.

Kline: Another response to this is that in many countries they have initiated educational programs for government personnel in an attempt to inform them both about the population issue in general and its relationship to development and also the need for population education.

Student: Having been a lecturer in a civil service school, my opinion is that these crash programs are awful. Really, they are a waste of time and money. How can anyone tell these gentlemen of the civil service, who think they are really our "gods," to get it into their heads? I thought I knew a lot about population education, and I wrote a beautiful book on population in the Sudan and sub-Saharan Africa. After a year and a half here I find there is so little I knew. How will crash programs improve the civil service's approach to population?

Kline: I think that is definitely a big issue. In many countries population education has been seen as simply a means of getting more money into the budget. It is not taken really seriously. The civil service deals with it as a fiscal matter and not because they really believe in it.

Student: It is important to consider when to introduce population education into universities. Population education should mainly start after realizing the failure of family planning where the main goal was to reduce fertility. Most countries which have high fertility are already poor countries. If you have a limited budget, you have to put it where you can get most benefit. The university graduates already have low fertility. So, I think to put it into the universities is wrong. How are you going to have social-structural change? Not by giving population education to university students, but by educating people who are already disadvantaged and who do not have access to education. However, for influencing policy, you have to educate your policy-makers. It is the civil servants, women and teachers who must put the program into action.

Kline: Regarding funding, I don't think that there is much empirical evidence to suggest that where there is external money available for doing population education, any country has turned it down. It is not too difficult to convince governments to undertake population education, because there is usually money available for it. A peculiarity of the time is that as money becomes harder and harder to locate, then other commitments become more and more important than population education.

Student: I think liberal arts curricula are sadly lacking in the universities, but I'm not certain that they ought to be the top priority within the population education.

Kellogg: How much effect do you think obscenity laws have on sex education?

McCann: I'll know better after I look at your study. But I would guess that they have a broader effect than meets the eye, in the sense that obscenity laws and laws of that nature which are full of undefined terms have what is known in American law as a "chilling effect" on free speech. When the law is rather vague, as obscenity laws are, then people get very cautious. Teachers don't start sex education programs that they might otherwise start, or say things in school about sex that they might otherwise say. Although many countries have changed their obscenity laws over the last couple of decades, the countries which still have those laws still experience a broad effect. But the impact is very difficult to measure. From a legal standpoint it is very important to get a contextual definition of obscenity - one that talks about the purpose of the words used. Words occur in the course of sexuality education which in other contexts might be thought of as obscene but which given the context and purpose of sex education may not be obscene. It is important to try to get the courts to define the law as taking into consideration the context of and purpose in which the words are said.

Lee: There is a certain correlation between sex information in education on the one hand and family planning services on the other; for example, in 1971 the Italian Constitutional Court declared as unconstitutional an Italian law banning the dissemination of contraceptive information, and shortly after that the Ministry of Health required all public gynecological clinics to provide family planning services. Do you see how this might be generalized?

McCann: Obviously there are situations like that where one law prevents or allows for somebody doing something via another law. I suspect that in some Asian countries, from what I've learned in the conference at UNESCO, even if you were to repeal the obscenity laws, you would not have a dramatic change in the actual sex education practice. The laws are designed to reflect the desires of the people. To assume that elimination of obscenity laws would result in a drastic change is probably an oversimplification. I don't know when that original Italian obscenity law was passed. In the Italian case you had something that no longer represented the modern thinking, but I'm not so sure that that would be true in some of the Asian countries that you speak about.

Student: What differentiation can you make from a legal point of view between general administrative civil servants, law, and law courts, penal codes and so on?

McCann: Administrative law reflects the rules and regulations adopted by the bureaucracy. In the Anglo-Saxon tradition most of these regulations have the force of law. They can be tested in the court, if the person promulgating the regulations has gone beyond his authority. While administrative rules can be overturned in court, up until that point they have the force and effect of law. So a bureaucrat is a law-maker in that sense.

Lee: I'd like to introduce a new member of the Law and Population Programme, Mr. Hopkins, who just came from Johns Hopkins University. Mr. Hopkins had been in Pakistan for about 2 1/2 years working on law and population related matters there. Maybe you would like to say a few words about the Pakistan experience.

Hopkins: Thank you, Dr. Lee. It was some time ago when I looked at the Pakistani law. I surprised a few people when I presented a paper at a family planning seminar in Pakistan which concluded that on the whole law in Pakistan encouraged low fertility - at least, more so than custom and other forces impinging on Pakistani's couples.

Kline: Some of you may have felt the same way. I suggest that those who have a theoretical inclination make an effort to develop more conceptual frameworks and more theory theory to try to make sense of this fascinating but confusing and inconsistent body of data. Mr. Kellogg's data can be used to study the relationship between a country's population growth and its population education activity. We need a theoretical framework to explain the existence or absence of such a relationship.

Kellogg: Mr. McCann, one of your writings mentioned that average levels of information on sex matters among populations is extremely low in general. Where did you locate such information?

McCann: My anthropologist co-author was doing some field work on this subject. Darwinian theory would suggest that traditional oral information would tend to survive. But sex information is an exception. You don't find it. In any case, I don't think it is a conspiracy on the part of a few leaders.

Kellogg: I'd be interested to hear anybody in this room who thinks that in their countries parents pass on the information. Theoretically, parents are supposed to do it, but in practice they do not.

Student: What about the middle-class American family? Education comes into play. I think sex education is given in the family. It may vary, depending on the culture; but you get at least some sex education from your parents. If you are a girl you get it from your mother: if you are a boy you get it from your father.

Kline: I want to follow up on Mr. Kellogg's point in saying that while parents may not be the most common source of information about sexuality, there is some evidence that in the United States more information comes from the peers than the parents. The solution to that may not therefore be to put more sex education into schools and educational institutions. The solution may be to work with parents to make them better sex educators. We are trying this in Cleveland through a program funded by John D. Rockefeller to see what possibilities exist for working with parents as sex educators.

Student: In a Denver school my nine-year old brother was asked by teachers to explain the whole reproductive cycle of woman and man and how fertilization occurs in order to prove that children are not afraid of sex or sex education. It's the same sort of thing as educating parents, because lots of times parents think they should not tell their children, because their children are sensitive about sex. Children are curious, but I think their curiosity goes up with lack of knowledge.

Kline: I suspect there are fewer inhibitions in talking about sex and teaching it than are sometimes claimed. We perpetuate them because we keep saying that they are there. There is some evidence that this is true. One survey research firm, the National Opinion Research Center in Chicago, told me that they have not yet found a topic on sexuality that they could not ask questions on.

Lee: Well, I want to express our gratitude for your coming here. I hope you have a chance to visit us again.

READING MATERIAL

LAW, EDUCATION AND POPULATION

by

David Kline, Ph.D.
Graduate School of Education
Harvard University

Walter McCann, J.D.
Graduate School of Education
Harvard University

Cambridge, Massachusetts (USA)

February 11, 1974

Paper presented to the UNESCO Workshop on the Teaching of Population Dynamics in Law Schools, February 18-22, 1974, Paris.

We are very gratefuf to Susan B. Tehan of the Harvard Graduate School of Education for her valuable assistance in collecting background information for this paper and for her helpful comments on its form and content.

TABLE OF CONTENTS

		Page
I.	Introduction	1
II.	Education and Population Size and Growth	3
III.	Law as Related to Education and Population Size and Growth	19
IV.	Recommendations	42

I. Introduction

The study of population dynamics usually includes questions concerning size, rate of growth, composition and distribution. In this paper we attempt to trace the relationship among education, law, and two of those four factors: population size and rate of growth.

Educational laws and policies, of course, may affect all four. We have concentrated on size and rate of growth for the following two reasons: first, these particular factors seem to be the predominant concern of most of the less developed countries, although there are some notable exceptions;[1] second, limitations of space prohibit responsible, in-depth discussion of other areas and may distract from the primary focus of the UNESCO conference for which this paper was prepared.

Nevertheless, we recognize that education and law can influence population distribution and composition. Consider one brief example. Educational laws might be written to favor one section of a country or state over another. This is frequently the result of tax measures which allow uneven distribution of resources. For example, in the US this inequity usually results in greater educational expenditures in suburbs than in inner cities, although the greater tax burden falls on the latter. One result of this difference is the widely shared view that suburban education is better than urban education and that

[1] Some African countries are perhaps more concerned with population distribution and other countries, Argentina and Brazil, for example, have pro-natalist policies. See N.Y. Times article, 3/17/74.

it costs the individual taxpayer less money. The former might be debatable but the latter is demonstrably true.[2] People might then choose to leave the disadvantaged area and move to the favored place. This would probably occur if the disparities were perceived as large, if people were mobile and if mobility were strongly related to perceived educational opportunity. Obviously the web of circumstances and interrelations is at least as complex in this and similar matters as in the aggregate concerns of size and rate of growth. The same is true for education, law and population composition. A more comprehensive study of the effects of education and law on population would need to consider these aspects of population dynamics.

The relationship between law, education and population size and growth is itself complex. To begin, there is considerable uncertainty as to which elements are the causal forces and which are the results. The relationship is better described as a continuing interaction where each factor influences the others. To examine the relationship between these variables as if they existed in a vacuum would be a serious error. No one would argue that law and education influence population size and growth or vice versa without some corresponding contribution to the outcome from variables such as employment, socio-economic status, cultural values, traditional practices, and political and administrative policies. The factors which influence population size and growth, therefore, are

[2]See Coons, J., Clune. W.. and Sugarman, S., Private Wealth and Public Education, (Cambridge, Mass.: Harvard University Press, 1970).

myriad and interrelated; to isolate the influence of one or two is useful in understanding their contribution, but doing so runs the risk of overestimating ther significance. Such analysis may also fail to take into account their positions as members of a system of interrelated variables. In this paper, we explore the relationships between law, education and population to understand more fully their unique interrelationship, but we also assume that any activity designed to influence population size and growth must take into account many other factors.

Our troatment of this subject begins with an analysis of the relationship between education and population size and growth. We then discuss the effects of certain types of laws and legal actions on that relationship. Finally, we offer some recommendations for action, primarily for lawyers and members of the legal establishment.

II. Education and Population Size and Growth

To simplify our discussion, we have conceived of the relationship of education to population size and growth as operating in two ways: through direct effects and indirect effects.[3] By direct effects we refer to the use of educational institutions and processes to inform people about the population problem, and usually to motivate them to

[3] We use the terms direct and indirect here in a relative sense. That is, by direct we do not mean unmediated but rather substantially less mediated than indirect. All of the effects of education on population are mediated in one way or another.

change their population-related attitudes and behaviors. Operationally, this means adding content about population problems and sometimes possible solutions to the curriculum of primary, secondary, college/university and technical/vocational schools; adding content that covers population problems to such programs as literacy, adult education, extension education and education through such media as television, radio, magazines and newspapers. By indirect effects we mean by-products of educational activities whose main purpose is other than influencing population dynamics: for example, the effects of years of schooling attained on fertility.

Direct Effects

Education, in the broad sense of the word,[4] has been a process or institution for passing on, creating and changing knowledge, attitudes/values and behavior. In most countries today, the main responsibility for providing children with skills, knowledge and attitudes required to function satisfactorily in society rests with the educational institution. Likewise, when a society desires new attitudes or behaviors, education is usually one of the essential means for bringing about change. In recent years, people concerned about controlling population size and growth have turned to education for help. This is mainly because medical/contraceptive programs have been unable to convince

[4]The broad sense of education we are using here is education as an institution or process for communicating information and knowledge. This process obviously influences attitudes and behavior but people disagree on the extent to which this should be done intentionally. We include such institutions as schools, nonschool organizations, mass media and personal communications.

the large majority of people in many countries to adopt family planning and reduce family size. In the 1960's National Family Planning programs in Sri Lanka, India, Turkey, Morocco, and the Dominican Republic achieved less than half of their target of family planning acceptors. In the countries which achieved more than half their goal (South Korea, Taiwan, Pakistan, and Malaysia), the number of new acceptors per year was either stabilizing or on the decline by the end of the 1960's.[5] A common explanation offered for this development was that these programs were only successful in enrolling persons already disposed toward family planning, and their strategy of simply making services available was not sufficient to enlist persons strongly resistent to or unconcerned about family planning. In response to this problem, Berelson proposed several "beyond family planning measures", among these tho more intensive use of education.[6]

Our discussion of the role of education in population/family planning programs will divide education into three types: (1) education through schools such as primary, secondary, college/universities and vocational/technical; (2) education through nonschool organizations such as literacy programs, adult education, community development, and extension education and (3) education through mass media such as television, radio, newspapers, magazines and advertising.

---

[5]Berelson. B. "The present state of family planning programs." Studies in Family Planning, No. 57, September 1970, (New York: The Population Council).

[6]Ibid.

Before examining the role of these types of education, some discussion of the content of the educational programs dealing with population size and growth is useful. Three kinds of content concerns can be identified as follows: one, demographic and socioeconomic factors related to population; two, human sexuality and reproduction; three, factors affecting the overall well-being of the family that are also related to population size and growth.

Population Education vs. Sex Education vs. Family Life Education

Definition of the content of educational programs designed to influence population size and growth has been a subject of debate from the very first program. Unfortunately, discussion has centered mainly on ethical and political factors; little sound research on content effectiveness has been available. Until there is more systematic theory and research about content, discussion of the matter must remain incomplete.

The first content area to be developed was "sex-education". In the early 1900's concern over changing sexual mores in the U.S. led educators to call for inclusion of sex-education in the school curricula.[7] These efforts were aimed at the restriction of sexual

[7]National Society for the Scientific Study of Education, Education with Reference to Sex. 8th Yearbook,(Chicago: University of Chicago Press, 1909).

relations to marriage and a reduction in prostitution, veneral disease and illegitimate births. Since World War II rapid changes in social structure throughout the world has resulted in sex education efforts of some type in the following countries: Austria, Denmark, British Guiana, Norway, United Arab Republic, Sweden, Czechoslovakia, France, Yugoslavia and many Latin American countries.[8]

The next type of content to appear, in the late 1930's, was called "family life", which grew out of a concern to view sexuality in a broader context. It deals with the problems of health, education, economic well-being, food and nutrition as they relate to the family.[9] "Family life education" is intended to inform people of the role of each of the above factors in the overall well-being of the family, and to assist family members in dealing with related problems. The issue of number and spacing of children has been an aspect of these programs for a long time---certainly before the population problem received worldwide recognition in the early 1960's.

With the population crisis also came a call for another content area which came to be called "population education." The term population education was first used to refer to educational programs which considered demographic and socio-economic aspects of population size and growth.

---

[8]UNESCO, Health Education, Sex Education, and Education for Home and Family Life. Hamburg: Unesco Institute for Education, 1965

[9]We would also include in this category what is known as "responsible parenthood" education. This term is used mainly in Latin American countries and the Philippines to denote education focused on husbands and wives, to make them aware of their responsibilities as parents vis-a-vis their children. A part of this education is to encourgae parents not to have more children than they can bring up properly or afford to have. For the most part, this approach is in line with the Catholic doctrine on contraception.

At the outset, this meant curricula utilizing demographic and statistical information about population size and growth; defined at the national or worldwide level. Such information did little to convince people of the personal significance of population issues; consequently, little change took place. More recently population educators have seen the importance of presenting concepts and facts in a manner which relates more specifically to the individual and the family. These programs now vary considerably in content, sometimes including family life and/or sex education.

For educational programs to create widespread understanding of population problems, and to motivate alteration of attitudes and behaviors, all three content areas should be included. People need to understand the significance of the size of family and spacing of children for the well-being of the individual, family and community; they need to see how the size of their family is related to their nation's population growth and the availability of resources to support its population; they should understand the need for accommodation between their individual desires for freedom of choice and the nation's need to guarantee itself sovereignty and viability. Finally, to effectively regulate their fertility, they must understand human sexual reproduction and contraception.

This does not mean that all three content areas must be taught in the school, or that all three content areas should be included in any one educational program. In many countries, this is not ethically, religiously, or politically possible. Education about human sexuality and reproduction is the core of official school-based education efforts in Latin America; yet demographic and socio-economic aspects of population

size and growth are handled with great care and often avoided or informally prohibited. Exactly the opposite is true in school education programs in Asia, where demographic and socio-economic factors are the core and sex education is either avoided or prohibited. This does not mean that in Asia no education about human reproduction and contraception occurs, but rather that this education usually takes place through the family and/or religious institutions and not through educational institutions. While contraception is occasionally discussed in countries where Roman Catholicism predominates, the inclusion of information about mechanical or medical contraception would create difficulties. In these countries educational programs which discuss non-mechanical forms of contraception are most common. For example, the Responsible Parenthood Council of the Philippines conducts an extensive educational population/family planning program in which the rhythm technique is presented as the main technique of contraception.[10]

In summary, whatever one calls it---population education, sex education, family life education, or something else---all three areas of content are probably necessary if education is to deal effectively with population size and growth.

Education Through Schools

During the last five years, many countries have instituted in their

---

[10] Responsible Parenthood Program, "Manual of Operations," by the National Project Staff, Responsible Parenthood Council, Revised, July, 1973.

schools national educational programs that deal with population problems; this is particularly true in Asian countries such as the Philippines, Indonesia, Korea, Malaysia, Sri Lanka. Except in the Philippines, these Asian programs emphasize population and family life education to the exclusion of sex education. While most programs have focused on primary and secondary schools, increasing attention has been paid to colleges and universities. Even though the objective of these programs varies from one country to another, the main goal in all has been to inform students about the nature, determinants and consequences of the population problem in their country. The hope is that understanding will eventually contribute to their making "responsible decisions" about fertility. A few countries, like the Philippines and Indonesia, go further and voice the hope that their efforts will also lead to smaller families and reduced population growth.

In Latin America and Africa, national programs have not generally been undertaken in the schools since few countries in these regions have national policies on population size and growth. The few existing programs in these countries are in private schools or are quasi-governmental, such as the African Social Studies Program for 12 East African countries. Exceptions are the national sex education programs of Costa Rica and El Salvador. They center almost exclusively on human sexuality and reproduction with little, if any, information on demographic and socio-economic factors or family life. While Colombia currently has no national program, there is considerable population-related educational activity in the private sector of that country.

No national or even state programs in population and family life education exist as such in the US or in Europe. There are a few isolated programs in the US such as those in the Baltimore Public School System and the Weston High School in Massachusetts, but for the most part population and family life education have received little attention. We know of no examples of population and family life education in Europe.[11] On the other hand, in the schools and adult education programs in both the US and Europe, sex education programs are quite common.

The effectiveness of these school programs in contributing to a resolution of population problems is hard to assess. This is so partly because of their open-ended orientation which informs and provides a foundation for future responsible decision-making--as opposed to focusing on changing attitudes and behaviors. It is also due to the difficulty of attributing any subsequent change in fertility attitudes and behaviors to education, especially in light of the hiatus between the time when most people are in primary and secondary school and when they begin to reproduce. Assessing effectiveness is further complicated because very little systematic evaluation has taken place. In our opinion, careful longitudinal evaluation is necessary. It should follow cohorts of students during school and into subsequent reproductive life to determine the effectiveness (or cost-effectiveness) of school-based education in dealing with population problems.

---

[11] Some reference to population and family life may occur in the context of other courses, but the extent is hard to determine.

Education Through Non-School Organizations

Education about population issues through non-school organizations is also taking place in Asia, Latin America, and Africa, but as yet receives less emphasis than through conventional schools. The focus of non-school education is mainly on adults even though there is increasing interest in using non-school organizationsto reach out-of-school youth, particularly in developing countries where the school attendance rate is very low. The most significant non-school programs in Asia are sponsored by the Division of Adult Education in the Ministry of Education, in Thailand,[12] and the Mothers' Club Program in Korea.[13] These programs have been under way for several years and preliminary evaluations suggest they have been quite successful in increasing family planning and influencing decisions about family-size preferences. The content of these programs is mainly family life and population education with little, if any, sex education. Their main objective is to inform people about population problems, and to motivate and assist them to find solutions primarily through family planning. Other non-school programs oriented towards adults are those of the Adult Education Division of the Ministry of Education in the Philippines and Indonesia, the Labor Education Program of the Ministry of Labor in Sri Lanka, and rural education programs of

[12] "The Thailand Project: An Innovative Program in Functional Literacy and Family Life Planning", World Education Project, No. 1, May 1973.

[13] Kincaid, L. and H.K. Park. "The Korean Mothers' Clubs", Mimeo, East-West Center, 1973.

Accion Cultural Popular and the Cafeteros Association in Colombia.

The US and Europe have few non-school programs dealing with population and family life education. There are, however, many that deal with sex education.

Education Through Mass Media.

The use of mass media to educate people, mainly adults, about population problems is widespread. In order to assess the full scope and direction of population education programming provided by the media around the world, an extensive survey of current practives should be undertaken. Though the general belief is that information is distributed in this fashion, the fleeting nature of most programming makes it difficult to gather precise knowledge of what particular countries offer. Major projects have been undertaken in Iran, Indonesia, Pakistan, and Kenya, and are mostly concerned with population and family planning education. The principal objectives of the programs are to influence people to adopt family planning and to have smaller families. There have been few successful attempts to use mass media to educate people intensely about overall population problems and possible alternative solutions. Latin America has made little use of mass media since media are mostly controlled by the government and few countries have a government policy on population size and growth.

Recent evaluations of mass media in population programs suggest it is most useful in calling attention to a problem and reinforcing decisions already made. It does not appear to be very effective in changing

attitudes and behaviors *per se*.[14]

Summary

We would like to emphasize the following:

1. While evaluations have shown that non-school education is perhaps more directly effective in influencing the adoption of family planning and reducing family-size preferences, this kind of education is least supported and least prevalent. There is little doubt that much more population education could be accomplished through currently available branches of the health-care delivery system, social organizations, and possibly even market place locations like drugstores.[15]

2. Regardless of ethical and political factors influencing the selection of a particular kind of content in educational programs, all three--demographic/socio-economic, sexuality and human reproduction, and family life--are necessary ingredients in any educational contribution to the solution of population problems.

3. The objectives and roles of education through schools, non-school organizations and mass media are quite different:

a. Schools mainly inform and educate primary and secondary-age children to make responsible decisions related to population matters later in their lives.

---

[14] Rogers, E, Communication Strategies in Family Planning. N.Y.: Free Press, 1973.

[15] Jerry Bailey of the Population Council in Colombia has recently done a study in Colombia showing that the use of drugstores as purveyors of particular educational content can be quite effective.

b. Non-school organizations mainly inform, educate, and motivate adults to adopt family planning and reduce family-size preferences.

c. Mass media mainly inform and reinforce fertility decisions of the active reproductive adult population.

Indirect Effects of Education on Population

By indirect effects of education on population, we mean effects of an educational activity that are not essential to its main purpose. An example is the relation between the number of years of schooling of a group[16] and population variables such as age at marriage and number of live births.

The U.N. Study on the Status of Women and Family Planning states that across 20 or so countries in their study there is a strong negative correlation between the education of women and size of family. The study further indicates that in the less developed countries even the completion of primary schooling correlates with a substantial reduction in fertility.[17]

Additional suppport for the relationship between years of schooling and fertility is given by a 1968 National Sample Survey in Turkey of 3200 married women under 45 years of age, and their husbands.[18] Interviews

[16]While it is generally agreed that the number of years of schooling is not synonymous with "being educated or literate," it is the most common surrogate variable used in statistical studies to represent the contribution of education to the development of the individual.

[17]"Women's Rights and Fertility," UN Economic and Social Council, October 24,, 1973.

[18]Population Institute, Hacettepe University, 1968.

revealed that the number of live births decreased proportionally to the number of years of education of the women. The number of live births for women with less than 5 years of primary schooling and considered illiterate was 4.2; for those completing primary, 2.8; completing secondary, 2.0; and those completing university, 1.4. Examination of these data supports the statement of the U.N. study mentioned above that completion of primary schooling in developing countries in and of itself makes a substantial reduction in fertility rates. Comparison of the educational levels of men with live births reveals the same relationship.

The relation between education (years of schooling) and fertility, however, may be even more complex. Demographic theory and research also show that a very effective way to reduce the fertility rate of a given population is to raise the average marriage age of women. (A survey conducted in Mysore, India in the 1950's shows that women marrying between 14 and 17 gave birth to 5.9 children, and those marrying between 18 and 21 gave birth to 4.7 children).[19] Based on 1960 U.S. census data, Heer reports that women 35 to 44 years of age with 0 to 8 years of schooling had an average marriage age of 22.0 years.. For women with 4 years of college or more the average age at marriage was 24.9.[20] As a corollary,

---

[19]Cited in Lee, L. "Law and Family Planning." Studies in Family Planning, Vol. 2, No. 4, April 1974. New York: The Population Council.

[20]Heer, D.M. "Educational Advance and Fertility Change." In International Population Conference, London, International Union for the Scientific Study of Population, 1969.

Driver presents data for India which reflect an average age at marriage of 12.8 for women with no schooling, and 18.0 for those with primary or more schooling.[21] The results of both of these studies suggest more years of schooling are strongly related to higher ages of first marriage. In tandem with the data on age of marriage and fertility rates this finding lends further support for the positive indirect effects of education on reduced fertility.

Another variable related to both education and population is the perceived value of children. Research has cross-categorized this variable according to economic and non-economic perceived value, and costs or benefits. Moni Nag in a study on the economic value of children in agricultural regions of Indonesia, Mexico, the United States and Nepal, suggests that the perceived economic value of children is strongly dependent on the age at which "economic activity" can begin, and the extent of "productivity." In farming households,. children are economically active, and hence seen as more valuable than in non-farming households. It is important to note, Nag says, that the techniques for measuring values mostly apply in non-industrial societies, since in the narrow sense the immediate economic value of children in industrial societies is negligible.[22]

Evidence that education is related to the perceived value of

---

[21] Driver, E.D. Differential Fertility in Central India. Princeton, N.J.: Princeton University Press, 1963.

[22] Nag, M. "Economic value of children in agricultural societies: evaluation of existing knowledge and anthropological approach." In Fawcett, J.T. (ed), The Satisfactions and Costs of Children: Theories, Concepts & Methods. Honolulu: East-West Population Institute, December, 1972.

children is presented by Eva Mueller in a study in Taiwan. The results show that the lower the education and income of parents the greater the value of children in terms of both their economic utility and social helping behavior.[23] Even though there is no corroborating research it is probably the case that whether or not children are required to attend school influences their parents' perception of their value.

An article by Judith Blake on the educational attainment of women and desired family size suggests that employment opportunities for women are important mediating variables in reducing desired family size. Furthermore, Blake suggests that one effective way of encouraging women to enter the labor force may be to raise their educational level.[24] In other words, one indirect path from education to a change in patterns of fertility may be the positive influence of education on employment opportunities, which in turn influences fertility.

While the strength of the relationship between education and fertility is high (in fact of all the socio-demographic variables predicting fertility, education is the single best predictor in most studies), the relationship does not hold in all instances. For example, Stycos and Weller in a study of women in Turkey found that for women in rural areas neither female employment nor education were significantly

---

[23] Mueller, Eva. "Economic cost and value of children: Conceptualization and Measurement." In Ibid.

[24] Blake, Judith. "Demographic Science and the redirection of population policy." In M.C. Sheps and J.C. Ridley, eds., Public Health and Population Change. Pittsburgh: University of Pittsburgh Press, 1965.

correlated to fertility; however, for urban women there was a strong correlation between education and fertility.[25]

It is important to remember, therefore, that certain cultural and social factors, such as employment and urbanization, may have to be present in a given situation in order for education to have a pronounced effect on reducing fertility rates. However, the potential for influencing fertility through providing more education for more people appears high. Of course merely providing access to education may not be sufficient to increase the educational level of a particular population. It may be necessary to initiate efforts to increase aspirations for heightened economic success and social attainment, and thereby the demand for increased education.

III. Law as Related to Education and Population Size and Growth

As pointed out in the first section, the relationship between law, education, and social change is intricate and complex. This is particularly true where law is defined broadly to include legislation, administrative and judicial decisions, governmental regulations and local custom. Proving that a particular legal action causes a specific

[25] J.M. Stycos and R.N. Weller, "Female working roles and fertility," Demography, Vol. 4, No. 1, 1967.

social change, short of carefully controlled experimentation, is virtually impossible. Laws change, nevertheless, and social and personal consequences follow.

In the United States, for example, compulsory education has been strongly affected by indirect forces. The Industrial Revolution saw increasing numbers of children employed full-time at factory work, especially in the urban centers. Piecemeal compulsory education laws had been enacted as early as the mid-19th century. Although social reformers had deplored the working conditions children experienced from the 1890's on, it was not until the 1920's--when there were laws both compelling school attendance and prohibiting full-time employment for children--that a significant step was made toward compulsory education. Other political and social innovations not directly aimed at education nevertheless reinforced compulsory education: the establishment of the permanent census, which ensured that children could be located, and the institution of social security benefits, which eliminated the necessity of children's wages for family support.

To identify in advance (or even long after the fact) the indirect or unintended consequences of a particular legal action on a situation is not always possible. This section, then, is an examination of laws which affect education, in schools and elsewhere, and some analysis of their likely impact on population questions. Where possible, we cite evidence as to the apparent effect of these laws on population growth, or refer to the previous section. Where evidence is unavailable,

or unclear, we have attempted to outline the more probably consequences of legal change.

Two caveats are in order. First, thinking through the logical social consequences of legal action can lead to wrong conclusions. Social systems are well known for what has been termed "counterintuitive behavior," for people and systems do not always behave the way pundits predict that they will.[26] Second, legal action aimed at one problem affects others as well, and these secondary or unintended consequences can be more important than the desired result. Given the web of personal and social interests bound to laws affecting population and education, particular care must be paid to unanticipated and unintended side effects of legal change.

Because of the numerous interconnections among law, education and population, some classification is useful for analytical purposes. The catogories in this section are legal rather than educational or population-related. Laws are classified not by their predicted impact on population, but by whether they require, prevent or permit, or encourage educational activities which are related to population. Thus, the classification turns on the extent to which law is coercive and whether, and to what extent, it mandates or prevents population-related action. We have chosen this classification partly because it is familiar to

---

[26] Jay Forrester, "The Counterintuitive Behavior of Social Systems" in Toward Global Curriculum: Collected Papers, eds. Dennis L. Meadows and Donnella H. Meadows (Cambridge: Wright-Allen Press, 1973).

lawyers and lawmakers. It also points to an important dilemma: the more coercive the law, the more certain we can be about its likely impact on population, even though the level of certainty might seldom be high. But more coercive laws are even more sure to conflict with other values of considerable importance in population matters, such as freedom of personal and familial choice.[27] Thus, more coercive laws are also apt to raise more sensitive ethical and political questions. To repeat, then, our categories are laws that:

A. Require

B. Prevent or permit

C. Encourage (with or without subsidy)

A. Laws which require educational activities that may affect population.

Compulsory education

Primary among the laws which can have significant impact on population growth is required attendance at school.[28] Laws on this matter vary greatly, with some requiring only a minimal number of years and

[27] UN Economic and Social Council, "Population and Human Rights, Education and Information." Background paper of the UN Educational, Scientific and Cultural Organization, pp. 4-5

[28] Obviously compulsory education laws can only be effective in influencing population factors if education is readily available and the laws can be enforced. Neither of these conditions exists in many less developed countries, where educational resources are scarce and the social and administrative conditions for encouraging compliance with the law do not exist.

141

relatively few days of attendance, while others require extensive schooling for most of the year.

As discussed in the previous section, the general level of schooling is found to have an indirect and negative impact on population growth: the higher the general level of schooling, the lower the birth rate. Thus, an increase in the amount of required schooling is likely to be related over time to a decline in birth rate.

Beyond this simple correlation, compulsory schooling may have rather more complex and incalculable effects. If children must be in school, not in the field or factory, at least part of the parental and social calculation as to the desirability of more children may change. The balance between viewing children as an economic burden versus seeing them as an economic benefit may shift to some extent toward the former.[29] To the degree that the individual decision to have children, or the social decision not to discourage high birth rathes, is based on economic considerations, compulsory schooling may depress birth rates over time, or provide the background conditions which lead toward favorable consideration of more direct action.

---

[29] Eva Mueller suggests in her article, "Economic cost and value of children: conceptualization and measurement," in J. Fawcett (ed.), The Satisfaction and Costs of Children: Theories, Concepts, Methods, East-West Population Institute, Dec. 1972:

> When children stay in school longer, their value as productive agents is deferred to the less foreseeable future. As overpopulation in rural areas grows, the marginal productivity on the family land of a second, third, and fourth son is bound to diminish sharply (p. 179).

To the extent that noneconomic factors predominate, the result is less predictable.[30]

Compulsory higher education does not exist. But as a practical matter conditioning access to desirable professions (law, medicine, public administration) upon further degrees amounts to compulsory education for those who aspire to such posts. It is a form of covert compulsory education. As societies become more industrial they become more specialized. The need for training and credentials tends to increase. As it does, covert compulsory education expands. For related educational and economic reasons, the age of first marriage is likely to increase as a result of the need to continue in school. As it does, the number of children per family will decrease.[31] If legal barriers to the entry of women into these and other educationally intensive professions are removed, or sufficiently attractive incentives to entrance are provided, the expectation is that this chain of consequences will occur and the birth rate will decline.

Compulsory Curriculum

Laws compelling education can go beyond attendance to required instruction in a particular subject. Publicly supported schools

---

[30] Heer, op. cit., pp. 1906-7

[31] See p. 14 supra.

may require instruction in such matters as reproductive biology, family affairs and more general demographic and social aspects of population education. Sweden seems to be the only country which actually compels such programs, and this compulsion is limited to sex education. Although there may be legal barriers to some compulsory curricula in some countries, the scarcity of such programs is noteworthy.[32] The degree to which legally mandated educational programs produce an effect on the birth rate independent of more immediate services (e.g. provision of contraceptives) is speculative. Nevertheless, information about birth related matters is a necessary, though probably insufficient precondition, to informed personal and social judgments.

Compulsory academic work need not be limited to publicly supported schools. Where numbers of children attend private schools, state mechanisms for the approval of such schools could include provisions that would require one form or another of population education.

Compulsory curriculum like compulsory education need not be limited to elementary and secondary levels, but can also occur in what we have termed covert compulsory education. Governmental or quasi-governmental agencies certify university training programs for the professions. Some of them--e.g., medicine, administration of social welfare agencies, public health and education--deal directly with certain aspects of population

---

[32]See Edgar, H. and Greenwald, K. "The Legal Tradition and Some Population Control Problems", in Ethics, Population and the American Tradition (Hastings, New York: Institute of Social, Ethical and Life Sciences, 1971), for analysis of legal barriers in the United States.

questions. How many of them require attention to the more sophisticated personal and societal aspects of population matters in their curricula? Only a survey of local practices would yield a definitive answer, but our tentative conclusion is that very few do. Legislation or administrative regulation could require such training. The population result, beyond more informed professional advice, is hard to predict. Along with medical training---doctors, nurses, and related personnel---required population curricula for teachers would probably have the widest impact, particularly if it were coupled with a mandated curriculum in the schools where the teachers are eventually employed. Once again, the direction of any impact would depend upon the content of the required courses.

Other compulsory curriculum measures can exert an influence on non-school organizations. In some countries literate persons must instruct their illiterate countrymen or be subject to fines.[33] In other countries, Iran and Israel, for example, conscripted military personnel may serve out their military obligation as teachers.[34] Because of the relatively high level of control over the training of military personnel, required attention to population matters could be more easily implemented in such situations.

While it is difficult to think of the content of mass media as

---

[33] Harman, D., Functional education for family life planning, II: Program design. (New York: World, Education, Inc., 1973), p.86.

[34] Ibid., p. 87.

being compulsory, in many countries the content, and therefore the media, are under government control. The government effectively determines the content. Witness the 1973-1974 development in England where television programming was terminated at 10:30 in response to the energy crisis. Concerned BBC and government officials inserted a family planning message as the terminal message of the day in order to deter a possible increase in births related to lack of TV at late hours.[35]

Obviously other activities controlled, or benefits conveyed by governments could be conditioned upon participation in some form of education activity related to population. If female students are allowed to return to school after childbirth, for example, they could be required to participate in family life courses. This would involve the schools directly. Nonschool education might serve a similar purpose. As part of the proces of marriage certification, for example, a couple might be required to attend a certain number of classes where population information was made available. Issuance of a marriage certificate would be conditioned upon attendance. This would correspond to similar practices by some religious groups, but in which the objective of the instruction is not necessarily related directly to popultion matters. Another possibility is that post partum women in hospitals or clinics could be given education about population/family planning matters.[36]

---

[35] From an article in the New York Times, December 14, 1973, 16:5.

[36] Ron Pion of the School of Public Health, University of Hawaii, in the U.S. has initiated such a program at the Queen Kaiolani Hospital through the use of a closed circuit television system.

Such examples could proliferate, but to no particular end at this point and we shall, therefore, move to the next category.

B. Laws that prevent or permit activities that may affect population

In this category, we examine laws that either create or remove a legal disability. Laws that permit an action generally modify or repeal laws that prevent that activity. Thus, the two are closely related and are best discussed together. To the extent that we examine preventitive laws, a degree of ocercion is still involved, though less than where a law requires action.[37] Because this category of legal action is less coercive, its effect is predicated on the extent to which people already have, or develop, an underlying commitment to the educational activities which the law fosters.

We do not deal to any great extent here with direct economic subsidization of educational activities related to population. Lack of subsidy creates an economic disability. Since subsidies are enacted through law, the line between economic and legal disabilities is hard to draw. Governments could remove many barriers to more effective population-related education by providing funds for programs. Because of the pervasive existence of economic factors, we try in this section to identify legal barriers that are not primarily due to lack of money.

From the perspective of education and population control, the most critical barriers are laws that prevent the public distribution of

[37] This is true unless the law prevents an activity essential to well-being. In that case, there would be little difference.

birth control information. Some countries--Ireland and Spain are two--still have laws that restrict the distribution of birth control information or instruction, although the laws are not strictly enforced in all cases.[38] In the Philippines, for example, under Act 283 of the Criminal Code, the Attorney General has ordered that family planning personnel shall not be prosecuted for the performance of their job. They are, a fortiori, a bar to broad educational programs in publicly supported schools, as well as to nonschool adult education efforts. Although their degree of impact is difficult to judge, these laws clearly run counter to attempts to reduce fertility.

From an educational and legal standpoint they are also the most difficult to defend. From one perspective, a minimal view of education defines it as a means of providing adequate information to allow people to make informed decisions about their personal and social problems.[39] Selectively preventing its dissemination frustrates that purpose. But such laws not only conflict with a widely accepted desire for more freedom of information and decision-making on matters that affect personal and social decisions, they appear indefensible under several important proclamations: the Teheran Proclamation (1968) that family planning is a basic human right; the U.N. General Assembly Declaration

---

[38] Lee, L. "Law and Family Planning," in Studies in Family Planning, Vol. 2, No. 4, April, 1971, (New York: Population Council), p. 83.

[39] In fact, many school population educators state this as the goal of population education. Nonschool educators usually go further because of the problem-solving nature of their activity and also indicate some specifically valued behavior as their goal. (See Kline, D., "The Forum," World Education Reports, Vol. 1, No.1, Spring, 1972, (New York: World Education, Inc.).

on Social Programs and Development which provides that the right to family planning includes both "knowledge" and access to the "means necessary" to the exercise of the basic right.[40] In addition, laws restricting birth control information or devices run counter to legal traditions which protect privacy and the inviolability of the home. Where religious or national mores make an actual change in these restrictive laws politically impossible, the desired goal of distribution of family planning information has been accomplished by a combination of loose enforcement of the original law, and reliance on these essential freedoms. In Lebanon, for example, the importation of contraceptives was forbidden. When they were reclassified as medical supplies, they entered without inspection or difficulty. There is some indication that TV programs on family planning might be similarly acceptable when handled through the Ministry of Education.[41]

People who are unaware of the consequences of their actions or, more to the point, of the means to change the consequences, lack a realistic opportunity to alter the patterns of family life. This is not to imply that simply providing information will significantly

---

[40]The extent to which concepts of human rights have legal as distinct from moral force is a fundamental debate in international law. So, too, is the legal source from which human rights emanate, i.e., treaties, customary law, natural law. For a discussion of the relation of the United Nations activities to population and of the legal status of population and human rights, see Lee, Luke T., Population Law: A New Curriculum for Law Schools. draft paper for the UNESCO Workshop on the Teaching of Population Dynamics in Law Schools, February 18-22, 1974, Paris.

[41]Information gathered in conversation with Professor George Dib, University of Lebanon, Raz, Beirut.

change birth patterns. At least over the relatively short term, there is some evidence to the contrary.[42] It is to imply, however, that information and education are necessary ingredients of any attempt to change fertility behavior. Lack of information and education precludes rational and free decisions,[43] whether the desired outcome is an increase or a decrease in the rate of growth. To the degree that effective legal and social planning requires valid information and education, both for individuals and aggregate populations, these laws are unproductive at best and dysfunctional at worst.

Even where the laws do not strictly prohibit the flow of information, administrative regulations, red tape and insufficient funding may create an administrative maze that achieves the same effect. Lee refers to situations in which "jurisdictional disputes or rivalries" and "inertia" prevented implementation of an "otherwise well-conceived substantive program."[44] Consequently, legal analysis of formal blockages in legislation or more organic laws of a state is not sufficient to determine the

---

[42]The National Family Planning Programs of India and Taiwan in the 1960's encountered a "plateau" of acceptors using the approach of clinics coupled with information about the desirability of family planning, small families, and related matters. In order to break through this plateau, both programs turned to more intensive education, incentives and integrated services.

[43]By rational decisions we mean that the decision-maker has access to information that illuminates the likely consequences of a decision. This does not imply that the decider must then act in accord with someone else's conception of his or her best interests. Nor does it imply that emotion has no place in decisions or in setting goals. In this sense "uninformed" is closer than "irrational" to being the opposite of rational.

[44]Lee, op.cit., p. 93.

legal or quasi-legal determinants of actual practice. The regulations and practices of a Ministry of Education, for example, might be more critical than the content of legislative enactments.[45]

Laws that prevent or permit certain activities can also have an effect on education and population through more circuitous routes. Consider policies with regard to attendance at private schools. Many privately operated schools are organized by church groups who oppose population planning measures.[46] Children who attend these schools will likely be exposed to more limited birth control information. The result is a pronatalist bias, even without considering the likelihood that attitudes fostered in that educational setting may be favorable to large families. One could argue, of course, that merely providing contraceptive information in publicly supported schools reinforces an inherently antinatalist slant. That may be so, particularly since the motivation for most current programs is reduction of population growth, and not simply the provision of more information to facilitate personal choice.

The point of this example is not that governments which seek a reduction in population growth should bar attendance at religious or other private schools which support conflicting population views. Too many other values are involved in the recognition of private schooling to allow such a simple conclusion. Rather, it is to highlight

---

[45] Ibid., pp. 93-97.

[46] In the United States, for example, about 10% of school-age children attend private schools. Of these, roughly 90% attend Roman Catholic schools. Because of the Catholic stance on family life, children and birth control, children attending these schools may receive less complete information on fertility regulation and population matters generally. The same may be true in some Latin American countries.

151

the possible unintended consequences that one policy (encouraging private education) can have on another (population control). In a country where public authorities are hard-pressed to provide sufficient education for all children, sometimes due in part to rapid population expansion, the educational contribution of private schools (some sponsored by churches) might be educationally and socially important. Yet it might also exert a longer term, less obvious and--from one perspective--undesirable influence on attempts to establish a different equilibrium between population and development.

Laws and related social policies that affect the education of women are of particular significance.[47] Some societies place major roadblocks in the way not only of women who wish to pursue higher education but of those who seek elementary and secondary education.[48] These barriers

---

[47] See p. 13 supra. One paper states: "Indeed, the educational level of women appears to be one of the strongest factors affecting fertility, especially in high-fertility countries." (Women's Rights and Fertility, UN Economic and Social Council, October 25, 1973.)

[48] Considerable data on the status of women have been gathered by the United Nations Secretariat and compiled in Women's Rights and Fertility, published by the United Nations Economic and Social Council for the World Population Conference in 1974 (October 25, 1973). See especially pp. 5-10 for the relation to education. This paper points out that illiteracy rates are "much higher among women than among men, although the situation is improving, Females are less than half of the school population in most countries and their proportions decline rapidly at the highest levels of training...In many areas the relative under-representation of girls and women in schools is compounded by an overall scarcity of educational resources, placing them at an even greater competitive disadvantage. The scarcity is often the greatest where population pressures are the most acute." (Emphasis ours), pp. 5-6.

may be written into formal laws and regulations or interwoven in the fabric of customary law and tradition--where their effect, though less formal, is at least equally powerful, though less obvious.[49] Their relative informality may make their effect more powerful, for the source of discrimination is more obscure and the means to cure it more elusive.

At the level of higher education, university admissions and fellowship policies may consciously or unconsciously favor male applicants. Hiring practices after university may also favor males, thus reducing the overall incentive to women to pursue further education, even where there is no formal or informal bar in university policy. To the extent that females with more education marry later and have fewer children, such policies have an indirect but significant effect not only on female knowledge about population matters but on their child bearing decisions.

Other educational policies and regulations affect access and are related to equal opportunity and fertility. Are women barred, for example, from vocational and technically oriented curricula or educational

---

[49] Lee, op.cit., observes the following (in "Law and Family Planning"): "Many less developed countries have recognized the principle (equal educational rights for women) but have difficulty implementing it; for example, most of the Arab countries have laws and decrees providing equal educational opportunity for boys and girls, but only very recently has there been an increase in the facilities available for girls."

tracks that lead to well-paid employment?[50] If so, will this not inevitably lead to less career orientation and, conversely, greater family focus on the part of women? Elimination of such practices could lead to more career orientation, higher female employment and a reduced birth rate. This result is by no means inevitable and will vary for a variety of reasons, one of which is the degree of incompatibility between working and mothering. The more urban and industrial (as distinct from rural and agricultural) the employment, the stronger the effect is likely to be.[51]

Similarly, if young women marry or become pregnant are they allowed to remain in school? To return after childbirth? Laws which hold that students may not marry and remain in school, for example, are reasonably common.[52] One possible longer-term effect of such laws is to increase the proportion of unmarried females in the population and this may result in fewer births. On the other hand, such education practices might not discourage early marriages and the result would be to force young mothers out of schools. This would reinforce the notion that the role of women is home with children, and would also reduce the amount of

---

[50]By tracks or tracking, we mean formal policies or informal practices that separate different curricula and channel students into one curriculum or another. For a discussion of the legal implications of this and other sorting devices used by schools in the United States, see Kirp, D.L., "Schools as Sorters: The Constitutional and Policy Implications of Student Classification," 121, U. Penn. L. Rev. 705, Philadelphia, 1973.

[51]"Women's Rights and Fertility," Ibid., pp. 10-15. This monograph points out that the relationship between employment and fertility is clearest in industrialized countries and that paid employment of women in rural areas tends to have little impact on fertility.

[52]Lee, op. cit., p. 91.

advanced training these women receive. The result would be the unintended creation of a structure of incentives and sanctions which fosters high birth rates. Writ large, the personal decisions to have more children encouraged by this structure become a high birth-rate social policy. In some instances, this might be a desired result, but in most it is not. In any event, discriminatory practices of this sort run counter to the letter, certainly to the spirit, of the General Assembly Resolution, "Declaration of the Elimination of Discrimination against Women."[53]

C. Laws which encourage action.

This last category involves two major subheadings: 1. laws which go beyond simple encouragement to provide direct subsidies; 2. laws which focus attention on or encourage population-related concerns without substantial direct subsidies. Into these two classes fall some of the most widespread and important activities in which law, education, and population concerns intersect.

1. Encourage with subsidies. All governmental programs involve some human or monetary subsidy, and we have tried to concentrate on a few major examples.

---

[53] See Articles 2 and 3, General Assembly Resolution 2263 (XXII). The Resolution is cited in "Women's Rights and Fertility," ibid., p. 3. See also Lee, Population Law, Ibid., pps. 5-6.

By far the most pervasive and perhaps most important educational subsidy that can affect population is the provision of free education. Most educational activities depend on it. Certainly compulsory education laws are ineffective without it; requiring attendance at school and then failing to provide public support for schools mocks common sense. Free education even without compulsion will draw young people from the labor force and probably postpone the formation of new familes. Coupled with compulsory education, such effects are likely to be enhanced.[54]

The question of the relationship between free and compulsory education seldom arises so starkly. It is more likely to occur in terms of the proportion of the population subsidized or the level of education provided. Does free education extend to elementary school? Secondary? To higher education? Is there a selection system that limits apparently free access to all levels to smaller and smaller percentages of the population as the level increases? Do these limitations turn on social class? In some less affluent countries, there may be a hidden disparity between compulsory and free education. The law may provide both, but the level of support may be so low that sections of a country, or sectors of the populace, may be virtually excluded from the opportunity to comply with the law because there are no schools. Or, more probably, schooling which is supposed to cover a number of years may be cut off prematurely for lack of funds.

---

[54] See Section II, p. 13, supra.

Beyond creating an uneasy contradiciton between what the compulsory law requires and the subsidizing law enables, the impact on population may be twofold. The indirect consequences, though difficult to measure, are predictable: lower levels of education are generally associated with higher rates of birth. The direct consequences are also clear. Educational programs require subsidies and a setting. Free education, from elementary to adult, provides a major outlet for such activities; this is true whether the education occurs in a classroom, is provided by travelling teams, through nonschool organizations, or occurs on radio and television. Both school and nonschool educational programs of population education would be adversely affected by a failure to subsidize free education. In saying this, we assume that part of a subsidy would be used for courses and programs which examine population questions, personal, familial and societal. Although few would argue that instructional and informational programs by themselves produce different population practices, their absence would constitute a major obstacle to change, particularly if the goal were a reduction in population growth, as it is in most situations.

Several examples of programs that go beyond specific courses targeted on population questions will help in understanding the kinds of subsidies involved. Introduction of new materials and curricula in schools, population education, for example, will be more successful if teachers are well prepared. Consequently, subsidies should not only be provided for teaching courses, but for training teachers to teach them. This means preservice and inservice training programs, with

inservice the most critical in most countries unless teacher turnover is high.[55] Further, subsidies can be used to develop population materials for courses where the primary purpose is not population education. Basic literacy courses, for adults as well as children, can include segments of materials on population questions. This would require not only teacher training but support for curriculum development or modification.

Beyond the strict bounds of population education in schools, subsidies can also be provided for medical personnel in schools. Doctors, nurses or paramedical personnel screen for and treat illness. They could also provide appropriate information on birth regulation. The impact of improved medical care, at least in the short run, may be to increase population by reducing premature death. But if population education is one of the functions undertaken by medical personnel, the longer-term effect may be a reduction of population growth.

In a real sense any long-term lowering of the birth rate depends upon good health in the infant population in order to reduce the need to have additional children as insurance against the probability of infant mortality. Similarly, good health in the reproductive population is necessary so that the cycle of good health which leads to ability to perform hard work, results in higher income, and hence a lower birth rate. High levels of morbidity in the adult population also leads to high birth rates as "insurance" against the unforeseen.

From another perspective, subsidies can also be provided for research

---

[55] The International Conference on Population Education in the Asian Region held at Tayatay City, Philippines, January 14-21, identified teacher training as one of the most important needs for facilitating program development in the countries of the region.

which would define more precisely the legal and educational aspects of population either in a particular country, or more generally across nations with similar problems. In addition, nations with the wherewithal and international orgainzations can commit resources to research and educational action programs that would provide needed, solid information for programs of population-related education. Empirical data on the status of laws and educational programs which relate directly to population is still too sparse, despite recent important international activities.[56]

Another area in which subsidies would be useful is the training of professionals in planning, research/evaluation, administration, training and curriculum development aspects of population and law.

Also, assistance for establishing means of facilitating communication between individuals and organizations is needed. Most useful here would be such activities as a newsletter, journal, and some means of formally linking people and institutions together, such as a network or association.

2. Encourage without subsidies. Strictly speaking, no governmental action occurs without some resource expenditure, human and fiscal; therefore, no programs exist totally unsubsidized. Therefore, in this

[56] Examples are the International Law and Population Study of the Fletcher School of Law and Diplomacy at Tufts University, Medford, Massachusetts, U.S.A.; the Second Asian Population Conference in Tokyo in November 1972; the Symposium of Population and Human Rights in Amsterdam in January, 1974; the Workshop for Asian Program Development Specialists in Population Education at the East-West Center in Honolulu in 1972; the International Conference on Population Education in the Asian Region in Manila in January, 1974; and numerous UNESCO seminars and workshops on population education.

final category, we have grouped a number of activities which require little financial support or in which the support is relatively indirect. They might best be called promotional or consciousness-increasing activities and in that sense they are critical, although gauged in the short-term they produce the least dramatic effects. We give but a few examples.

Two measures are reasonably common. One is the presidential or national commission on population, like those in the Philippines and Colombia; another is the creation of a governmental office to coordinate population affairs, such as those in Indonesia, U.S., and Sweden. The commission usually has the function of gathering data, commissioning research and focusing national attention on population matters. A governmental office may do all of these and run programs as well. In addition, a population office may promote better ties between other concerned governmental agencies, such as ministries of education and of health. It may also encourage programs for visiting professors, lecture series, seminars for decision-makers, and other educational activities intended to keep population questions in the forefront of the public mind. In conjunction with ministries of education, it might encourage women, through task forces and similar methods, to take advantage of expanded educational opportunities that are developed at least partially for population reasons.

Beyond activities in one country, regional conferences, supported by governmental and foundation funds, can be used to develop curricula

and to evaluate the effectiveness of programs.

IV. Recommendations

1. In addition to recommendations that deal more directly with the legal structure of population and education, we make one suggestion related to the curriculum of law schools. It is based on two assumptions: one, population matters are a legitimate part of legal study; two, law curricula could usefully include more interdisciplinary study of the actual impact of the legal system on individuals and society.

Referring to the first assumption, this paper has demonstrated the myriad connections among law, education and population. They are at least as widespread as the links between the law and other matters which are commonly part of law curricula: family policy, business or commercial matters, environmental law, and others. Given the dimension of the population problem and its pervasive impact, the case for the inclusion of population matters in law curricula seems clear.

The case also rests on pedagogical foundations. Much legal education focuses on the analysis of existing law and to a lesser extent, its possible application to hypothetical new situations. But it is predominantly logical analysis of the meaning of legislative and judicial actions. Not enough attention focuses on how laws affect what people actually do. In the area of population, education and law such attention is critical because of the complex social and personal relationships involved. Lawyers must be acutely attuned to the true

effect of their recommendations and actions, because of both their sensitivity and complexity.

Thus, we recommend an interdisciplinary seminar for advanced law students that focuses upon this subject. It could provide an unusually rich case study of the full range of the law, from its philosophical and ethical roots to its implementation and impact. Its purpose would be pedagogical and practical. Its teaching function would be to integrate various legal and other analyses (sociological, economic) of the law. Its practical purpose would be to provide a major study of the range and depth of population related problems in a given country. Although a study of educational policies and laws would be part of this work, it should extend beyond education to the many other laws that affect populations.

2. While there appear to be definite advantages to complusory education and curriculum laws in achieving population policy goals, we realize certain inherent problems are involved:

a. Latin America, Africa and Asia have large proportions (30% to as high as 80)) of their school-age populations that are not able to obtain a formal education because of lack of easily accessible educational resources (buildings, teachers, administrators, and materials). It makes little sense to espouse compulsory education in these settings. Rather efforts should be directed toward providing more education for more people, up through the equivalent of pre-university training. We would also encourage exploration of nonschool approaches to population

education. There is some evidence to suggest that these may be more effective in solving social problems. The latter is predicated on preliminary evaluation data from projects like that of the Ministry of Education in Thailand, and on the belief that functionally oriented education is more effective in solving problems.

b. Where educational resources are available in sufficient quantity, considerable benefit would seem to be derived from laws for compulsory education up to pre-university levels.

c. Whether or not compulsory curriculum laws for schools and nonschool organizations are utilized should depend on the prevailing social and cultural climate in a given country. If a society decided it could accept them, there may be an advantage in terms of reduced fertility.

3. We recommend that action be taken in all countries to remove barriers to women obtaining the education they desire. The evidence that more education for women lowers fertility is persuasive. There is reason to believe that this relationship is more powerful where there are sufficient inventives and opportunities (for females) to engage in occupations other than or in addition to mother and housewife. We therefore suggest that the legal establishment concentrate on the abolition of laws that prevent women from continuation in educational programs after marriage or pregnancy, ensuring equal opportunity for women in education; seeing that appropriate subsidies are available

for the education and in seeking equal employment opportunities for women; changing the attitude of the majority of men and women towards the roles and opportunities for women. Such action is also consistent with the Declaration of Human Rights.

4. We recommend that efforts be taken whenever consistent with other policies and institutions in society to remove legal barriers to the public distribution of information on birth control matters. These are not only a hindrance to the implementaion of population education programs but seem to us a violation of the rights of each person to the full and correct information necessary for a rational and free decision in population matters.

5. We recommend that nations establish national policies on the role and responsibilities of the education sector to educate about the nature, consequences and possible solutions of population problems. Where appropriate, research into alternate forms and vehicles for education should be conducted. Such policies should directly involve the Ministry of Education, and other education-oriented agencies, as well as the Ministry of Health.

6. We recommend that further research and evaluation be undertaken in the following areas:

a. Evaluation of the effects of laws and legal practices upon population dynamics both directly and through mediating factors like education.

b. Evaluation of the effects of education, both direct and indirect, upon population dynamics.

c. Research on the factors influencing individual decisions about fertility.

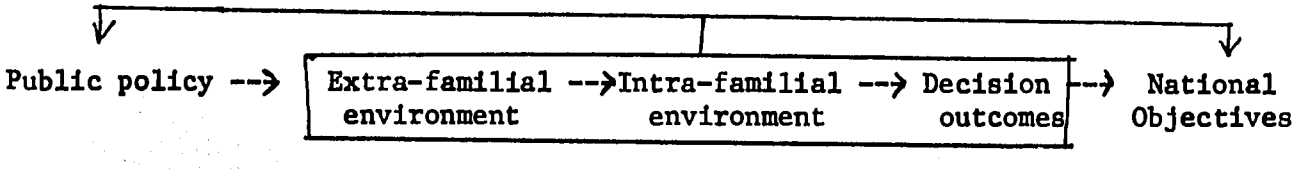
SEMINAR ON LAW AND POPULATION:

LECTURE BY PROFESSOR J. DIRCK STRYKER

Over the last 2 years or so I have become somewhat less of an expert in population and more of an expert in such things as food and rural poverty. But I tend to look at these things as very inter-related issues, and I don't really think that anyone can study the population problem in isolation, neglecing such areas as agricultural development. The type of framework I'd like to sketch out today is one that considers these issues as being related, focusing primarily on the household as either a nuclear or extended family, as the unit of decision-making. The belief is that the family doesn't just make decision about how many children to have, or how much millet to grow this year, but that in fact all of these decisions, which include health, education, type of work, how much to grow, how much to save, etc., are very inter-related and cannot be dealt with in isolation.

I think this is the outgrowth to a large extent of an important body of theory and empirical testing which has begun to emerge, and which probably dates back to the work by Gary Becker on the economics of fertility around 1960, in which he essentially extended the economic analysis of the household as a consumer to consider fertility choices as well as choices concerning the purchase of various goods and services. This was the genesis of the theory of the household as a decision-making unit, which considers the inter-relationship among the many types of decisions made by that unit. An outstanding economist in this field has been Paul Schultz, who, with a number of colleagues, did a very substantial amount of work with the Rand Corporation when he was there, much of it summarized by William Butz in the paper I have suggested you read.

Now what I would like to do is to take basically the same conceptual picture that Butz has outlined but to apply it somewhat differently and to make, perhaps, some extensions to it--to look at the way in which these household decisions fit into the overall economy and the relationship between national objectives and public instruments. To some extent, the government is constrained by these objectives and policy instruments, but at the same time it is able to use policy instruments to further its objectives. But in between lies a stubborn animal and that is the household. The question is how does one arrive at the various national objectives given the types of instrument at the government's disposal. I'm going to sketch a slightly different schematic picture from the one that Butz uses and that is:



Now what do we mean by extra-familial environment? Basically here we're concerned with the types of environmental factors, over which the family has no control. This corresponds to an economic situation in which a family faces a set of prices and has a given income and decides how it's going to spend that income. The rural family is faced with a geographic environment, a climate, social conditions, a public infra-structure (including distance to the nearest road), a political system over which he has relatively little individual control, a set of work opportunities off the farm, a set of technologies that can be used for which he may have some information, and so forth. All of these are exogeneous factors in the family environment. Public policy can clearly influence this. It can change the set of prices a family faces, it can build roads and schools, it can change the legal structure, it can change the tax structure, it can provide agricultural extension services, etc. There is a wide range of ways in which public policy can influence the environment.

The intra-familial environment, on the other hand, consists of internal relations that exist within the family--the set of values which a family adopts, (which may not be consistent with the values that exist in the neighborhood) the social relations that exist between various members of the family, and so forth. I want to come back to this a little later, but for the moment we treat the intra-familial environment as a constant. In fact, one of the most difficult things, I believe, in the area of population policy and understanding how decisions concerning fertility are altered by the process of development is understanding better this intra-familial environment and how it changes in the development process. For the moment we consider it a parameter of the system.

Now changes in the extra-familial environment act via the internal structure of the family, social structure and so forth to produce certain outcomes. The family decides how much it's going to save, whether there's going to be a child born this year, whether children are going to be sent to school, whether they're going to work, whether the wife is going to work on the farm or off the farm, what kinds of techniques are going to be employed in agriculture, etc. All of these decisions are results of the extra-familial environment interacting with the intra-familial environment, producing certain decisions. We will be concerned about how these decisions in turn affect national objectives.

In addition, there are some feedback effects. One such effect occurs when family decisions interact with the extra-familial environmental considerations to affect further family outcomes. To a large extent, the environment in which the family finds itself next year will be in part the result of decisions made this year. So with some sort of lag we have the effects of decisions made by the family feeding back into the decision-making process. Decisions to have children influence later decisions concerning education and so forth.

Another feedback is that changes occur in the extra-familial environment and influence, in turn, both national objectives through the political process and public policy instruments which are available. A family which is induced to identify itself with the nation-state is more likely to put up with a higher level of taxation than a family which is highly individualistic and is concerned primarily with its own private interests. As attitudes towards others change in the society, the relative importance of income equality as a goal, for example, will change.

Now to look at some specific parts of this general picture. In particular, I want to talk about the basis of our view of how public policy instruments affect national objectives. If government improves educational opportunities, for example, how will that influence the number of children a family has. I am not saying that the average number of children a family has is a deliberate national objective, but I'm not ruling it out either. Gary Becker's theory of human fertility treats children as a consumer good. Since children cost something, the more children a family has the less it will have in the way of other goods and services. Now what Becker did was to say let's apply consumer theory to this situation and see what predicitons we have. Basically, this theory says that there are two things that are likely to affect consumer demand for children. First, family income rises, there is the possibility of increasing consumption of both children and other goods and services. And normally we expect that if children are superior goods, we would have more children as a result of rising income.

This was a very brave conclusion, since a casual view of the United States indicates that people with higher incomes have fewer children. So the first prediction in this brave attempt to apply the economic theory of consumer durables to children didn't seem to work out very well. But, there was another effect which was taking place at the same time. That is the cost of children was changing in relationship to the cost of other goods and services. As the theory of the household evolved during the 1960s, Becker himself was responsible for incorporating another important variable into that theory--time. For it turns out that the ultimate family constraint is not its income, but rather both its wealth and its time. And children turn out to be very time-intensive goods, since, in the course of growth and development, the value of women's time increases, both because of generally rising wages and greater opportunity for off-farm work, the opportunity cost of the time that they spend caring for the children becomes much more expensive. This is the most important factor in the cost or price of children; the time that goes into their care and feeding rather than actual physical cost. Food may be important, but if you weigh that against the value of time, you find that the value of physical expenditures is less than the value of time caring for the children. And if that time becomes increasingly valuable with economic development, than one would expect that, since the price of children has gone up, there would be substitution away from the children towards other goods and services. This would tend to offset the effect of rising incomes which acts positively on the number of children people want to have.

A second factor is that as incomes rise, people don't just buy more of the goods that they consumed initially. What you find, for instance, is that as incomes rise, people switch from the consumption of very starchy root crops towards grains, rice, bread, fish, meat, etc. That is, they shift to higher quality foods, so that there is no reason to believe that as peoples' incomes rise they wouldn't try to shift to higher quality children, in some in some sense, as well. Now what do we mean by higher quality children? We mean children that have more education, more capital added to them. One of the things which people in any developed country experience is an increase

in the opportunity for education. Consequently, people tend to then buy education for their children, and if they're going to buy education for their children, they are going to limit the number of their children. In fact, we find that this is another important variable in explaining fertility rates.

As far as the LDCs are concerned, we don't have a great deal of evidence concerning specific families and how they react to changes in public policy in terms of their fertility behavior. But we do have three general observations from analysing aggregates that seem to hold true in a number of different societies. First, we find that as women's participation in the work force increases, and thus the opportunity of having children goes up, the number of children they have tends to go down. Second, we find that as education becomes increasingly available, people tend to have less children. It's not the education of the mothers, which would influence their perspective and their openness to information on family planning, but rather it's the education opportunity for the children. Third, we find that significant decreases in fertility don't occur until there have been very significant decreases in mortality.

To look more carefully at that I want to consider some other factors which are involved. The theory that I've just been discussing is based on consumer behavior, but it is recognized that children are desired not only for the consumption services they provide, but also because they are a form of producer good. Because people have children early and spend 20 years raising them, children are a form of investment. Even as a consumption good they can be considered as a form of capital investment. As a producer good, children in LDCs spend a significant proportion of their time working for the family. They are fed and clothed during the period that they are unproductive and when they become 6 years old they begin to produce and hopefully the value of their services will match the value of what you invested in them. Steven Enke, an economist who tried to estimate the social cost and benefits of having children, considers them to be solely a producer good and applies a rate of discount to these flows of costs over the consuming period and the benefits in terms of productive services that they later yield. Using almost any rate of discount, this calculation will show you that children are a very poor investment. That is, you incur your costs early so they count relatively heavily, whereas the payoff on your investment does not occur for 10, 15 and maybe 20 years and the rate of discount applied to those benefits tends to lower their value when compared with the costs. So children appear to be very uneconomic. But I repeat that this is considering children only as productive good, and one would want to add the function of children as a source of consumption to make the analysis more meaningful.

Finally, we have children as a form of social security. This is particularly important in LDCs, where there are no nation-wide social security systems that affect families in the traditional, informal or rural sectors. There are social security systems which affect families in the modern sector, but these are relatively unimportant in terms of the total population. For most, the only form of social security that exists is the extended family, which takes care of people, whether they are sick, unemployed, old or what have you. In order to make sure that your extended family is going to take care of you, however, it is necessary to invest in children, and we find this is a third reason for having children.

Now for children as a risky asset. Children as a productive good and as a form of social security could simply be added to children as a consumption good.and not really affect the analysis. But there is another very important characteristic of human beings and that is that they are fragile, and, in particular, in environments in which health conditions are poor a large number of children are not going to survive to maturity. In sizable number of countries in different regions of the world today one-half of the children that are born don't survive to maturity. This means they are very risky. Aside from any direct emotional cost involved, there may be actual economic loss. You have children, you nurture them, you take care of them, and then if they die after 2 or 3 years, there is a fairly substantial amount of wasted resources. So, if people want some given number of children, let's say according to this economic analysis, they invest in having more children in order that they can end up at the end of 20 years with the desired number. Assuming that you can establish pretty well the probability of death, you can calculate the number of children who are necessary on the average in order to end up with the desired number of surviving children. But that is on the average and the experience of any given family may differ substantially from the average. But suppose that you are extremely adverse to falling below a certain point--let's say, you want to ensure that you have at least one male child who survives. Now what you may have to do then in order to reduce the probability of not having a surviving male child to a very low level may be to have a very large number of children, larger than would be necessary to just, say, have a 50 percent probability that you would end up with one surviving male child. So there is a tendency to hedge against the worst possibility. This is a very significant problem and it is why most economists and others believe that health is an extremely important prerequisite to reducing fertility. If you look at the evidence for countries which seem to be going through the last stages of demographic transition and have significantly declining birth rates today, you would see that all of these countries have their death rates down below 12 per 1000, as compared to other countries which have death rates on the order of 30 to 40 per 1000. So below 12 per 1000 seems to be a threshold level below which people begin to react to the fact that whereas 20 years ago, if they had 10 children, 5 would be lucky to survive, now they have 10 children and find that 10 are surviving and it gets crowded. It takes time for people to react to this. So death rate is another important variable which is correlated with fertility--that is, the lower the death rate, and in particular if the death rate is quite low, the lower are fertility rates.

Student: When you are talking about the death rate, are these major differences due to the death of infants? Or is it because people are living longer?

Stryker: No, in a society which has a fairly high death rate, say 30 per 1000, the major part of that death rate is concentrated on the children under 5 years of age. If you look at the age structure of a country with these characteristics--with high birth rates of 40 to 50 per 1000 and death rates

and death rates about 30 per 1000--you will see that the age structure is so heavily concentrated among children below 15 that it doesn't realy make much difference what's happening to people who are 40 to 60; they don't weigh heavily enough in the overall population to make much difference at all. So that declining death rates are experienced almost entirely in this younger group. You also have to recognize that death rates of 12 per 1000 in an LDC which has 50% of its population under 15 years is quite a bit higher than a death rate of 12 per 1000 in an older range.

So this is the kind of view that the economists have of how this family decision is made. We have concentrated on the decisions relating to fertility, but a lot of decisions are interrelated. Decisions concerning education and women's participation in the work force are interrelated with the decision of how many children to have. Furthermore, the decision concerning women's participation in the work force determines what family income will be and family income, in turn, acts back on the decision-making process. Now the real question that we're interested in, from policy point of view, is how to push these policy buttons over here to get the right light to go on in terms of national objectives over there, with the family, which we don't understand very well, in between. But at least we can have a set of expectations and can generate some hypotheses. Here I want to get away from taking too narrow a view of population policy. The people who are concerned with population policy as we usually refer to it say it's family planning programs which are the major tools to lowering fertility rates. Once the other conditions are ripe for declining birth rates, then family planning is likely to work, since people are looking for new techniques and if family planning comes along and makes knowledge and devices available, then they're likely to be accepted. On the other hand, if the conditions are not ready--death rates are high, there are no educational opportunities, women are stuck on the farm, etc.--and you go in with all of the family planning literature and discussion group sessions, you're not likely to change anything because the basic environmental situation is not such that you are going to get people to want fewer children. So clearly family planning is only one kind of population policy.

I would argue that an even more important public policy, at least initially, is health. I think health programs, and in particular rural health programs, since I presume that in most cities, if they're not too big and crowded, health is better than in rural areas, are very important public policy instruments, because they act specifically to lower death rates to the level which might be acceptable and cause people to want to limit the number of their children. Other types of policies are numerous. We can expand educational opportunities and increase the potential for more participation in the work force, though this is difficult for it has to do with urbanization and modernization, all of which cannot, and probably should not, be achieved on a crash basis. And then you have policies which are employed basically for other reasons, but which in fact affect the number of children people have. For instance, agricultural development programs tend to improve the diets that people have and, consequently, tend to improve health and to lower fertility. Agricultural pricing policies affect the family income earned from agricultural activities. You can go on endlessly--

infrastructure, agricultural extension services, tax policy, roads--all of these policies act in some way to affect family decisions, including those concerning fertility. Obviously, we expect some effects to be more direct and immediate than others, e.g., improved health is an important factor in lowering fertility, but the affect of rising income is less clear. Higher incomes may mean that women's opportunity cost is going up but, if it's the husband's income which is increasing, it may mean that they want to have more children.

Now suppose we come to national objectives. You may say that the immediate national objective is to lower the birth rate, but in fact this is not an immediate objective in many countries. We have to recognize this and see what are the actual national objectives instead. Most countries have a number of these objectives, many of which are held in common. First, they want to raise per capita incomes. A more sophisticated way of saying this is that rather than raise current consumption, they want to increase the discounted flow of their future consumption, which means that they may want to invest more today in order to have greater consumption tomorrow. They want to increase incomes and growth, and they want to do that on a per capita basis, but they may want also to do that on an aggregate basis. Hence, we run into the problem that many countries actually want to expand rather than contract their population. There are a lot of other objectives like full employment, more equal income distribution, regional development, reduction of risk for society as a whole, etc. One can usually gain some idea of what the national objectives are by looking at the national plans, but they may not tell you very well how the objectives are weighed and, after all, we're interested in the weights rather than the objectives per se. For example, suppose you raise peoples' individual incomes through a new agricultural technique, that immediately is quantifiable--and we can aggregate over the number of people in the country to obtain national increase. At the same time, we have a project which is designed to decrease the risk of death by innoculation against cholera, and we can say how many dollars it's going to cost to set up rural mobile teams which have the capability of innoculating so many people a day. What we don't know is how many people are going to come to be innoculated just because we happen to be there. Furthermore, we don't know very well what the reduction in cholera will be as a result of the innoculations. But even if we know what the reduction of cholera and death from cholera are going to be, we still don't know how to weigh that with the income rise that took place through the development of a new agricultural technique. This has been thus far an unsolved problem. On one hand, we could ignore it and just compare the reduction of risk resulting from cholera innoculations with the reduction in the risk of death per dollar spent on other types of public policy. So we come up with a whole series of figures and match those against agricultural innovations which are going to cost the same number of dollars expended and are going to result in increased income, and we make some sort of haphazard judgement about which is best.

The question is whether there is a more rational way of going about this, and I shall argue that there is, but that there has not been much research done yet--partly because people haven't thought about the question very much, or haven't thought about how to approach it. The approach I suggest is to ask how people themselves value various objectives. For they, in fact, are constantly taking measures in rural areas to try to insure themselves in some way against risk. They overproduce crops, they have more children than they need, they walk 20 miles to a medical facility, and all of these things are potentially measurable and often in monetary terms. For instance, you can estimate the alternative cost of walking 20 miles to a rural health center as opposed to walking 20 miles to deliver a product to a local rural market. I argue that given an appropriate set of questions, one could begin to measure the value which people attach to a number of dimensions of their welfare which we frequently believe cannot be valued.

So much for the direct affect of a particular policy on national objectives. What other types of affects are there? Well, you can have indirect affects which are internal to the family. For instance, the decision not to have a child will result in less demand for current consumption, increased savings, increased income in the future and greater national growth. We measure the increase in savings which occurs as a result of, let's say, a family planning program and resultant increase in growth. If the rate of growth is national objective, we again aggregate to obtain this. But it is an indirect effect in the sense that the public policy instrument operated on the family decision, which was to reduce the number of children, and this in turn fed back into the decision-making apparatus to yield a second decision concerning how much to save. The same thing may be said with respect to nutrition and productivity. Nutrition results in better productivity, though we have only imperfect knowledge of how much it does, and the increased productivity results in increased income, which can be aggregated in terms of a national objective. These are what I call indirect effects which take place within the family.

Then you have both direct and indirect effects of decision outcomes, which affect society as a whole through other than just the aggregation process. And here we get into areas that become much more difficult because we have to develop whole models. For instance, let's say full employment is an objective, not only today but for the next 15 years. The number of children that people have today, aside from all the immediate affects that it is going to have on the family, is also going to influence the number of potential job-earners that there are 15 years from now. In addition, it's going to influence incomes, savings, and a whole series of other variables, all of which will be interacting through some kind of a dynamic economic system to determine what the demand and supply for labor will be in 15 years. We have some efforts that have been made to evolve models which will enable us to make predictions of this sort. But I would argue that these models are in their infancy right now and that they are very much harder to use for prediction purposes than the Wharton School models, which predict what employment is going to be in the next quarter in the U.S. and which have not been all that successful. So this kind of indirect effect, which has to work its way through the whole economic system, is very difficult to predict, and we really don't know how to

press a policy button here in order to get a national objective result there. A little bit easier might be the measurement of some of the affects which are external to the family. For instance, if children have a cost to the society which is not incurred by the family, this is an external effect. Take, for example, the cost for certain increases in public services like education. The important reason for looking at these external effects is that we can largely assume that if the family has really good foresight that it ought to be able to make up its own mind about achieving various national objectives as long as its decisions are not affecting anybody else. I mean, sure we aggregate a number of different families and we say this in national per capita income, but outside of a few policy-makers who have dedicated themselves to achieving a rate of growth nobody cares very much, because it's the family itself that's achieving the growth and if it doesn't want to grow, it shouldn't have to grow. There is no reason to believe that the social cost benefits exceed the private cost benefits for these direct intra-family outcomes. But when the results of family outcomes spill over into the rest of the economy through some kind of externality or general equilibrium system, everybody is going to be affected and society itself has to be concerned. So I think that this group of problems is particularly significant and requires considerably more attention.

Let me talk about one other aspect of this: the role of values. I mentioned before that we are assuming that the intra-familial environment remains fairly constant, but we know in fact that peoples' values change over time. We can almost define development as a change in peoples' perspectives. The types of value systems that might be entirely appropriate for a communal, traditional society with a large extended family may be complete inappropriate for a family which is nuclear, mobile, both vertically and horizontally, and very much oriented towards investments decisions today that will yield payoffs in the future. One can expect therefore that, with the process of development, the parameters are all going to change. So the problem lies not only in trying to estimate these parameters at a moment in time but also in trying to figure out how the parameters are changing. I would submit that a very important question here is the extent to which family values change as a result of individuals within a given generation changing their own values or the extent to which a new generation is required. In other words, are the values of a family relatively fixed by the time members of that family are 20, 25 or 30 years of age and are not likely to change after that and, consequently, if new changes are going to take place, they're going to take place in the next generation rather than in the existing generation? This is quite important. If you're working in the agricultural sector, do you go to the village elders and try to get an agreement on the part of the village as a whole to adopt a new technology, or do you try to find young, innovative entrepreneurs who are looking for new opportunities and want to adopt new techniques in which case not only do the parameters change, but so does the whole family organization. Decisions are no longer being made by the extended family, taking into account a high degree of welfare interdependence, but rather the family breaking down into nuclear family components

which take another's welfare into account within the nuclear family but not to the same extent among all units of the extended family. We know this happens in development--there is nothing so characteristic of what we call development as is the breakdown of the extended family into the nuclear family as a social unit. Consequently, this has important implications for the decision-making process, but at least as far as economists are concerned it is an area which is not well understood.

That is basically all I want to say about the general framework and I think at this point there ought to be some questions and comments that we could discuss.

Lee: Thank you very much. You made a very complicated matter very uncomplicated. As you were discussing matters bearing on employment, social security and so on, I would like to have the seminar profit also from the comments by my colleague, Ed Kellogg, who has done a lot of study on the interrelationship between labor and social laws and population. Ed, would you say a few words?

Kellogg: I thought I'd talk about a number of social or labor laws which have an indirect effect on fertility. The question is which ones have the most effect and how do they produce it. Among the laws in this category are housing laws, laws on old age and sickness protection, laws on the status of women and women's employment, laws on child labor and compulsory education, laws on health regulation and health services for workers, family allowances, maternity benefits, tax reductions for children, and various child protection provisions. These are the laws which concern labor unions in many countries and are frequently dealt with by the Ministry of Labor or Ministry of Social Affairs. These laws, in most cases, were not designed to have any particular demographic effects and are adopted for social reasons and for the protection of the people.

Up until recently in Europe when some Europeans got scared about the slow or negative growth rate, people were not particularly concerned about the pro or anti-natalist effects of these laws. These laws may, however, have an effect, as Mr. Stryker has been pointing out. That will depend on how they're drawn, how they're used, and which countries use them.

Housing. In the USSR housing has had a profound effect on fertility. The reason is that you can't live outdoors in winter in the USSR; you have to live in a house, and the government provides the housing. Housing units are allocated on the basis of seniority in the Communist Party. Thus, a young couple at the child-bearing stage which presumably doesn't have much seniority in the Communist Party may have to live with the parents, and that affects fertility. Although Singapore is not a cold country, it is an island and doesn't have much space, so housing may also have a strong potential effect because the Government controls the scarce land and makes the buildings available. Singapore intentionally uses this fact for anti-natalist purposes, and gives small families certain advantages (as conferred to most countries which still give housing priorities to large families. South Korea is now copying Singapore. In other warm countries where land may be plentiful and one can live in a shack, housing may have little effect.

Sweden and France want to increase their populations, so the Governments build large apartments and the big families get them. So here you create the opposite affect. In Latin America we don't yet know what's going to happen. Brazil is a very interesting case. In Rio, they formerly had vacant land and fertility was high. Now the Government has moved all the "favelas" out. The authorities thought they were unhealthy and the Government built public housing out of town. No one knows yet what's going to happen, whether it's going to reduce fertility or increase it. Chances are it's going to reduce it, but we don't know how much, or where, and how.

Old age protection: The ILO which is concerned with old age protection points out that this is an essential factor in leading people away from the extended family system to the nuclear family system. ILO agrees that this transition is important in establishing a small family norm. In 1950, a Japanese newspaper organized a poll to see whether the readers depended on their children for old age protection or on their Government. In 1950, 60% depended on their children; by 1970 only 25% did. During this period the Japanese growth rate was falling. The extent of the relationship we don't know, but we do know that there is a relationship.

In India, you have a very interesting experiment in this field, dealing with the tea planters in South India. The planters have a system under which every year a woman workers who does not have a child builds up more money in her pension fund. If she does have a child, she does not get the accrual for that year. When she retires the money accrued is made available to her as old age protection. They have also tied this pension scheme into the Government housing scheme, so that the family not only gets its pension but also a guaranteed house for its old age. This has been quite effective in cutting down fertility.

Another case is mainland China. In China, I'm told that the Chinese Government preaches to the schoolchildren that they'll be taken care of in their old age by the state and there is no need to depend on the extended family. This has apparently had a lot to do with the current fall in fertility.

One of the reasons frequently given for the failure of the Indian family planning program to reduce fertility so far has been that the Indian Government has not yet set up old age protection except for certain workers. A suggestion recently put out by an Indian expert was that whereas the Governot can't afford to take responsibility for all its old people at once, it could promise to provide old age protection for small families.

Status of Women and Women's Employment. The U.N. has become interested in this subject and Mrs. Sipila, who is the Assistant Secretary General for Social Development and Humanitarian Affairs ran a series of 3 seminars around the world on the question of status of women and population. One was held in the Caribbean, one in Turkey and one in Indonesia. They all came to the conclusion that it is important to raise the status of women and particularly to provide employment opportunities if you want to get family planning going and vice versa. As Dr. Lee told you, one of ours tasks is to organize law and population projects around the world, where the local experts study their laws to see how they affect fertility and make recommendations to their governments for change. Now we have 14 countries which have already made recommendations and a surprising number have emphasized this point. Latin America, Mexico and Costa Rica stress the right of a woman to get an outside job. In Mexico, a

husband can veto his wife's application for a job if he thinks she is not doing a good job at home. The Mexican project wants that out. In Costa Rica the same conclusion was reached.

In Iran and Indonesia, Moslem countries, the emphasis is on giving a woman who wants to get out and work the right to get a divorce if she wants to and the right of access to her property if she doesn't get a divorce. In other words, at the present time in these countries the woman's only security against arbitrary divorce on the part of her husband,which will leave her penniless and jobless, is to produce a lot of children. Now Iranians and Indonesians are saying to give the woman a chance to say to her husband "no more kids and if you divorce me I'll get a job."

In Sri Lanka, which is not Moslem but Buddhist, the same recommendation comes up. In Yugoslavia the Yugoslav expert at the International Union for the Scientific Study of Population's meeting on laws affecting fertility in Europe said that so far as Yugoslavia is concerned, the factor that brought down fertility fastest was the raising of women's status and giving them jobs.

In Ghana, the Government, which has a policy to limit births, said that the first thing it must do is to educate women and give them a chance of employment. But they admit that this is difficult because there aren't enough jobs and you're going to have women competing with men for jobs.

In France, where they want to raise fertility, the Government organized a poll and asked married women what would make them have more children. The answer was part-time jobs. "We don't want to give up our chance to work, but if you give us a chance to work part-time we might have another child." So again the relationship between fertility and women's employment is very clear.

Limitation on Child Labor and Compulsory Education. First of all, you have got to have both. You can't say "no child labor" and then not produce schools where they can go when they don't work. The two go together. But if you have both these things, the parents are interested in having children to get the benefit of their earnings. And you can add to this effect by having secondary education made available for which (as in Nigeria) the parents have to pay. The parents want their children to get ahead and to make money to support them in their old age. If the parents have to pay for the secondary schooling, they cut down on their fertility so as to save money. An aspect of the problem is that although the laws may be on the books, they aren't enforced. Therefore, in Asia, we really don't know what the effect is, but we know that in Europe where these laws have been enforced, they have been very effective in cutting down fertility.

Military service may act like compulsory education in keeping the boys away from home and postponing marriage. This has occurred in Russia.

Although it is agreed that education in itself affects fertility, the question is as to how much education is needed to reach the threshold point. A year ago, we had a meeting at UNESCO in Paris and one of the discussion points was the effect of education on fertility. The Sri Lanka delegate said there was good education for 1 or 2 years in Sri Lanka but that the country still has high fertility. In other words, the question is raised as to how far you must carry education before it starts to pay off in lowered fertility. This may be affected by adding some sex education to the curriculum. But you can't get very much sex education in during the first 2 years of primary school, which may be all the education the children get.

Health Serivces: You have got to show the families that their children are going to survive. The difficulty is that it takes a generation to do this and if you reduce the mortality rate to 12 per 1000 but the fertility rates continue at the rates of 30 to 40 per 1000, you have at least one generation before the people see the point. In the meanwhile, you have a large population growth.

Family Allowances: Now you would logically think that if the government is going to pay family allowances for each child, this would encourage fertility. But this hasn't yet been proved for all cases. In Colombia, they tried it on industrial workers in the cities and it had just the opposite effect. One of the reasons suggested for this was that as soon as the companies started paying allowances for children the parents started thinking what it actually costs to have a child, and they saw that the amount they were going to get from the company was a lot less than what they were going to have to pay for one more child. You can also argue that the reason for this was that the industrial people in the "modern sector" of the economy of Colombia are the people who are most sophisticated and these are the people who would seek to reduce the fertility in any case.

In Bulgaria, because of the proximity of Russia, they are scared that their family size may be going down and the Government is pro-natalist. They are trying family allowances in order to build families up. But they have found that you have to give them an awful lot of money before it has much effect. The same thing was found in pre-war France and Germany. They both had family allowances and both were pro-natalist, but the French had a higher allowance than the Germans without much effect on the birth rate. On the other hand, in Sweden and Norway where the allowances were about the same, the allowances were thought to have an effect in Sweden and did not in Norway. All we can get out of this is that these payments can affect your fertility but you don't quite know how or how much.

In the case of French Africa before World War II, you had a pro-natalist French Government which applied French laws and French family allowances to the Africans. But since general salaries in Africa south of the Sahara were low, as soon as you paid high French family allowances to Africans who had low family incomes, the payments constituted an enormous addition to family income and you got a very strong effect. So we can draw the conclusion that if you want to have an effect on fertility by using family allowances, they have got to be relatively high as compared with the average income.

Maternity Benefits: In Singapore, they have a new law which says you get free accouchement, maternity benefits and hospital expenses for your first 2 children, your third child you pay a certain amount, and for the fourth child you pay a lot. That has had an effect, but in a funny kind of way. The people think of it as a child tax, a tax they have to pay, and therfore the idea gets around that the Government policy is against big families, which it indeed is. This does have an effect. So cutting down of maternity benefits after the first few children is being tried in the Philippines and Pakistan and it may work.

There are ways to draft your laws if you want to have a maximum anti-fertility effect. One is the so-called "no-baby bonus" system of paying family allowances. The government figures out in advance how much it is paying to its people for maternity benefits and for child allowances. It then declares that it will continue to spend the same amount of money but in a different way. After the second or third child, additional money is paid to the family for every year it does not have another child, whereas the families that have four or five children get no additional money. That can have quite an effect. The government puts out the same amount of money but the families that go beyond 3 don't get the bonus and the families that stop at 3 do. This law hasn't been tried but it seems to me that it might work.

As said above, the law can be important for propaganda purposes. I mentioned a minute ago the accouchement fees in Singapore. Another case is the Maurice Chevalier in France, where family allowances are high. He sang that "all day long you work for yourself, but at night you work for the government."

Children's Services: It's interesting that the H.E.W. Newsletter listed last week the types of law that would be anti-natalist. At the top of the list, they mentioned laws providing day-care centers for children. First you might think that is funny, until you have children you don't need day-care centers, and the law seems pro-natalist. In fact, of course, it lets mothers work and once they get jobs, they are less interested in having more children.

What conclusions can you draw from all this? I think we can conclude that most of these social or labor laws do have an effect but we don't know how much effect they have. A lot depends on how they are drafted and where and how they are used. They also have to be handled with a great deal of care, because of the public relations aspect. Popular understanding of the laws plays an important role. Moreover, one can't afford to give the impression that social laws on which the public depends for general support are being twisted in a way which will diminish that support.

Lee: Thank you, Ed. Dirck, do you have any comment on the comments?

Stryker: I have a very important comment that basically goes through the whole presentation. One of the most difficult things is where you have a number of changes that are taking place
how can you separate the influence of any particular change in the law of which you mentioned numerous ones, on fertility rate? You said it has an effect, but how do you know that it has an effect when you have a lot of things happening. For instance, 2 years of military service in Russia. There were probably lots of things going on in Russia during the same time, and the 2 years of military service may have had an independent effect or it

may not. It seems to me that it would be extremely difficult to distinguish even whether there is an effect, much less its magnitude.

Kellogg: Absolutely right. Also, most of the books and articles on the subject state what Dr. Strycker has just said. In fact, the Singaporians have done a lot of work in this field. They had a guy from the Population Council come and try to quantify the effects of each law. He gave up after a few weeks and said it's just impossible.

Stryker: Even something as significant as a full-scale family planning program. For instance, in Taiwan there was considerable argument for a number of years as to whether fertility rates were declining because of the family planning program or whether they were declining because of various social and economic changes taking place. Now, with very careful statistical work you can sometimes estimate independent effects of something as large as a family planning program, but where you have changes of a few laws here and there, it will be very difficult. If you had sudden redraft and implementation of a legal system which occurred within a relatively short period of time, you might be able to separate statistically the effect of that change or reform.

Kellogg: But that hasn't been done.

Stryker: I doubt if it has to. I talked to a few students once about whether you had enough information yet in the Law and Population Programme. For instance, data for 50 or 60 different countries, to try methods which would be relatively crude given this type of cross country comparison that might enable us to pick out the independent influence of the legal systems. But I think that it would be a fairly difficult thing to do, and it would be hard to compare one legal system with another; some would be pro-natalist, others would be anti-natalist, and it would be hard to sort those out and to somehow add them up.

Lee: You actually raised one of the most crucial points here that we have great difficulty in nail down. That is, to try to quantify the impact. It's extremely difficult because in order to really know what the effects are, you have to have 2 cities or 2 states of comparable population size and social and economic conditions and use one as a control and in the other change the law from time to time. It's impossible. We have, however, from time to time instituted several in-depth studies to see how law can affect behavior, but in a very crude way, more by public opinion survey than the more scientific method. But this is the question I was going to ask you. In your reading material there are 11 hypotheses, and I agree with the substance of them, but I'm wondering if any test can be made to see if these hypotheses are correct.

Stryker: There has been statistical work, but as I said the most notable statistical findings so far relate to three variables: the decline in or low death rate; education, particularly secondary school education, which is more important than primary school education; and, finally, women's participation in the labor force. Now there have been family surveys in a few cases, such as in Bangladesh where a family survey was conducted trying to reconstruct retrospectively the fertility histories of families and to correlate these with various variables. But relatively few studies have operated on this level, that is, using family data as the unit of observation. And to a large extent, many of the things which are very difficult to do if you're using aggregate data for countries or districts are much easier if you can get family data. I think that in many cases one could even include legal effects as certain types of variables. This could be done, but it would take independent sampling with the view in mind of testing specific hypotheses of this nature.

Lee: We tried to start a model city project in the Philippines. Instead of getting a control group, what we tried to do was to use time sequence. Immediately before introduction of a new law or regulation what were the fertility rates, etc., and then what happened immediately after or shortly after the introduction. The population lab at the University there has been supported by the Ford Foundation to undertake this kind of experiment in conjunction with the model city project.

Student: Is it Becker who said that households keep accounts in deciding to have children?

Stryker: Becker is the one who came out with the view of children as consumer durables, which has been criticized by sociologists. I think that Judith Blake has an article entitled "Are Babies Consumer Durables?" in which she makes a very important distinction between consumer durables and babies. When people make decisions about buying cars or houses, they have budgetary constraints and if they want to spend beyond their incomes, they must go to a credit department, but if they have children, that same sort of constraint isn't being exercised. So basically the sociologist's view is that there's a great deal more of chance involved than rational calculation.

Student: Dr. Liebenstein at Harvard was talking on this point and the question arose of how you know that an unsophisticated peasant prepares a meticulous book-keeping statement to decide on the extra child and, if so, how would you account for this migration to urban areas from the countryside.

Stryker: You're opening up a box on which I can elaborate for a number of hours, but I won't. First, people have for years, particularly in the agricultural field, been saying that the peasant farmer doesn't know what he's doing and we have to go there and show him how to do it properly. When people looked more carefully at peasant family decisions, especially the agricultural economists, they found that, in fact, they're very rational. I think this is well-recognized by most agricultural economists today.

Peasant farmers work in an environment that's different from the environment that we may picture for the modern commercial farm. Basically he's rational. Why is he rational? Well, he's rational because over a period of years he has learned that certain things pay and certain things do not. He doesn't have to have an elaborate system of book-keeping, he learns from experience and tradition, which is handed down orally within the society, that certain ways of growing crops, certain activities undertaken at certain times pay off in the long run. So this becomes the oral tradition. I would argue that the same thing happens with respect to children. It is not that every farmer does a calculation on the costs and benefits of children, but that farmers have found that over time it pays to have a certain number of children. It's a rational thing for them to do; so this becomes incorporated into the society's tradition.

I would also say that peasant societies are probably more rational than modern industrial firms. Why would I say this? Because I think they have better information. A modern industrial firm is faced with a constantly changing environment, which is changing in many ways that it can't sort out, e.g., it is not certain what government policy is going to be tomorrow or what the OPEC countries are going to do. So it's operating in an area of considerable uncertainty, an uncertainty which is worse than that of the peasant farmer, because it has very little experience with which to compare that uncertainty. It's uncertainty rather than risk, which can be formulated in terms of probability distribution. Now the peasant farmer has years of experience with conditions which haven't changed too drastically. There are fluctuations in the weather, etc., but he can take these into account, and it becomes risk rather than uncertainty. So I would argue that, because of accumulated experience, there is built into the oral tradition and values of society the benefit of that experience. Now once "development" begins to take place, society changes and the old sets of rules may become completely invalid, in which case the peasant is rather poorly equipped to adjust to changing circumstances and to learn what information is necessary to make the kinds of calculations that might permit him to adapt to that changing environment. On one hand, therefore, as traditionally defined, the peasant can be very rational; on the other hand, given the changes associated with development, he may be quite out-of-date because his sets of rules, which have been transmitted down through the society, are out-of-date.

Student: You still haven't answered my question.

Stryker: Does he make the calculation? No. But his ancestors have made that calculation for many years, intuitively and by experience.

Student: I'm interested in one of the variables you mentioned, and that is the participation of women in the labor force and how it decreases fertility rates. Could you elaborate more on this and give me some citations for areas that are primarily agricultural, e.g., Tanzania and Ghana. Naturally, it's the status of women that's changing in the labor force. How would it apply to a country that's primarily agricultural?

Stryker: In rural areas there is generally not that separation of home and work which is characteristic of modern urban society. What do women do? They take their children to the market. There is no real opportunity cost to working in the market versus taking care of the children. So to some extent the full impact of women working isn't felt until you begin to develop a nuclear family and urban environment. I can give you citations later.

Lee: Thank you very much, Dirck.

READING MATERIAL

R-952-AID

February 1972

Research and Information Strategies to Improve Population Policy in Less Developed Countries

William P. Butz

A Report prepared for

AGENCY FOR INTERNATIONAL DEVELOPMENT

Rand
SANTA MONICA, CA. 90406

184

PREFACE

This study was undertaken for the AID Office of Population as part of a project seeking to formulate, test, and integrate the components of a theory of fertility as part of a general view of the family decisionmaking process. Since most production in developing countries is generated within families and only a modest share is initially channeled through markets, nonmarket production within families is an important source of wealth and welfare about which we know little. Earlier Rand studies of the economic and demographic determinants of fertility[1] argued that to account for variations in fertility over time and space and to evaluate accurately policy measures that might reduce fertility, we shall require a comprehensive framework for interpreting family economic and demographic choices.

This report reviews our current limited understanding of household economic and demographic behavior. To improve population policy in low income countries, better information is urgently required to explore the interactions between family behavior and public policy options. In addition, this report indicates specific changes in how

---

[1] Donald J. O'Hara, Changes in Mortality Levels and Family Decisions Regarding Children, R-914-RF, February 1972; Julie DaVanzo, The Determinants of Family Formation in Chile, 1960: An Econometric Study of Female Labor Force Participation, Marriage and Fertility Decisions, R-830-AID, December 1971; Frank A. Sloan, Survival of Progeny in Developing Countries: An Analysis of Evidence from Costa Rica, Mexico, East Pakistan, and Puerto Rico, R-773-AID, November 1971; T. Paul Schultz, Evaluation of Population Policies: A Framework for Analysis and Its Application to Taiwan's Family Planning Program, R-643-AID, June 1971; T. Paul Schultz and Julie DaVanzo, Analysis of Demographic Change in East Pakistan: A Study of Retrospective Survey Data, R-564-AID, September 1970; A. J. Harman, Fertility and Economic Behavior of Families in the Philippines, RM-6385-AID, September 1970; Marc Nerlove and T. Paul Schultz, Love and Life Between the Censuses: A Model of Family Decision Making in Puerto Rico, 1950-1960, RM-6322-AID, September 1970; Y. Ben-Porath, Fertility in Israel, An Economist's Interpretation: Differentials and Trends, 1950-1970, RM-5981-FF, August 1970; T. Paul Schultz (assisted by Julie DaVanzo), Fertility Patterns and Their Determinants in the Arab Middle East, RM-5978-FF, May 1970; T. Paul Schultz, Population Growth and Internal Migration in Colombia, RM-5765-RC/AID, July 1969; T. Paul Schultz, A Family Planning Hypothesis: Some Empirical Evidence from Puerto Rico, RM-5405-RC/AID, December 1967.

social scientists should formulate models and conduct statistical estimation and inference using these improved data. The resulting guidelines for data collection and social science research in population and development make the case for explicit consideration of the interactions among different facets of family behavior, some of which constrain the effectiveness of public policies, particularly those affecting fertility and family planning.

SUMMARY

Public policies to stimulate economic and demographic change in less developed countries have frequently produced disappointing results. The process of economic development, which these policies are intended to speed, is intricately bound up with changing patterns of time allocation and resource use in families. Our ignorance of these patterns stands in the way of identifying those particular factors in families' environments that public policies must influence in order to change the behavior of individuals in directions deemed socially desirable. This report argues that policymakers' ignorance of these patterns is an important cause of disappointments in economic and demographic development.

This study stresses two fundamental reasons for our ignorance: (1) common conceptual models of family behavior and techniques of statistical inference are too primitive to identify which of the links among different forms of family behavior are quantitatively important influences on the success of government programs, and (2) available data are poorly suited to the analysis of this problem, even if the proper tools are applied. Therefore, a conceptual approach to modeling family behavior is proposed, appropriate statistical techniques are discussed, and necessary data are defined to study this causal chain linking many public policies to national objectives by way of the family.

The conceptual approach to modeling household economic and demographic behavior that is proposed has yielded refutable hypotheses about the effects on individuals' behavior of changes in their environment. This approach treats households as units that both produce and consume what they want. They react to changing external conditions by altering the amounts of their members' time and other resources used in producing commodities such as good health, schooling, farm produce, and children. Complex interdependencies exist among these activities, causing a specific change in the family's environment to influence indirectly a host of production activities, many of which are not oriented to the market, and to influence what many members of the household do with their time and resources.

This approach suggests the importance of distinguishing between two types of variables involved in family behavior: those whose values result partly from the interdependent decisions and activities of family members, and those that influence those decisions but are in no way affected by them. Among the former are people's attitudes and conduct, as well as the resulting income, consumption, migration, and size of families; among the latter are cultural, geographic, and public policy factors. An illustrative model of family contraceptive and fertility behavior is used to show several ways in which improper techniques of statistical estimation and inference ignore the important distinction between these two classes of variables and hence produce misleading policy prescriptions. A review of appropriate estimation techniques suggests four guidelines for making statistical inferences about family behavior.

1. If the particular behavior of interest is an integral part of a larger behavioral system (such as a family), account as well as possible, in both model specification and statistical estimation and inference, for resulting interactions.

2. For the end of a causal chain, seek variables that are probably closely linked to public policy choices.

3. Let the relevance and measurement accuracy of the data guide the choice of estimation procedure and the confidence attached to specific estimates.

4. Employ estimation procedures that best serve the goals of the first three guidelines. Simple two-way tables and correlations are rarely among these methods. Investigate the direction and magnitude of remaining biases and use this information to assess the accuracy of the estimates.

Explicit consideration of families' possibilities for substitution in the production and consumption of its commodities has suggested a variety of hypotheses about the responses of individuals to changes in their environment. Eleven sets of hypotheses are stated here along with summaries of their derivation from the model's basic properties.

Each hypothesis predicts particular behavioral responses to specific changes in families' surroundings.

Although the conceptual approach that yielded these hypotheses is only in an early stage of development, it has clearly overreached the power of existing data to confirm or deny its predictions. Further progress in identifying the particular interactions among family activities that influence the success of public policies therefore awaits the collection of more appropriate data. The essential characteristics of these data are suggested by the model's properties.

1. Data should describe the characteristics of family members and how they spend their time and other resources in market and nonmarket activities.

2. They should describe changes in families' behavior over their life cycle, particularly their past and present production of human and physical capital.

3. They should quantify relevant factors in the family's environment and link to program information obtained by the responsible adminstrative unit in which the family lives.

Because in aggregation most census data lose much individual variation required to investigate the hypotheses adequately, and because information generated within the context of particular public programs is usually obtained only for population samples that are biased in important respects, the collection of household survey data independent of program activities appears valuable. Accordingly, the appendix details the information required to improve our understanding of the family's behavior and advance our competence to evaluate the success of public policies that operate through their impacts on interrelated aspects of family formation and subsequent behavior.

Progress along these closely related fronts should help to identify the environmental variables that directly or indirectly constrain important types of individual behavior. Research into the most efficient combinations of public policies and programs to alter these variables in directions deemed socially desirable may then proceed with greater effect.

ACKNOWLEDGMENTS

The author is indebted to Rand colleagues Julie DaVanzo, Dennis De Tray, Alvin Harman, Sally Nerlove, Donald O'Hara, and Charles Wolf, Jr. for their constructive criticisms, which sharpened the analysis of an early draft. John Koehler and Larry Dutton contributed a great deal to a more effective presentation of the material in a later draft.

The creative effort of John Enns in culling, editing, and organizing the questions from many survey instruments into the present appendix is much appreciated. The author is especially grateful for the detailed comments and suggestions of Paul Schultz who improved the analysis and presentation at every stage. Any errors and ambiguities are the author's responsibility.

CONTENTS

PREFACE iii

SUMMARY v

ACKNOWLEDGMENTS ix

Section

I. INTRODUCTION 1

II. ALTERNATIVE PROCESSES OF INFERENCE ABOUT FAMILY BEHAVIOR . . 5
- The Family in Economic Development 5
- An Approach to Modeling Household Behavior 7
- Alternative Processes of Inference 11
- Guidelines for Making Statistical Inferences About Family Behavior 25

III. HYPOTHESES ABOUT THE EFFECTS OF EXOGENOUS CHANGES ON FAMILY MEMBERS' BEHAVIOR 26
- The Hypotheses 26
- Beyond the Hypotheses 38

IV. INFORMATION STRATEGIES FOR IMPROVING POPULATION POLICY . . . 40
- Introduction 40
- Economic-Demographic Sample Survey Data 41
- Information on Exogenous Factors, Including Policy Variables 42
- Making Better Use of Existing Data 44

V. CONCLUSIONS 47

Appendix

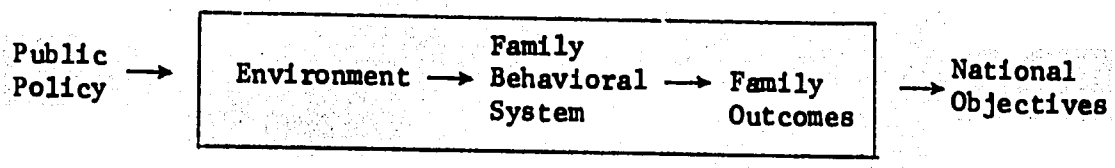
A PROTOTYPE HOUSEHOLD SURVEY INSTRUMENT FOR USE IN LOW INCOME COUNTRIES 51
- Family Roster 52
- Marriage History 53
- Pregnancy History 54
- Knowledge and Practice of Family Planning 55
- Employment and Income 61
- Human Capital 64
- Nonhuman Capital 69
- Expenditures 75
- Time Allocation 77

BIBLIOGRAPHY 79

I. INTRODUCTION

Public policies and programs that aim to alter the behavior of individuals in less developed countries have frequently produced disappointing results. For example, distribution of contraceptives and family planning information has not always proved to be quickly and continuingly effective in reducing birth rates, and migration to towns and cities continues to increase in spite of public information programs to discourage it.

There are success stories in these areas, to be sure, but the frequent disappointments suggest the possibility that unknown factors and relationships may constrain the effectiveness of many government programs. Indeed, the path from national policies concerning family planning, saving, and migration to national outcomes such as birth rates, aggregate investment, and population distribution is more complex than has often been assumed. The diagram below illustrates the steps from public policy to national objectives as viewed by policymakers: the effects of policy on the environment families face, the family "behavioral system," the outcomes of family choice, and, finally, national objectives.



A thorough understanding of the relationships between what governments do and national outcomes would require construction of this entire chain. In this report I am concerned only with a part of that task. For although each of the links may complicate any policy effort, considerable evidence indicates that interactions within the behavioral systems of families form a quantitatively important but little understood set of linkages that may cause one public policy to interact with the operation of another. As one example, this evidence suggests that many public programs other than those directly related to family planning affect the rate of population growth by influencing the choices

of individual couples for children and hence the demand for family planning itself.

This report therefore examines the subsystem around which the box is drawn, from where factors in the family's environment affect its decisions to where these decisions result in family members' marriage, fertility, labor market, and migration behavior, to name a few. Within this focus on the family and its environment, my purpose is to examine why the social sciences have often failed to identify the quantitatively important causal links between environmental factors that government programs may influence and family behavior outcomes that aggregate to the national objectives sought by governments. I argue that there are two fundamental reasons for this failure: (1) the conceptual models of family behavior and the techniques of statistical inference used cannot identify important interactions within the family system, and (2) available data have been inappropriate for the analysis of this problem, even if the proper tools were applied.

Accordingly, I suggest a conceptual approach to the study of family behavior and policy evaluation, a set of guidelines for making statistical inferences about this behavior, and a description of needed data -- all of which should enable researchers to specify more precisely this crucial part of the chain linking public policy measures to desired national goals. In Section II I summarize an approach to family behavior that is proving useful in investigating interdependencies among various family activities. This model emphasizes the alternative uses of family members' time and the interactions among their forms of behavior that may promote or impede the effectiveness of public policies in less developed countries (LDCs). These interactions may create incentives for family members to react to government programs in ways unanticipated by policymakers. Consequently, when social science research ignores these interactions -- whether in modeling the effects of a public program, estimating the parameters of such a model, or making inferences about the best governmental actions to achieve a desired result -- the resulting signals to policymakers can be misleading. In Section II I therefore describe and

demonstrate the pitfalls to which statistical estimation and inference are subject when important interdependencies in family decisionmaking are ignored.

Alternatively, explicit consideration of these interactions suggests hypotheses concerning the effects of various environmental factors on the behavior of family members. These hypotheses, some of which are enumerated in Section III, derive from the approach summarized earlier, and several have received empirical support. In most cases, however, the information required to test them -- to determine which of the many links among the activities of various family members are important aids or impediments to the success of specific public programs -- has not yet been collected in appropriate forms. My final concern, therefore, is to suggest the kinds of data needed to conduct such investigations.

To this end, Section IV recommends an information strategy that relies on independent household sample surveys that gather detailed information on family members' work, school, and migration experience and on how they use their time. These data will enable researchers to progress toward empirical consideration of family decisionmaking as the complex, simultaneously determined system it actually is. If these new data are analyzed by appropriate methods of statistical estimation and inference, the quality of information available to planners and policymakers in LDCs could be vastly improved.

A prototype sample survey instrument incorporating the guidelines in Section IV is included as an appendix. It indicates the general range of data required to investigate the questions raised in Section III using appropriate statistical methods discussed in Section II. However, this prototype instrument does not reflect considerations of question phrasing, questionnaire design, and survey strategy that are crucial in designing a survey instrument for actual use in a particular setting.

In emphasizing the importance to policymakers of research on family behavior in LDCs, I do not mean to belittle the crucial task of understanding the complex links between public policies that government officials can change and important factors in families' environment -- the first step in our causal chain. Both kinds of knowledge are necessary before policymakers can anticipate the interactions

among various public programs and accordingly choose combinations of programs that move, with the least undesirable side effects, toward social goals. Policy oriented economic and demographic research must deal explicitly with both of these links. When they are firmly identified in terms of systematic responses of individuals to changes in their environment and systematic changes in the environment due to policy choice, the estimated effects of a set of public programs on individual behavior can be aggregated to illuminate the programs' impacts on national goals. The alternative procedure is to seek direct meaningful regularities between characteristics of public policies and degrees of attainment of national objectives. This kind of research, which relates specific public programs directly to capital-labor ratios, savings rates, crude birth rates, and so on, ignores the fact that economic development is the aggregate result of behavioral responses of individuals, and that the individual variation that produces systematic relationships important to policy may be lost in the process of data aggregation.

II. ALTERNATIVE PROCESSES OF INFERENCE ABOUT FAMILY BEHAVIOR

THE FAMILY IN ECONOMIC DEVELOPMENT

The family and its legitimization through the institution of marriage are prominent features of most known human societies.[1] Families everywhere perform many of the same functions for their members and their communities. They help channel sexual activity into narrow and stable relationships, and they determine placement in existing class systems. They define an interpersonal network of emotional and economic security so that a person unable to support himself is provided for by relatives. They furnish a stable environment for bearing, socializing, and training children.

Within the organizational framework of families, people contribute to the fulfillment of these functions by engaging in various activities requiring their time as well as goods and services purchased from outside the family. In communities at a low level of economic development, activities carried on within the household satisfy most of families' material needs: participation in the labor market and purchases of goods and services from the market are small compared with the time worked at home and the amount of goods produced and consumed there. In economically more developed communities, on the other hand, families characteristically participate more in market activities, both by working for wages and by spending some of their wage income for goods they might be able to produce at home but have instead decided to purchase.

---

[1] George P. Murdock (1949) defined the family as a conjugal social group with three characteristics: (1) its members live together, (2) reproduction and child-rearing occur within it, (3) its members cooperate economically. Murdock found that the family, so described, constituted a unit apart from the rest of the community in 250 societies he surveyed. Though there are societies without such conjugal families (see Spiro, 1954; Gough, 1959; Bettelheim, 1969), the characteristics Murdock defines exist everywhere in some social unit (Levy and Fallers, 1959). For some purposes, the family can usefully be defined without reference to a specific structural arrangement as a group having Murdock's characteristics, particularly the first two (Davis, 1949).

These differences among families in economies at different stages of economic development are particularly noticeable in the areas of food, clothing, housing, schooling, and health care. Families in agrarian societies commonly produce these commodities themselves, sometimes with little or no use of outside goods and services. As societies develop, specialized public or private institutions arise that are able to produce and sell these goods more cheaply than families can. With the simultaneous development of labor markets, families are able to improve their material well-being by allocating more of their members' time to market jobs and by meeting their needs with the help of goods produced and sold by specialized institutions. Family behavior relating to marriage, fertility, savings, and migration is also directly or indirectly affected in this process.

Our understanding of the interactions that link these different facets of behavior is limited. Yet these interactions affect people's responses to changing conditions and thereby influence the complex processes of behavioral change that constitute economic development. Increasing wealth probably induces some of these behavioral changes by enlarging the family's capacity to satisfy its wants. As it becomes wealthier, the family demands relatively more of some goods and services and relatively less of others; its home and market behavior patterns shift to satisfy these changing wants. Another factor inducing family behavioral change is shifts in the relative prices at which families sell their labor and home-produced commodities and buy market goods, as well as other changes in their surroundings affecting the relative costs and rewards attached to various market and nonmarket activities. Some of these factors are more specifically related to particular kinds of behavior and may be more amenable to public policy influence than is per-family wealth. Without understanding behavioral interrelationships at the family level, however, it is difficult to know which of these prices and other factors governments should try to influence in order to induce specific types of economic and demographic change.

To identify these important interrelationships requires more powerful conceptual approaches to family behavior than the demographic,

economic, and sociological models in common use. A new approach should be more powerful in three respects. First, it should take explicit account of these behavioral interactions within families. Second, some of the hypotheses it yields concerning family responses to environmental changes must not be intuitively obvious or derivable from simpler models. Third, these hypotheses should be capable of empirical refutation. That is, it must be possible to reject the conceptual approach as a useful predictor of real phenomena by showing that its propositions are inconsistent with reality; otherwise, the model is capable of explaining every possible occurrence and is useless for predictive purposes.

AN APPROACH TO MODELING HOUSEHOLD BEHAVIOR

Gary Becker and others have proposed a useful approach to modeling household behavior that yields a variety of refutable propositions about how individuals respond to specific changes in their environment.[1] Whereas conventional economic theory assumes that families supply their labor to the market and buy goods and services that directly satisfy their wants, Becker's theory emphasizes that family members must use some of their time in the consumption of these goods and services before wants are actually satisfied. Hence, by combining the time and abilities of their members with goods and services bought in the market, families produce commodities such as children, leisure, meals, and good health, which give their members satisfaction. These household production activities are the core of the model and can be analyzed with the analytical tools associated with the economic theory of the firm. Additional insights stem from peculiarities of the household as both a producing and a consuming unit, some of whose outputs cannot easily be bought or sold if the household is short or in surplus. Four broad properties of households appear in this model.

1. Possibilities for substitution in the production and consumption of commodities create complex interdependencies among family

[1] See Mincer (1963); Becker (1965); Becker (1967); and Lancaster (1966).

activities. A family can usually produce the same commodities in a variety of ways depending on its resources and their value in alternative uses. Older children can often substitute either for the mother's time in housework or child care or for the father's time in earning income. Market sources of intermediate goods in home production activities can release some of nearly everyone's time to other pursuits.

When a family responds to a change in its environment by devoting more of its time and resources to a particular activity, it has less to spend on others. For example, time spent in school cannot be applied to rearing children, participating in cottage industry, working for wages, or leisure. And income spent for books and transportation to school leaves less to spend on children, food, leisure activities, and everything else.[1]

Families also respond to external change by substituting in consumption against commodities that have become more expensive to produce at home or to buy in the market.[2] Both kinds of substitution effects

---

[1]An extended example may be helpful. A public program that opens jobs to women and raises their wages will induce some women to enter the labor force and some others to work more hours in the market than they had previously worked. The amount of the wives' time and ability available for family activities is thereby reduced. Families will try to use less of the wife's time, which is now more expensive, and more of other family members' time and goods bought with income, both of which are relatively less expensive, in all family activities in which one can be substituted for the other. Hence, the husband and children may help with meals, or the family may purchase foods requiring less preparation time and ability. Young children may be cared for by older children or a neighbor. And good health may be provided more with the aid of medicines and medical services, which cost time and money, and less with the aid of a constant watchful eye, which costs only the mother's time.

[2]When women's wages increase, commodities that are produced using much of the wife's time relative to other inputs become more costly to produce than commodities that use little of her time. In trying to satisfy its wants as well as possible with its resources of time and income, the family begins to consume more of those commodities it can now produce relatively more cheaply and fewer of the others. The couple may forego a previously planned pregnancy since childbirth and caring for an infant require much of a resource that is now dearer. They may, in fact, spend some of their time and income in obtaining birth control knowledge and materials to insure that more of the wife's time will be available to work for wages. Alternatively, activities that use little

result in reduced household production and consumption of commodities whose relative cost has increased. Such cost changes also produce an "income effect" in that they leave the household with more or less real income depending on whether the affected cost falls or rises. If it rises, the family is not as well off because the same amount of money income can now purchase less. The balance of substitution and income effects in any situation determines the directions of net tradeoffs in the production and consumption of any specific commodity.

2. The use of each family member's time and abilities is important in determining which family wants are satisfied and in what ways. Each person divides his time among labor market work, household production of goods or services to be sold for income, or home production activities that directly satisfy current or future wants. Those factors in the family's environment that influence the relative productivities of its members' time in alternative uses can significantly affect individual behavior.

3. Family activities may serve two distinct goals -- satisfaction of current wants (consumption) and satisfaction of future wants by saving and investing. Saving and investment activities require the use of family members' time and resources that could otherwise produce commodities for current consumption. Instead, they produce assets that will yield streams of future income or satisfaction. Investment activities, then, are the means by which a family, with a given expected amount of productive resources in each year of its life, adjusts its expected income in each year so as to attain its desired time pattern of consumption.[1]

As with consumption activities, families may substitute in the production of a specific asset by using more of one input and less

---

of her time are now relatively cheaper, so the family will consume more of them. Other family members need work fewer hours for wages in order to earn the same family income, for example, and may therefore spend more time in other family activities including leisure.

[1]This view of saving and investing is set out in Modigliani (1966).

of another as their relative prices change, and they may substitute among investments in their portfolio as relative rates of return shift. Schooling, for example, is an investment activity[1] that always requires a relatively large input of the student's time. Families may substitute public school facilities for mother's time in the production process, however, if the former input becomes less expensive or the latter more so. In addition, reductions in school cost may make schooling more attractive to some families than other investment activities and hence induce them to substitute schooling of some family members for other assets in their investment portfolios. Participation in other activities, that may be viewed as investments, such as health care, nutrition, migration, and bank savings programs may likewise be influenced by a variety of changes in families' environment.

Child-rearing activities contribute to both current consumption and asset formation since children are usually a source of both current and future satisfaction to their parents. Furthermore, children may be valued for their contribution to household chores. As such, their role is the same as that of any other resource at the family's disposal, since their value to their parents depends in part on the amount they add to the family's total stock of productive resources. This value may be considerable in societies where children enter the fields or factories at an early age and where a lack of social security and insurance programs leaves children as the primary means of parental support in illness and old age.[2]

4. Changes in the family's environment can have direct impact on more than one person and activity and can indirectly influence other persons and family activities through various interactions. In the first place, a change such as reduced prices of farm implements may induce families to substitute these implements for their own time in

---

[1] Schooling may of course be enjoyable in itself as well as producing abilities that will yield both income and enjoyment in the future.

[2] Even where such programs are available, as in the United States, England, and Denmark, adult children nevertheless contribute both time and money to sick and aged parents in a majority of families. See Shanes (1969).

agricultural production. All individuals who farm may thereby reallocate some of their time to other activities -- perhaps school, labor market work, or leisure. The inputs and outputs of these activities will then change, leading in turn to still other repercussions.

These four properties are used in Section III to suggest refutable propositions about family members' behavior and in Section IV to define some characteristics of the data required to test and refine these propositions. I use this conceptualization now, however, to distinguish among several types of causal variables and to investigate the implications of their differences for statistical estimation and inference.

ALTERNATIVE PROCESSES OF INFERENCE

To distinguish among various methods of forming inferences about family behavior, I consider an illustrative model focusing on a particular facet of family activities. Assume that Figure 1 accurately portrays the causal influences at work in the family planning and fertility activities of families in a hypothetical community. I would then like to determine from data the magnitudes of the parameters associated with the links between variables in this model.[1] Even if the model is restricted to describing a sample of couples in which wives are of the same age and year of marriage, it ignores many other complexities. However, the sole purpose of this simple structure is to distinguish among alternative ways of making inferences from data about the magnitudes of a model's parameters. The insights so gained are applicable to any kind of approach to modeling family behavior.

The middle panel of Figure 1 indicates that the values of four variables are determined in the current period. The number of additional children desired (ADDCHDES) influences the couple's use of modern birth control methods (BRTHCNTRL) and independently affects whether the wife becomes pregnant during the period (PREG). PREG also depends on BRTHCNTRL and on the number of hours the wife works

[1] By assuming a precise specification of the model, I ignore the important and difficult questions of how to find the best specification for a model and how to identify the costs of misspecification. The latter is briefly discussed on pp. 15-16. See Theil (1957, 1971).

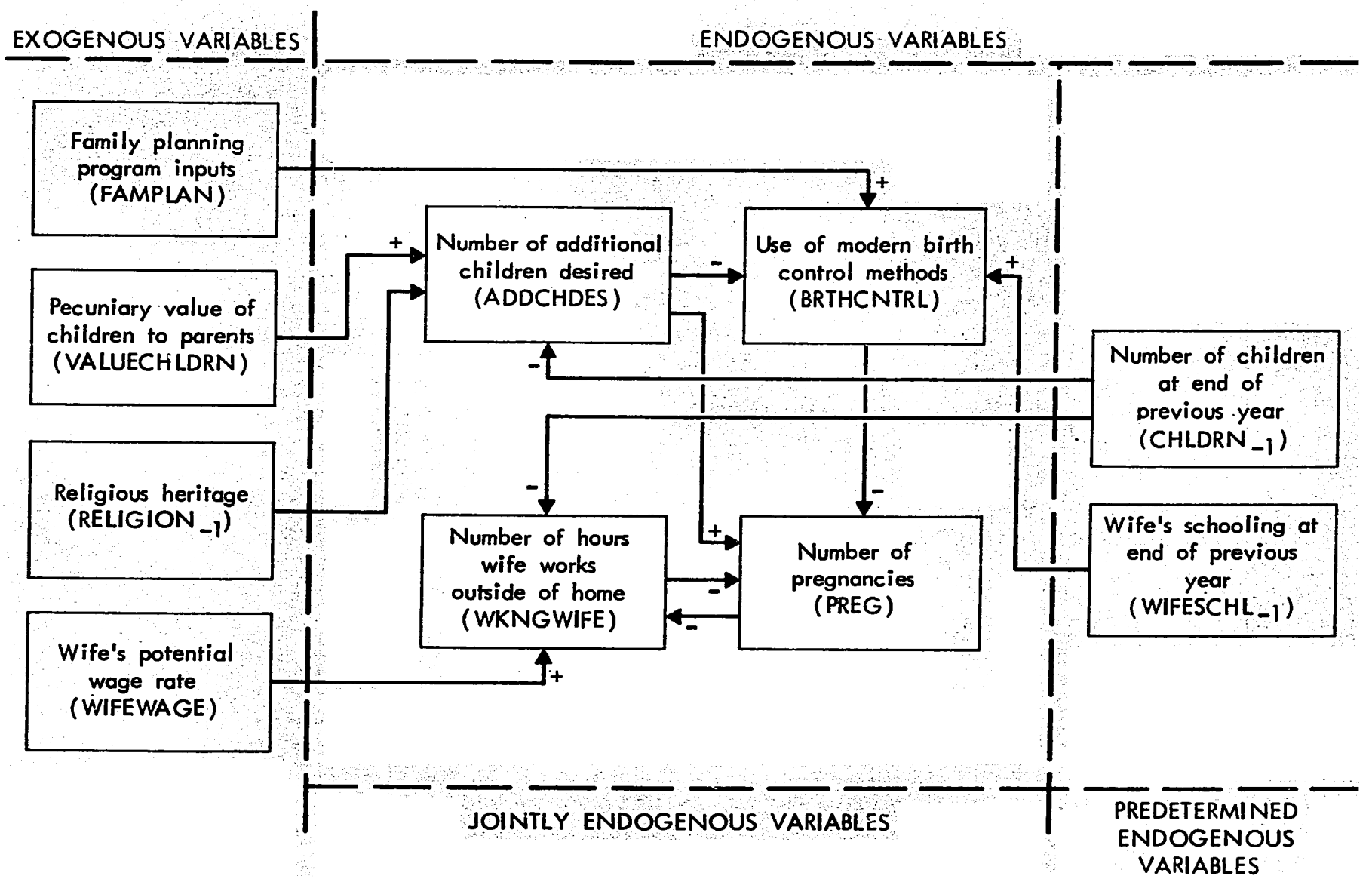


Fig.1 — An illustrative model of pregnancy behavior

outside the home (WKNGWIFE). Finally, WKNGWIFE depends on PREG. These four are jointly endogenous variables: endogenous because their values are determined within the system, jointly because their determinations occur within the same time period and are influenced by each other. Accordingly, such variables are also called simultaneously determined.

In addition, other explanatory variables in the figure influence but are not influenced by these families' current fertility and family planning behavior. They are predetermined variables, that is, variables whose values are determined "prior to" or outside the family system's current operation. The number of children at the end of the previous year ($CHLDRN_{-1}$) and the wife's level of schooling at the end of the previous year ($WIFESCHL_{-1}$), which appear in the right panel of Figure 1, are predetermined endogenous; the subscripts indicate that their current values were determined by the operation of the family system in previous periods and cannot be altered by current action. The family can, however, affect future values of these two factors by its current activities. The remaining four variables at the left of Figure 1 are exogenous: their past, present, and future values are unaffected by family members' behavior.[1]

The contrasting characteristics of these types of variables can be defined more precisely in reference to Equations (1) through (4) which are an algebraic representation of Figure 1.

$$(1)\quad PREG = \alpha_0 + \alpha_1\, WKNGWIFE + \alpha_2\, BRTHCNTRL + \alpha_3\, ADDCHDES + t;$$
$$\alpha_1 < 0,\ \alpha_2 < 0,\ \alpha_3 > 0$$

$$(2)\quad WKNGWIFE = \beta_0 + \beta_1\, PREG + \beta_2\, WIFEWAGE + \beta_3\, CHLDRN_{-1} + u;$$
$$\beta_1 < 0,\ \beta_2 > 0,\ \beta_3 < 0$$

---

[1]The wife's potential wage rate (WIFEWAGE) is probably influenced by her level of schooling and current exogenous variables and should therefore be considered endogenous. However, adding another jointly endogenous variable to the model would unnecessarily complicate it at this stage. The addition is made at a later point in the exposition.

The pecuniary value of children to parents (VALUECHLDRN) is the amount of money that children of various age-sex-health-schooling groups can earn, either in the market or producing crops and other home-made products for sale.

$$(3)\quad BRTHCNTRL = \gamma_0 + \gamma_1\, ADDCHDES + \gamma_2\, FAMPLAN + \gamma_3\, WIFESCHL_{-1} + v;$$
$$\gamma_1 < 0,\ \gamma_2 > 0,\ \gamma_3 > 0$$

$$(4)\quad ADDCHDES = \delta_0 + \delta_1\, CHLDRN_{-1} + \delta_2\, VALUECHLDRN + \delta_3\, RELIGION_{-1} + w;$$
$$\delta_1 < 0,\ \delta_2 > 0,\ \delta_3 \lesseqgtr 0$$

These equations indicate that the causal relationships in this family system are linear and that there are random variations in individual behavior that cannot be systematically described. The random disturbance terms t, u, v, and w represent the latter factors.[1] Note first that each of the jointly endogenous variables is the dependent variable in a causal relationship containing a random disturbance term. The statistical distribution of each is therefore dependent upon the distribution of the disturbance term in one of the system's equations: such variables are defined as <u>jointly endogenous</u>. On the other hand, current disturbances are by definition distributed independently of all current <u>predetermined variables</u>.[2]

I now turn to the problem of determining from data the magnitudes of the parameters in Equations (1) through (4). Suppose that we are

---

[1]These variations may arise from random variations in people's relative preferences for various commodities. Preferences may be thought of as a person's subjective ordering of his wants. As such, they affect a family's current behavior but are themselves more dependent on prior activities and influences. Certainly less is known about their formation than about the other elements of Figure 1 (perhaps excepting religious heritage). They are surely influenced somewhat by past activities -- for example, by education, which makes some things seem less and others more important, and by the past discovery of activities which are now considered valuable. Exogenous factors such as geography, weather, and cultural heritage may also leave their marks on a person's subjective likes and dislikes. And public policy, by promoting education or small families, may alter some of these subjective tradeoffs.

When all of these systematic factors are accounted for, much of the variation in preferences among persons can be attributed only to individual differences in tastes -- quirks of heredity or environment that contribute to individuality. Hence, I relegate them to the disturbance terms of the illustrative model.

[2]Predetermined endogenous variables may of course be distributed dependently with the disturbances of previous periods. This causes no difficulty under the assumptions of the illustrative model.

205

particularly interested in estimating the strength of various influences on the current pregnancy behavior of the families modeled in these equations and Figure 1. We may proceed in one of several directions each of which exemplifies a way of making inferences about family behavior.

Statistical Associations Between Two Variables

The easiest approach is to examine the direct statistical relationship between number of pregnancies in the current year and one of the explanatory variables, say ADDCHDES.[1] Using this approach, we might poll couples at the start of the year on how many more children they desire and at the end of the year on whether they have experienced a pregnancy. We might then conclude that the effect of desiring more children on actual pregnancies is accurately reflected in a measure of association or correlation between the two variables.

But if the model of Figure 1 is correct, this conclusion is wrong. To see this, note that both ADDCHDES and WKNGWIFE are hypothesized to be correlated with the same variable, $CHLDRN_{-1}$. Since β_3 and δ_1 are negative, the estimate of α_3 got by simple correlation will include some of the effect properly due to variations in WKNGWIFE and will be biased toward zero. In addition, ADDCHDES is negatively correlated through Equation (3) with the other explanatory variable in Equation (1), BRTHCNTRL. In this case, leaving BRTHCNTRL out of the estimating relationship induces an upward bias in the estimate of α_3, causing the apparent association between ADDCHDES and PREG to be larger than it actually is. In sum, therefore, it is not possible to say whether our estimate of the relationship between ADDCHDES and PREG is biased upward or downward and by how much.

---

[1] Several statistical tools, including contingency tables and correlation analysis, may be appropriate for this task. Elementary and more technical descriptions of these techniques may be found, respectively, in Yamane (1964), and Brownlee (1964).

Specification bias of this type arises whenever an omitted explanatory variable is correlated with an included one.[1] It is in principle more serious if the explanatory variables are current endogenous rather than predetermined factors[2] and if the model is estimated using highly aggregated data.[3] There is therefore a greater need for completely specified models when using aggregate data and, conversely, greater value in using micro data when the model is thought to be poorly specified or incomplete.

Theories in the social sciences are too imprecise to imply the exact specification of behavioral relations, so the possibility of specification bias is always present. Researchers should therefore (1) avoid biases by choosing estimation techniques and data sources that allow sample variation of all explanatory variables considered important, and (2) investigate and report the probable direction of remaining biases.[4] Both of these guidelines are violated by the common research procedure in which one and then another explanatory variable is tabled or correlated with a dependent variable, say a fertility measure, and each separate test presented as representing the independent effect of one explanatory variable. Such estimates can contribute little or nothing to our understanding of most behavioral relationships.[5]

---

[1]More technically, this bias results from the relegation to the disturbance term of an omitted explanatory variable correlated with an included one. In the present example, the resulting statistical dependence between t and ADDCHDES introduces an additional term, B, into the expectation of the estimate of α_3: [expected value of the estimate of α_3] = $\alpha_3 + B$. In the text example, one cannot even know the sign of B without further information and therefore cannot know the direction in which the estimate of α_3 is "off." See the references cited in footnote 1 on p. 11.

[2]This is simply because current endogenous variables, being dependent upon each other as well as upon some of the same predetermined factors, have more opportunities to be correlated.

[3]Aggregation washes out random variations among individuals leaving higher sample correlations among variables.

[4]An example in the economics literature of skilled application of these guidelines, especially the second, is Griliches (1958).

[5]This research procedure is nearly universal in behavioral demography. Many instances can be found, for example, in the six distinguished

Estimation of Relationships Having More than One Jointly Endogenous Variable

A more promising approach to the estimation of behavioral relationships can be illustrated by joint estimation of the α coefficients in Equation (1). This could be accomplished by several methods,[1] each of which allows the three explanatory variables to vary simultaneously with PREG. Since we assumed at the outset that Figure 1 and its associated equation system reflects the actual causal mechanisms, estimation of the correctly specified Equation (1) eliminates specification bias by definition. However, this procedure introduces another potentially serious source of bias arising from the presence in Equation (1) of four jointly endogenous variables, PREG, WKNGWIFE, BRTHCNTRL, and ADDCHDES. These variables are simultaneously determined by concurrent family activities; hence the problem resulting from directly estimating their coefficients in Equation (1) is appropriately known as simultaneous-equation bias.[2]

---

books constituting the Princeton Fertility Study and the Growth of American Families Study. Although these studies contributed much to our descriptive knowledge of fertility trends and differentials, they revealed little about relevant causal mechanisms. Instead, separate correlations of number of children with religion, with urban background, with desired number of children, with a marital adjustment variable, with husband's occupation, with husband's earnings, with wife's feelings of economic security, and with many other variables are tabled and discussed. As the authors sometimes indicate, many of these explanatory variables are highly correlated. In the absence of causal models and estimation techniques explicitly accounting for these dependencies, and without investigation of the direction of resulting biases, these tables and correlations reveal nothing about the causal relationships which public policy must deal with if it is to affect the outcomes. The Princeton Fertility Study books are Westoff, Potter, Jr., Sagi, and Mishler (1961); Westoff, Potter, Jr., and Sagi (1963); Bumpass and Westoff (1970). The Growth of American Families Studies are Freedman, Whelpton, and Campbell (1959); Whelpton, Campbell, and Patterson (1966); Ryder and Westoff (1971).

[1]Partial correlation analysis, ordinary least squares, and path analysis are alternatives. See Brownlee (1964); and Land (1969).

[2]Christ (1966), pp. 455-464, contains an excellent exposition of the causes and statistical results of simultaneous-equation bias. Also see Bronfenbrenner (1953).

Figure 1 and Equation (2) indicate that WKNGWIFE depends upon the value taken by PREG, just as PREG depends upon the value taken by WKNGWIFE in Equation (1). Conceptually, this reflects the fact that the decision to become pregnant and the decision of the wife to work are made jointly so that the outcome of each decision depends upon the outcome of the other.[1] In such cases, separate estimation of one of the two relationships as if it were the only relationship results in estimated coefficients that attribute all of the correlation between the two simultaneously determined variables to only one of the cause-effect relationships. Regressing PREG on the three right-hand variables of Equation (1) accordingly produces an overestimate of α_1. This biased estimate reflects all of the association between the two variables, not just that part associated with WKNGWIFE's effect on PREG. Similarly, estimating the coefficients of Equation (2) by itself would yield an overestimate of the causal influence of PREG on WKNGWIFE.[2]

---

[1]The length of time sufficient for family members to act, in light of their resources and opportunities and other members' actions, influences whether particular variables should be considered as concurrently or predetermined endogenous. The length of this period, in which all jointly determined activities are planned and executed, probably varies from activity to activity. As a practical matter, the nature of the research or the availability of data usually determines the length of this period in a modeling effort. As the assumed period lengthens, formerly predetermined endogenous variables become jointly endogenous for purposes of estimation, since the time distinctions that separate them have disappeared.

[2]In a recent study of the determinants of fertility, contraception, and associated attitudes in Taiwan, Mueller (1971), especially Tables 17 and 19, regresses each of several fertility attitude and contraceptive use variables on lists of factors reflecting couples' age, schooling, income, and various attitudes about their well-being. The same sets of explanatory variables include some predetermined factors outside the couples' current control, such as age and school level, as well as many factors that are plainly influenced by their current activities. Income per adult, perceived utility of children, sensitivity to cost of raising children, and perceived confidence in obtaining economic assistance from sons, for example, are jointly endogenous since their current values are likely to be influenced by a common set of predetermined factors as well as by each other. In regressions that include all of these explanatory variables, several of the attitude factors have the largest Beta coefficients and are therefore judged by the author to be the most powerful determinants. But there is every reason to suspect, based on the present discussion, that these estimates attribute excessive explanatory power to jointly endogenous variables at the expense of predetermined factors.

BRTHCNTRL is also simultaneously determined with PREG, WKNGWIFE, and ADDCHDES, according to Equations (3) and (4). The important statistical implication of this joint determination is that the disturbance terms t, u, v, and w are not in general distributed independently. Instead, whatever random factors or idiosyncratic tastes are at work, they can be expected to have a systematic effect on all of the family's current activities. If something raises WKNGWIFE in one family well above the level predicted by the systematic factors on the right side of Equation (2), it is reasonable to expect BRTHCNTRL, PREG, and ADDCHDES also to take abnormal values. The result is that t, u, v, and w are correlated. This causes estimation problems because BRTHCNTRL, WKNGWIFE, and ADDCHDES, with their associated random components, u, v, and w, are explanatory variables in Equation (1). Since u, v, and w are correlated with t, these explanatory variables are correlated with the random disturbance term associated with PREG, and ordinary estimates of their coefficients are biased.

Hence, both specification bias of the type discussed above and simultaneous-equation bias result from correlation between the disturbance term and an explanatory variable in a causal relationship. The sources of correlation differ in the two cases, however, and different remedies are required. The bias resulting from an omitted explanatory variable arises whenever it is correlated in the sample with an included explanatory variable. Awareness of the problem plus data on the omitted variable permit direct correction of the bias. Otherwise, one can seek independent information or intuition concerning the probable direction of bias. The bias resulting from treating a jointly endogenous variable as if it were a predetermined explanatory variable, on the other hand, arises when the relationship of interest is only one part of a simultaneously determined system. In this case, <u>simultaneous-equation estimators</u> are often superior to methods that take no account of the presence of more than one dependent variable in the relationship.[1] They are superior

[1] In a review of recent developments in path analysis and factor analysis, Goldberger (1971) compares these two techniques with standard econometric methods in regard to their capabilities for structural equation estimation. He finds that each method has advantages in dealing with different problems: errors in variables, unobserved variables, under and over identification, and joint determinacy.

because the coefficient estimators they yield are consistent[1] -- a quality not possessed by ordinary least squares, path analysis, or other techniques in these situations.

The various simultaneous-equation estimators differ in two major ways. First, each is equipped to use different amounts and types of information about the system under study. What clearly distinguishes these methods as a class is that they all make use of one kind of information that cannot be incorporated into other estimation procedures -- namely, that more than one variable in the relationship is endogenous. But one often has other information as well: a theory of how the other endogenous variables are determined or information on how the disturbance terms in the system are related, for example. Depending on the amount and quality of available information, some simultaneous-equation techniques are superior to others. Second, these methods differ in the properties of the coefficient estimators they yield, though a description of these properties is beyond the scope of the present report.[2]

Simultaneous-equation techniques are especially preferable to other estimation methods when the sample size is large and when the specified relationships to be estimated are accurate descriptions of the actual behavioral system under study. In any specific research situation, the choice of a simultaneous-equation estimator should be guided by the extent to which these two criteria are met.

---

[1] In general terms a consistent estimator is one whose sampling distribution becomes closely concentrated near its population mean as the sample size becomes very large (asymptotically). An unbiased estimator is always consistent. But in a simultaneous equation framework there are no unbiased estimators; the best one can do is choose one that tends toward unbiasedness when the number of observations increases -- that is, a consistent estimator. Consistency is, however, no guarantee of good results when the sample size is less than "large."

[2] Yamane (1964), pp. 237-245, gives verbal definitions of the various optimal properties of estimators -- unbiasedness, minimum variance, efficiency, consistency, and sufficiency. Goldberger (1964), pp. 125-129, provides concise algebraic definitions of these properties; and Theil (1971), pp. 528-536, discusses the differences between simultaneous-equation estimators in terms of these properties and the amount of information the estimators require.

Total Effects of Public Policy Factors on Family Behavior

My concern thus far has been with biases that may arise during the estimation of a single relationship that is part of a simultaneously determined system. Even when these biases are corrected, however, another critical problem may remain. Once again, consider Equation (1), and assume that its coefficients have been estimated in a way that assures their consistency. We now know that, within certain confidence limits, WKNGWIFE affects PREG to the degree indicated by the estimate of α_1. And similarly for BRTHCNTRL and ADDCHDES. At this point, the important questions are: What payoff is there to such knowledge? What do these estimates imply for public policy? The answer so far is: Very little.

Social science research that is useful to policymakers incorporates as explanatory variables exogenous factors that are as close as possible to available policy levers. The causal influence of an exogenous factor that is closely linked to policy choices should therefore be sought as the end of a causal chain. In the example of Figure 1 and its descriptive equations, this means that provision should be made to estimate the effects on PREG of FAMPLAN and VALUECHLDRN. These two variables are more closely related to public policy choices than are the jointly endogenous variables, and each affects PREG in the model, though neither appears directly in Equation (1).

Three procedures are available for investigating the combined direct and indirect effects of exogenous and predetermined endogenous factors on current endogenous variables. The first is to estimate the coefficients of structural Equations[1] (1) through (4) by a consistent simultaneous-equation estimator and then to compute the coefficients of this equation system's calculated reduced form equation. These reduced form coefficients are estimates of the total influence of exogenous and predetermined endogenous variables. Removing all current endogenous variables except PREG from Equations (1) through (4) and substituting terms yields

[1]Such equations are called structural because they each describe a particular segment of the family system's structure.

$$(5)\quad PREG = a + b\ CHLDRN_{-1} + c\ WIFEWAGE + d\ WIFESCHL_{-1} + e\ RELIGION_{-1} + f\ VALUECHLDRN + g\ FAMPLAN + h$$

$$\text{where } a = [\alpha_0 + \alpha_1\beta_0 + \alpha_2\gamma_0 + \alpha_3\delta_0 + \alpha_2\gamma_1\delta_0] \cdot [1/(1 - \alpha_1\beta_3)]$$

$$b = [\alpha_1\beta_1 + \alpha_2\gamma_1\delta_1 + \alpha_3\delta_1] \cdot [1/(1 - \alpha_1\beta_3)]$$

and so on.

Substituting the estimated values of the coefficients α_i, β_i, γ_i, and δ_i into this expression produces an estimated relationship between PREG and a set of factors beyond the influence of current family choices.[1] Other current endogenous variables do not appear in the relationship.

Since no dependent variables appear as explanatory factors in Equation (5), its coefficients can alternatively be estimated directly and consistently by ordinary least squares. This second procedure yields an <u>estimated reduced form equation</u>. Although reduced form estimation is the simplest in terms of data requirements and estimation procedure, two drawbacks make structural estimation and subsequent reduced form calculation preferable in many situations. First, reduced form estimation commonly does not take advantage of all the information about the system contained in the structural equations. Although reduced form estimation can be restricted to incorporate this information, these restrictions usually destroy some of the optimal properties of least squares that make it theoretically preferable to simultaneous equation methods.

Second, even though an estimated reduced form equation is a good tool for predicting the total effects of changes in current exogenous factors on family members' behavior when the structure and organization of the family and the community remain unchanged, its predictions are less valuable when these structures do change. This difficulty arises because reduced form equations, lacking a specification of the structure of the system being studied, cannot be altered to reflect known changes

---

[1]The structural relationships and the data must meet certain conditions before one can transform reduced form coefficients back into their structural counterparts. See Fisher (1966).

in that system. On the other hand, these changes can be incorporated into a structural equation system by either altering the values of some of its coefficients or changing the specification of some of its equations. The essence of these two drawbacks is that although reduced from estimation is easier and requires less data, it yields less information upon which to base policy decisions. Nevertheless, it is often useful in conjunction with structural estimation and in its own right.

The third procedure that is useful in these circumstances takes reduced form analysis a step further by eliminating from Equation (5) even the predetermined endogenous variables. The resulting relationship is called a final form equation.[1]

To illustrate this technique we add to our illustrative model several equations to explain the values taken by the predetermined endogenous variables $CHLDRN_{-1}$, $WIFESCHL_{-1}$, and WIFEWAGE.[2]

(6) $CHLDRN = PREG + CHLDRN_{-1} - DEATHS$

(7) $DEATHS = \varepsilon_0 + \varepsilon_1 \, PUBHEALTH + \varepsilon_2 \, WIFESCHL_{-1} + x$

(8) $WIFESCHL = \zeta_0 + \zeta_1 \, WIFESCHL_{-1} + \zeta_2 \, WIFEWAGE + \zeta_3 \, PREG + \zeta_4 \, CHLDRN_{-1} + \zeta_5 \, AVAILSCH + y$

(9) $WIFEWAGE = \eta_0 + \eta_1 \, WIFESCHL_{-1} + \eta_2 \, MANPWRPOL + z$

where DEATHS = a measure of fetal and child mortality.

PUBHEALTH = a measure of public health inputs in the community.

AVAILSCH = a measure of the availability of schooling in the community.

MANPWRPOL = an indicator of public policy's effectiveness in maintaining attractive jobs for women outside the home.

---

[1] See Theil and Boot (1962).

[2] WIFEWAGE, though considered exogenous in Figure 1, is probably influenced by the wife's previous schooling. Introduction of Equation (9) at this point therefore excludes all possibility of endogenous influences.

By substituting successively for the predetermined endogenous variables $CHLDRN_{-1}$, WIFEWAGE, and $WIFESCHL_{-1}$ in Equation (5), we obtain Equation (10) in which the coefficients j, k_i, l_i, and so on are complicated functions of the coefficients of Equations (1) through (4) and (6) through (9). Each of the summations runs from the present year back to the year of marriage or before.

$$(10) \quad PREG = j + \Sigma\, k_i\, FAMPLAN_{-i} + \Sigma\, l_i\, VALUECHLDRN_{-i} + \Sigma\, n_i\, PUBHEALTH_{-i} + \Sigma\, o_i\, AVAILSCH_{-i} + \Sigma\, p_i\, MANPWRPOL_{-i} + q$$

Equation (10), which is the final form of our equation system, indicates the total effects of current and past variations in exogenous variables on current pregnancy behavior. No endogenous factors appear among the explanatory variables although their intervening effects are reflected in the coefficients. Such an equation cannot usually be estimated directly because of serial correlation among successive values of explanatory variables and because data for all past years are rarely available. Having estimated the structural equations or their associated reduced form equation, however, one can sometimes compute the final form coefficients and make useful inferences from them concerning the lags with which changes in public policies affect family behavior.

Reduced form and final form equations are of value in policy planning and analysis because they indicate the total magnitude of the relationships between exogenous factors and a chosen aspect of family behavior. These equations are more useful to policymakers the more nearly the exogenous factors are policy controlled. Unfortunately, these factors are rarely if ever amenable to policy in a completely predictable way. For example, governments may have to contend with many other exogenous influences when attempting to provide a certain availability of schooling (AVAILSCH), of family planning services (FAMPLAN), or of jobs for women (MANPWRPOL). Nevertheless, they certainly have more direct control over these variables than over the wife's labor force participation and use of modern birth control methods, or the couple's desire for additional children!

GUIDELINES FOR MAKING STATISTICAL INFERENCES ABOUT FAMILY BEHAVIOR

Although the model of Figure 1 is not intended as an accurate representation of influences on family activities in any particular society, it has served to illustrate some serious problems that arise out of making inferences about family behavior. The following guidelines address these problems:

1. If the particular behavior of interest is an integral part of a larger behavioral system (such as a family), account as well as possible for resulting interactions in both model specification and statistical estimation and inference.

2. For the end of a causal chain, seek variables that are probably closely linked to public policy choices.

3. Let the relevance and measurement accuracy of the data guide the choice of estimation procedure and the confidence attached to specific estimates.

4. Employ estimation procedures that best serve the goals of the first three guidelines. Simple two-way tables and correlations are rarely among these methods. Investigate the direction and magnitude of remaining biases and use this information to assess the accuracy of the estimates.

III. HYPOTHESES ABOUT THE EFFECTS OF EXOGENOUS CHANGES ON FAMILY MEMBERS' BEHAVIOR

THE HYPOTHESES

The approach to modeling family behavior outlined above (pages 7 to 11) suggests a set of propositions concerning both interactions among family activities and the direct and indirect effects of exogenous changes on the behavioral pattern that results from these interactions. These hypotheses, some of which are stated in this section, are specific predictions about behavioral responses. They can be tested and, if they fail to predict well, rejected.[1] Testing them with appropriate data and statistical methods should identify some of the complex interactions through which factors in the family's environment directly and indirectly affect individuals' behavior. Some of these indirect effects may be of major importance to the success of government economic and population policies.

Hypothesis 1. Increasing the accessibility and reducing the cost of modern family planning information and materials reduce family size to an extent influenced by the demand of couples for family planning services and by the way the services are supplied. Resulting reductions in family size improve the relative economic position of poor families.

The success of family planning programs in reducing births depends on several characteristics of couples' demand for modern family planning services and on the strength of their underlying desire to avoid unwanted births. These characteristics may be systematically affected by individual traits and by certain exogenous variables subject to policy influence. Identifying these traits will guide family planning resources to receptive populations, and identifying the relevant exogenous variables may suggest important roles for other public programs.

If couples are relatively indifferent to an unwanted birth, reducing the price and increasing the accessibility of modern contraceptives may

---

[1] A concise survey of empirical evidence for LDCs on many of these hypotheses is contained in Schultz (1971a). A much less selective survey of research findings can be found in Mason et al. (1971).

not greatly affect their use of these materials or their fertility behavior. Even where couples do attach great cost to an unwanted birth, however, family planning programs may not affect their fertility. In the first place, couples may find it in their interest to increase their current and future welfare by having many children and may already have access to family limitation methods that are quite effective and that they view as costing little in terms of convenience or money. In this situation, couples may see no reason to shift from their present family limitation methods to modern ones. Making modern contraceptives more accessible will fail to increase these couples' use of these materials or decrease their fertility.[1]

Alternatively, couples who want very much to avoid additional births may be using such family limitation methods as abortion that are effective but very costly in terms of health, convenience, or money. Increasing the accessibility of modern contraceptives may induce many of these couples to substitute modern methods for these other techniques that are more costly but nearly as effective. If so, acceptor rates will be high as couples substitute among inputs in their production of contraceptive output -- avoidance of births. But the number of births averted may not change much. Finally, some couples who also attach great cost to an unwanted birth do not have access to an effective family limitation method. They tend to adopt modern contraceptive methods and reduce their fertility if these methods are made available at low cost.

An important problem for policy research in this area is to identify the combinations of individual characteristics and exogenous variables that lead some couples to desire many children, cause them to be relatively indifferent to unwanted births, and influence their use of alternative family limitation methods. Many of the hypotheses in this section suggest exogenous variables that influence couples' desires for children.

---

[1]Sample survey evidence from LDCs concerning married couples' desires to limit their family size indicates that these desires are sufficiently small in many areas to place severe limitations on the effectiveness of the standard family planning package. See Ridker (1969).

Higher wages or the availability of better jobs raise the value of many women's time and induce them to begin or increase their participation in the labor market.[1] The time they now spend away from home would have been used in agriculture, cottage industry, or some other pursuit more compatible with the demands of child rearing. In some households the time of others -- older children, grandparents, neighbors -- can be substituted for mother's time in child care. In others, little such substitution in production is possible. However in all cases where the wife responds to the exogenous change by increasing her hours of work outside the family, children and other commodities that result from family activities using much of the wife's time become relatively more expensive. Couples therefore tend to substitute against them in consumption, desiring less children than do those whose employment opportunities have not changed.

Opposing these two substitution effects -- both of which lead one to expect smaller family sizes in communities with superior job opportunities for women -- is an income effect inducing couples with increased incomes from the wife's work to want more children as well as more of the other commodities they consume. Therefore, where the wife responds to the exogenous change by increasing her hours of work outside the household, both family income and the relative price of children increase. Whether the net effect is to have larger or smaller families cannot be predicted from theoretical considerations alone. The strong weight of available evidence, however, is that substitution effects predominate and smaller families result.[2]

---

[1]Some women who spent all their time in home production activities before the exogenous change may still remain outside the labor force if the value of their time at home exceeds even the higher wage they could now earn.

[2]Many studies of LDCs have found a negative association between women's labor force participation and fertility; only a few of these, however, have attempted to account statistically for the fact that these two variables reflect jointly endogenous family activities, and that nothing about direction of causation can therefore be inferred from a simple statistical association between them. The latter studies are Nerlove and Schultz (1970); Schultz (1970); Harman (1970); and DaVanzo (1971). The middle two studies include in their fertility regressions a female education variable as a proxy for the wife's potential wage

Hypothesis 3. Reducing the incidence of child mortality induces the following effects, after couples have adjusted their behavior to the exogenous change: the numbers of pregnancies and births decline, average years of schooling of children increase, and average surviving family size may decrease. During the transitional period when couples have not yet fully adjusted to the new regime of higher survival probabilities, family size increases, and either child rearing expenditures per child or saving of couples with young children decrease.[1]

Where parents expect most children to live to adulthood, they come to realize that fewer births are required to assure a completed surviving family of desired size. They are also willing to invest more in each child, knowing that he and they are more likely to live to enjoy the returns to those investments. In regimes of high infant and child mortality, on the other hand, parents may not only have more births but also somewhat larger completed families than they would otherwise desire. For if they fear having too few surviving children, they may hedge against the chance of too many deaths by having too many births.[2] As the probability of child deaths decreases and as parents adjust to this change, they will decrease their number of births[3] and perhaps the size of their completed surviving families as well. The speed at which couples adjust depends on, among other things, the availability of modern birth control methods and materials.

During the transitional period when couples have not yet adjusted to the exogenous mortality change,[4] many parents find themselves with

---

in market work. DaVanzo estimates a positive effect of wife's wage and a negative effect of husband's wage on age-specific female labor force participation.

[1]O'Hara (1972) provides a perceptive discussion of interactions between mortality rates and family decisions involving children.

[2]Schultz (1969) discusses the treatment of uncertainty in the demand for children.

[3]This effect has been found in Harman (1970); Nerlove and Schultz (1970); and Schultz (1971b). Also see Fredericksen (1966).

[4]A family's incidence of child mortality is of course influenced by its endogenous health and nutrition activities as well as by exogenous factors. Reducing the cost of market inputs into these activities

more surviving children than desired or expected and may hence reduce their expenditures per child on education, nutrition, clothing, and so forth. In addition, since current expenditures are likely to be above what was anticipated, the proportion of income saved tends to decline[1] and the labor force participation of secondary workers to increase.

Hypothesis 4. Increasing the availability and quality of schools tends to raise children's level of schooling and reduce their labor force participation; it may contribute to reduced average family size. Children whose parents respond as predicted to this exogenous change are themselves more likely as adults to delay marriage and to migrate to regions of greater economic opportunity. Their conduct of both home and labor market activities will be affected by their schooling according to the pattern of resultant productivity increases.

When governments make schools more accessible, they in effect reduce the price (in terms of parents' and children's traveling time to school) to parents of making their children more productive in future home and market activities. When governments improve existing schools, they raise the amount of future productivity that can be expected to result from a given investment of money and children's time. In both cases, the usual income and substitution effects combine to raise the amount of time children spend in school. In the first place, both exogenous changes leave the family better off than it was -- either because the price of an investment has fallen or because the returns to that investment are expected to increase. Being better off, families increase both current consumption of commodities and investment in capital. Schooling of children, as one form of investment, therefore

---

tends to increase a family's participation in them, and thereby reduce mortality. Preliminary evidence from Costa Rica, Mexico, East Pakistan, and Puerto Rico indicates that nutrition variables and female literacy are highly significant determinants of child mortality rates in LDCs. See Sloan (1971).

[1]Some indirect evidence on this point is the high negative associations between fertility and physical savings ratios reported in Eizenga (1961). In a study of cross-section data from developed and low income countries, Leff (1969) finds that birth rates influence savings rates by affecting population age structure.

increases. In addition to this positive income effect, parents now have an incentive to substitute formal school inputs for their own time in the production of their children's education (substitution in production) and to substitute child schooling for other assets that are also expected to yield income and satisfaction in the future (substitution in consumption).

Since time spent in school cannot be used in home or market production, labor force participation of children tends to fall as a result of such an exogenous change. Some youths will for the same reason choose to delay their marriages:[1] at the margin the relative attractiveness of additional schooling as a source of future income and satisfaction induces them to engage in this activity rather than in the home and market production activities required to form and maintain a family.

An increasingly evident empirical relationship is that between years of children's schooling in a community and family size. When some other factors thought to be relevant are controlled in multiple regression analysis, child schooling has been found to be strongly associated with low fertility. Economic theory does not unambiguously predict the sign of this relationship.[2] On one hand, an exogenous increase in the quantity or quality of schools, as we have seen, induces parents to substitute schooling of their children for all other assets as a group. Childbearing produces one of these other assets. There is an inducement for parents to engage in less of it; that is, to have fewer children so that they can invest more of their time and money in the schooling of each of them. On the other hand, this schooling must be embodied in actual children, and the more children a couple has, the more "raw material" is available for schooling. There is hence an incentive for parents to have more children so that they can

---

[1]Harman (1970), pp. 42-46, found this relationship in Philippine data.

[2]De Tray (1972) analyzes the effects of various exogenous factors on parents' decisions regarding fertility and schooling of their children.

invest more heavily in child schooling. Available empirical evidence suggests that the cross substitution effect of the price of schooling on the number of children wanted is overwhelmingly dominant,[1] but until household data exist that can distinguish this effect from others resulting from parental education differences and variations in child-labor opportunities, the true causes will remain obscure.

Schooling is an investment activity that generally increases a person's ability to produce future income; therefore, persons with much schooling have strong incentives to locate their human capital where the rate of return to investment in human capital is higher; that is, to live in areas where the income and satisfactions generated by schooling are increased. In addition, since education, especially literacy, enables a person to gather and evaluate information more efficiently, more highly educated people are more aware of their options in other regions. For both of these reasons, an exogenous increase in the availability or quality of schools is expected to induce larger migration flows.[2] The direction of these flows will depend on other factors exogenous to family activities: on the availability of new, profitable agricultural inputs such as hybrid seed, fertilizer, or irrigation, which make schooling a profitable input into farming activities; on the location and attractiveness of jobs that require and reward the skills produced by schooling; on the location of cultural, recreational, and educational facilities enjoyed by persons with the knowledge and skills necessary to use them; and on the quantity and accuracy of information provided about these factors.

Hypothesis 5. Increasing migration to regions of greater economic opportunity tends to delay marriage among the migrants, increase women's labor force participation and the schooling of their children, delay the onset of childbearing, and reduce completed family size. It also affects

---

[1] Kirk (1971), and Schultz (1971a) report statistical evidence in support of this negative relationship.

[2] Harman (1970), pp. 63-66, shows that level of schooling is a significant determinant of rural-urban migration flows in the Philippines.

the conduct of other home and labor market activities according to differences in exogenous factors between the regions of origin and destination.

Because migration changes a family's environment, it affects a wide range of family behavior. Since differences between a migrant's regions of origin and destination influence how his behavior will change, generally applicable hypotheses about the effects of migration are difficult to draw.[1]

It may be that increased job availability for women (Hypothesis 2), nearer and better schools (Hypothesis 4), fewer opportunities for child work (Hypothesis 8), and increased availability of family planning knowledge and materials (Hypothesis 1) are common attributes of more developed regions into which migrants frequently move. If so, these changed features of the family's environment can be expected to have the commonly observed effects listed in Hypothesis 5. Programs that promote migration might also weaken family ties, thereby reducing the pecuniary value of children for old-age support and inducing couples to substitute other investments for children. Such an effect would reduce family size among migrants and their parents and increase their saving in other forms of capital.

Hypothesis 4 suggests that persons who possess more human capital are more likely to migrate. Migration may also be selective with respect to other individual characteristics. Consequently, it is very difficult to make inferences about the causes or effects of migration by comparing the characteristics and behavior of migrants with those of the general population in the region of origin or destination. Migrants may systematically differ from these other populations in ways that bias the inferences.

Hypothesis 6. Improving public health and elementary schooling and otherwise increasing the earning power of human capital relative

[1]Ester Boserup (1970) provides fascinating insights into the changing patterns of women's work at home and in the market as well as effects on their schooling when women in a variety of cultures migrate from villages to towns.

to that of land and physical capital promote a more equal personal distribution of income.

The time of family members is an important productive resource that is quite evenly distributed throughout any society. Exogenous changes that increase the value of people's time relative to that of other productive inputs less equally distributed therefore contribute to a more equal personal distribution of income. Better public health, increased availability and quality of elementary schools, better job opportunities for women, and opportunities for adult training all increase the stock or value of human capital of those persons who benefit from the changes. Less equally distributed resources such as land and nonhuman capital will subsequently claim a smaller share of national income.

Hypothesis 7. Increasing the rate of return and reducing the risk of long-term investment opportunities tend to reduce family size by decreasing the relative attractiveness of children as a source of future income, services, and security. The proportion of current family income invested in assets other than children tends to rise.

By working in the market or at home in farming and cottage industry when they are young, or by providing daily or emergency help when they are adults, children may be a source of substantial physical and financial assistance to their parents. When alternative means of saving for the future and insuring against disability and calamity are lacking, parents have children partly as a means of obtaining this assistance and insurance. As cheaper and less risky sources of insurance and future income streams become available, however, couples tend increasingly to purchase them. Couples subject to such changes therefore reduce their completed family size. In addition, parents tend to respond to a reduction in the price of future income streams by increasing the proportion of current income invested in other (nonchild) assets.

Hypothesis 8. Reducing the home and market productivity of young children may decrease desired and actual family size and increase average years of schooling.

Exogenous changes that decrease the productivity of children reduce their relative attractiveness to parents as a source of income and home production. Constrained by these exogenous changes, parents come to find that children are a relatively less valuable asset in which to invest their time and money and hence substitute against them in their portfolio of productive and financial assets: They have smaller families.[1] They also come to find that alternative uses of their existing children's time are now relatively more attractive. Where public schooling is an available alternative, years of schooling of children will tend to increase in the presence of exogenous reductions in the home and market productivity of child labor. Child labor laws, compulsory elementary schooling, and government programs that reduce the relative attractiveness of cottage production may decrease young children's productivity.

Hypothesis 9. Adult training may have different effects on family behavior, depending on the specific home or market activities that directly or indirectly benefit from the acquired skills.

Other hypotheses in this section suggest that the outputs of home production activities such as farming, hygiene, and child rearing may, through various income and substitution effects, be indirectly and unexpectedly influenced by particular kinds of adult training. Some training, such as instruction in the use of birth control materials or farm implements, is quite specific to a particular family activity and can be expected to increase the productivity of a particular family member in that activity. At the other extreme is elementary schooling in reading and writing, which probably increases a person's productivity in many home and market activities and thereby affects the productivity of other family members who also engage in those activities.

---

[1]Indirect evidence of this relationship is given in several studies by Schultz that find a positive partial association between two jointly endogenous variables, percent of active population who are unpaid family workers and fertility. See Schultz (1971b) and (1970). Harman (1970) is able to use number of children in the labor force as a jointly endogenous explanatory variable and finds that it is a significant determinant of the fertility of Philippine women over 34 years of age.

The effects of any particular public educational program therefore depend on the family members who receive instruction and the home or market activities in which these members participate or may enter as a result of their training.

Hypothesis 10. Holding constant the systematic determinants of completed fertility, couples with larger families can devote less income and adult time to each child. These parents therefore tend to spend less per child on health, and their offspring tend to experience more malnutrition and child disease with subsequent effects upon their adult mental and physical capabilities.[1]

For reasons of unexplained personal preference or accident, some couples have more children than is predicted by a model that accounts for systematic variation in parents' demand for children, on the basis of income, prices, and other exogenous cultural and economic variables. Because these couples have less income and time resources than others in the sample with the same number of children, these couples should have fewer of these resources per child than the model predicts. Their expenditures of time and money on health activities may hence be lower; if so, these families will have less healthy children.[2]

Hypothesis 11. A general mortality decline at all ages tends to decrease in the short run and increase in the long run the proportion of income saved by persons in their most productive working years.

During the transition period when couples have not fully adjusted their fertility to the lower mortality levels, the proportion of income saved by couples with children may decrease (see Hypothesis 3). When

---

[1]In a theoretical and empirical study of the economic effects of malnourishment of children, Selowsky and Taylor (1971) estimate the links between nutrition and early ability, between early ability and attained schooling, directly and indirectly (through schooling) between early ability and later ability, and separately between schooling and later ability on one hand, and schooling and earnings on the other. In a sample of low income residents of Santiago, Chile, the authors estimate a very large rate of return to potential public investments in child nutrition.

[2]Wray (1971) finds larger families positively correlated with child disease and mortality in a cross-country sample.

these adjustments near completion, however, a different effect predominates. Since a general decline in the regime of mortality at all ages implies that the probability of survival to older ages increases more than that to younger ages,[1] both expected working years and expected retirement years increase -- but the latter relatively more. Hence, although the present value of earnings increases with the additional working years, the number of years that lifetime income must support increases even more. Therefore, as persons become accustomed to the exogenous mortality changes, they anticipate their own longer retirement period by saving a larger proportion of income in their most productive years. In effect, they adapt their lifetime income pattern to the altered pattern of desired consumption that has resulted from the additional years of life.

BEYOND THE HYPOTHESES

These hypotheses relate individuals' behavioral responses to changes in their environment. Nothing is implied about the existence or efficiency of government policy levers that can influence these exogenous variables. Indeed, the model discussed here is unable to suggest hypotheses about these critical relationships.

Monetary and fiscal policy, import substitution policy, manpower, health, family planning, and education programs -- all may be capable of altering various wages, prices, and other constraints on individuals' behavior. Most of these public policies, however, are hampered by inflexible social and economic institutions and circumscribed by relative scarcities in national and international markets. Factor and product prices in competitive markets or the distribution of land, for example, may limit the effectiveness of many public programs. Furthermore, just as a change in a particular variable exogenous to the household may directly and indirectly affect several types of

[1]The probability of survival to a given age equals the product of the survival probabilities to all earlier ages. Hence there is a cumulative effect at the later ages during a general mortality decline. O'Hara (1972) discusses the implications of this phenomenon for fertility behavior.

family behavior, so a policy change such as restricting the scope of child labor may affect many wages and prices, thereby creating unintended indirect effects in many regions and sectors of the economy.

The research proposed in this report is logically prior to investigations into the power of particular policy instruments to achieve intended effects on variables in the household's environment. The first task is to identify those variables exogenous to family activities that are empirically important in constraining a specific aspect of individual behavior. Subsequently, research must seek mixes of public programs that will change these variables in directions deemed socially desirable and with the least deleterious side effects.

IV. INFORMATION STRATEGIES FOR IMPROVING POPULATION POLICY

INTRODUCTION

The approach to family behavior summarized in Section II (pp. 7-11), although in an early stage of development, has far overreached the power of existing data to confirm or deny its predictions. While existing information generated by censuses and public programs relating to family planning, health, and schools can help to identify the environmental factors that affect specific aspects of family behavior, some important kinds of information are not provided by these sources.[1] For example, data that describe the characteristics of family members and how they currently use their time and other resources in market and nonmarket activities are needed to investigate how characteristics of individuals and combinations of exogenous influences affect the way different families satisfy their wants. These data should illuminate the behavioral responses of families to current changes in their environment.

Data are also needed to describe changes in families' behavior over their life cycle — to identify systematic differences in their activities at different stages and to relate these differences to changes in particular exogenous variables. Since past production of human and physical capital yields future streams of income or satisfaction and thereby influences a family's current behavior, household survey data should include information on families' past and current investment activities, particularly those, like schooling, that produce human capital.

In addition, we need information about exogenous variables that influence family choices and may be influenced by public policies. Some of these data are not specific to individual families and should therefore be generated by public programs or community observation.

In the remainder of this section, I describe in more detail the needed survey information on the characteristics and operation of families

---

[1] Brown (1971) offers valuable perspectives on survey data needs for social science policy research in low income countries.

and their life-cycle behavior, turning then to data on exogenous variables subject to policy influence. Finally, I indicate ways in which existing data from censuses and public programs can supplement the information gained in independent surveys.

ECONOMIC-DEMOGRAPHIC SAMPLE SURVEY DATA

The prototype survey instrument in the appendix details the information needed to distinguish which of the hypothesized links among family activities empirically influence the effectiveness of public programs. Eight categories of information are distinguished.

1. Family roster indicating the basic characteristics of all persons residing in the household. This information establishes the age, sex, marital status, and fertility of all residents and reveals which of them should be interviewed separately.

2. Complete marriage and pregnancy histories of all ever-married women and other women with births.

3. Knowledge and practice of family planning. These data are useful in investigating the characteristics of family members and the combinations of policy and other exogenous factors associated with knowledge and use of different family planning methods.

4. Each household member's employment and income history. Information on the occupation, earnings, and hours of work of employed persons is recorded for the present, for three years ago, and for the year before last marriage. The survey also contains data on detailed sources of family income for the same three periods. Finally, each member's time periods in the labor force since his first job are indicated.

5. Current and past investments in human capital. These include data on the nutrition, health, schooling, and migration activities of household members at time of interview, three years ago, and, where applicable, in the year before current marriage.

6. Current and past investments in nonhuman capital. These data indicate the stock of producer and consumer durables used in specific household production activities in the same three time periods.

7. Current expenditures on nondurable consumption items. A record is needed of food, clothing, recreation goods, and other items consumed by the household, and, if purchased in the market, their prices. When combined with the record of family members' time allocation and estimates of the services yielded by producer and consumer durables, these data may reveal much about the interactions among family consumption and investment activities.

8. The uses of each family member's time. The survey records the amount of time each person recently spent in farming, cottage industry, school, cooking, child care, cleaning house, improving house or land, eating, leisure, sleeping, or working in the labor market. It also indicates the amount of time outsiders contributed to the household.

INFORMATION ON EXOGENOUS FACTORS, INCLUDING POLICY VARIABLES

Although the survey data described above are critically needed, they alone cannot identify the variables in families' environment that are important to policymakers. Background information on many of these exogenous variables is also needed. Knowledge about these factors is crucial for estimation of reduced form equations and calculation of final form relationships, both of which indicate the total effects of predetermined factors on endogenous family behavior. As in the case of survey information on endogenous family activities, the culture and public and private institutions of the society surveyed will influence what data are appropriate and how they should be obtained. In the interest of completeness, however, I have compiled the following list to suggest information that may be useful in investigating the hypotheses of Section III.

1. Family Planning. In order to assess the relative productivity of various family planning inputs, we must know the number of personnel of each type in the local centers and how much time each type typically spends in various program-related activities. To assess the effectiveness of alternative organizational forms, we should know the number of supervisors, the kinds and amounts of incentives offered to different

types of staff, and the incentives offered to program participants. Finally, information on the kinds of family planning services and materials supplied and on the program's advertising methods and expenditures should be recorded.

2. Public health. Prices of specific types of medical personnel and services, as well as the traveling and waiting time required of their users, should be recorded. The existence of public water and sanitation services and of medical or health training programs should also be noted.

3. Education. Number of school places, number of teachers per 100 children of school age, and population density may be good indicators of school availability. Average teacher salary, average level of schooling of teachers, or public expenditures per student may suggest the quality of local schools. Attendance regulations and their enforcement should also be studied. Differences in the school courses offered to boys and girls may create differences in their productivity in various home and market production activities as adults; such course differences should be noted. The presence of any public adult training efforts, such as agricultural extension programs, should be noted.

4. Investment and insurance. What are the relevant parameters of available social security programs and insurance on life, health, and property? What is the nominal rate of return on widely available financial assets, such as government savings bonds? What is the rate of inflation?

5. Manpower. Any legal restrictions on hiring or promoting women or children should be noted. Alternative measures of unemployment should be recorded as should the existence of any employment information programs or public subsidies to encourage migration. Average wages by education groups and for well-defined occupations should be collected by the sample survey.

6. Prices. It is important to note the provisions of agricultural price policies and import-substitution policies. Both of these may affect the relative prices of goods produced and sold at home by

families. If so, changes in these policies might induce changes in individuals' home and market behavior.

7. Other exogenous factors. Length of growing season, average rainfall, and type of soil should be recorded.

Although some of these exogenous factors vary from community to community, others, such as import-substitution policies and social security programs, may be the same throughout the country surveyed. Information on all of them should of course be gathered in ways that do not jeopardize the continuing support of public officials for the survey effort.

MAKING BETTER USE OF EXISTING DATA

Much of the information described above is not generally collected in LDCs. Some of it, however, could be obtained by appropriate additions to standard survey instruments. Other parts might be culled from existing survey data or generated in family planning, health, and education programs. Data collected in national censuses, for example, may be particularly useful for measuring community exogenous variables such as unemployment rates, school availability, and public health and sanitation. In addition, governments should be strongly encouraged to consolidate a 1 percent or 0.1 percent sample of household data from their national censuses, as the Philippine government did with its 1960 census. These household observations may by themselves be valuable research inputs; at the least, they could provide prior observations on some of the variables included in subsequent special surveys, thereby facilitating study of families' life cycle behavior.

Information generated in family planning programs and other public services should be linked to data obtained from independent surveys of randomly selected households, but program information is no substitute for these independent data. The problem with program information is not necessarily that it is too aggregated or not sufficiently extensive -- it may consist of many questions asked in reference to individual families -- but rather that the sample excludes

important segments of the population.[1] In family planning programs, for example, the sample of participants excludes couples who either have no knowledge of the service or for whatever reason feel they do not need it. Such a sample is likely to be biased with respect to some important explanatory variables. Alternatively, independent survey data include control observations, which facilitate estimation of behavioral relationships in the absence of program inputs. Without knowledge of these independent effects, excessive explanatory power may, as indicated in Section II, be attributed to the family planning program.

Considerable research on economic and demographic development has relied on data aggregated to the regional or national level. Aggregate capital-labor ratios, saving rates, crude birth rates, dependency ratios, and others have served a generation of national planners. I have argued here that economic development is the aggregate result of behavioral responses of individuals, and that we know but little of the intra-family interactions that condition these responses. Rather than seeking meaningful regularities among national aggregates, it therefore makes sense to identify systematic responses of individuals to changes in their environment and then to calculate aggregate responses on the basis of these micro-estimates. Much of the individual variation that produces systematic relationships important to policy may be lost in the process of data aggregation.[2]

Of course, the appropriate survey data described above and in the appendix may be difficult to collect. Seasonality is a particularly important problem since much of the needed information concerns allocation of time or expenditure of money during a recent period. In families that adjust their activities to planting and harvest cycles

---

[1] Koehler (1970) illustrates the need for nonprogram data in the Philippines by comparing knowledge and use of contraceptive methods in a national sample.

[2] Orcutt (1962) has forcefully made this last point as part of a comprehensive brief for the formulation and testing of micro-models of economies. The classic and still essential analysis of estimation and inference problems associated with data aggregation is Theil (1965).

or the school year, there may not be a typical or average week about which to ask questions.[1] A solution here may be to administer the seasonally sensitive parts of the survey to the same panel of families at two or three times during the year. Alternatively, families might be asked retrospective questions referring to their activities during particular important periods.[2] The accurate reporting of systematic seasonal variations in behavior will be influenced in particular cases by the sources of these variations, available survey funds, and various social and institutional constraints.

Accounting for seasonality may complicate what is already a difficult survey task. Collecting accurate information on family members' time allocation and expenditures, for example, may require intensive interviewing and observing. Fortunately, the resources required for intensive surveying might be more than offset by the smaller sample size that is required when both the sample and the questions are carefully selected to conform to the requirements of a specific empirical model.

Finally, household survey data should always be placed in the public domain as quickly as possible. The same body of data can often serve many research purposes, and there is little justification for restricting cooperation and competition among them. Prompt release of survey data will enable policymakers to benefit from the insights of researchers asking a variety of questions relevant to public policy and using different conceptual approaches.

---

[1] Using Egyptian household survey data on daily hours worked by rural people in agriculture and the labor market, Hansen (1969) demonstrates great seasonality in hours worked in the market. The average range of hours worked in the market during eight days ranges from 58 (June) to 40 (January) for men, 25 (September) to 16 (February) for women, and 35 (June) to 16 (December-January) for children.

[2] A recent study of East Pakistan suggests that retrospective pregnancy data may be more accurate than commonly assumed. See Schultz and DaVanzo (1970).

V. CONCLUSIONS

Public policies to stimulate economic and demographic change in less developed countries have frequently produced disappointing results. The process of economic development, which these policies are intended to speed, is intricately bound up with changing patterns of time allocation and resource use in families. Our ignorance of these patterns stands in the way of identifying those particular factors in families' environments that public policies must influence in order to change the behavior of individuals in directions deemed socially desirable. This report has argued that policymakers' ignorance of these patterns is an important cause of disappointments in economic and demographic development.

This study has stressed two fundamental reasons for our ignorance: (1) common conceptual models of family behavior and techniques of statistical inference are too primitive to identify which of the links among different forms of family behavior are quantitatively important influences on the success of government programs, and (2) available data are poorly suited to the analysis of this problem, even if the proper tools are applied. I have therefore suggested a conceptual model of family behavior, appropriate statistical techniques, and necessary data required to study this causal chain linking many public policies through the family to national objectives.

I first summarize a conceptual approach to modeling household economic and demographic behavior that has yielded refutable hypotheses about the effects on individuals' behavior of changes in their environment. This approach treats households as units that both produce and consume what they want. They react to changing external conditions by altering the amounts of their members' time and other resources used in producing commodities such as good health, schooling, farm produce, and children. Complex interdependencies exist among these activities, causing a specific change in the family's environment to have indirect influences on a host of production activities, many of which are not oriented to the market, and to influence what many members of the household do with their time and resources.

This approach suggests the importance of distinguishing among three types of variables: jointly determined endogenous, predetermined endogenous, and exogenous. Using an illustrative model of family contraceptive and fertility behavior, I demonstrated several ways in which improper techniques of statistical estimation and inference ignore the important distinctions among these three classes of variables and hence produce misleading policy prescriptions. A review of appropriate estimation techniques suggested four guidelines for making statistical inferences about family behavior.

1. If the particular behavior of interest is an integral part of a larger behavioral system (such as a family), account as well as possible, in both model specification and statistical estimation and inference, for resulting interactions.

2. For the end of a causal chain, seek variables that are probably closely linked to public policy choices.

3. Let the relevance and measurement accuracy of the data guide the choice of estimation procedure and the confidence attached to specific estimates.

4. Employ estimation procedures that best serve the goals of the first three guidelines. Simple two-way tables and correlations are rarely among these methods. Investigate the direction and magnitude of remaining biases and use this information to assess the accuracy of the estimates.

Explicit consideration of families' possibilities for substitution in the production and consumption of its commodities has suggested a variety of hypotheses about the responses of individuals to changes in their immediate environment. Eleven sets of hypotheses are stated here along with summaries of their derivation from the model's basic properties. Each hypothesis predicts particular behavioral responses to specific changes in families' surroundings.

Although the conceptual approach that has yielded these hypotheses is only in an early stage of development, it has clearly overreached the power of existing data to confirm or deny its predictions. Further

progress in identifying the particular interactions among family activities that influence the success of public policies therefore awaits the collection of appropriate data. The essential characteristics of these data are suggested by the model's properties.

1. Data should describe the characteristics of family members and how they spend their time and other resources in market and nonmarket activities.

2. They should describe changes in families' behavior over their life cycle, particularly their past and present production of human and physical capital.

3. The should quantify relevant factors in the family's environment and link to program information obtained by the responsible administrative unit in which the family lives.

Because in aggregation most census data lose much individual variation required to investigate the hypotheses adequately, and because information generated within the context of particular public programs is usually obtained only for population samples that are biased in important respects, the collection of new household survey data independent of program activities appears valuable. Accordingly, the appendix details the information required to improve our understanding of the family's behavior and advance our competence to evaluate the success of public policies that operate through their impacts on interrelated aspects of family formation and subsequent behavior.

With improved data and proper estimation techniques, researchers can more efficiently pick the particular exogenous variables in families' surroundings that affect important facets of individual behavior. Subsequent research must seek the mix of public programs that will change these variables in directions deemed socially desirable and with the least deleterious side effects.

SEMINAR ON LAW AND POPULATION:

LECTURE BY MRS. PILPEL

I'll do pretty much what I did last year, namely, trace the history of the applicable law in this country quickly--birth control first, abortion second, voluntary sterilization third, and then pay a little attention to current pressing problems, which are primarily in the abortion area and in the area of medical treatment of young people.

I've travelled a fair amount recently, in part thanks to Dr. Lee, and I have found this question of the rights of young people to get sex-related care somewhat special to the United States. For example, when I was in Hong Kong I asked the head of the family planning association there about it. She said there is no problem there because well brought-up girls wouldn't dream of having sex relations before they got married. Well, in the United States they not only dream about it, they do it. And that posed a number of rather significant legal problems which we are very much in the middle of now.

But going back to the beginning and starting with contraception, I was always interested in the subject of birth control. I found it unthinkable that any woman should be in a position where, although she wasn't ready to have a baby, she had no access to contraceptive measures. As long as I remember, I wanted to work in this field primarily in terms of freedom of choice. I came to work with the American Civil Liberties Union (I'm now a Vice-Chairman of that organization). The Union has been extremely active in trying to establish the right of every woman to freedom of choice as to pregnancy which is a necessary prerequisite to any other freedom of choice that any woman can have. I'm not sure that I have to labor that point for you here, you probably all agree with it.

In any event, after I went to law school and became interested, on the one hand, in marriage, divorce and sex-related questions and, on the other hand, with copyright and literary and entertainment matters, I quite naturally gravitated toward the firm of which I'm presently a senior partner, because one of the then senior partners specialized in those two fields. I'm referring to Morris Ernst who gave me a job when I graduated from law school and I've been there ever since. I have found that these two specialties fit together very well; many of the clients whom I represent on marriage, divorce, sex problems and so forth sooner or later write books and many of the clients I represent in connection with books, movies, television programs, etc., often have problems in connection with marriage, divorce and sex.

On my first day at the office I was called by Mr. Ernst and he gave me a choice as to what my first assignment would be, saying that it didn't matter from the office's point of view what I chose. "You will be worthless to us for a few months while you learn, so you might as well enjoy yourself." One of the subjects on the list he gave me to chose from turned out to be a birth control case. Put very simply, it had to do with a federal statute, which

was passed in 1873 and which is known as the Comstock Act. Anthony Comstock was a puritan crusader, who really thought that the United States was being engulfed vy vice and who thought of everything in terms of obscenity. For example, the statute which he succeeded in getting through Congress was concerned primarily with obscenity. He went around showing Congressmen dirty postcards and the Comstock Act was passed. It prohibited in interstate and foreign commerce, and the mails, every obscene, filthy disgusting, lewd and lascivious object and any article for prevention of conception. There is, of course, another area of federal jurisdiction, and that is the Constitution of the United States, under which the Comstock laws were eventually declared unconstitutional--but not for 100 years. The jurisdiction of the United States is over primarily what goes on in the state. A number of states passed little Comstock Acts of their own of which the most notorious was the law of the state of Connecticut which made it a crime to use a contraceptive. That law and all the other little Comstock laws were pretty much dead letters until about 1940 when suddenly on a cold winter Sunday in 1939 the priests in the Catholic churches in Connecticut preached sermons about the immorality of contraception. At that time, Planned Parenthood had nine clinics operating in the state of Connecticut. The next morning there were raids on the Planned Parenthood clinics in Waterbury, Connecticut. The others closed their doors and for 25 years there was no publicly supported family planning service in the state of Connecticut. Massachusetts followed suit. It didn't prohibit the use of contraceptives but it did prohibit just about everything else they could think of, such as the sale, distribution, advertising, even lending of contraceptives. These two states were totally blacked out, as far as public contraceptives were concerned. In other states the "little Comstock" laws began to be seen as a threat, even though they had been overlooked until that time.

I think that I should take a minute to say that in the United States, as I assume in other countries, law is made in a variety of ways. When I meet, particularly with physicians, they ask what is the law on such and such a subject. They expect a definite answer such as they can give when asked, for example, is this a case of measles. Usually they can answer yes or no. There are few comparably definite answers that lawyers can give about the law. The United States is a common law country and our law has developed in a variety of ways. Because the status of all family planning activities is influenced by a variety of different kinds of laws I want to mention them.

One kind, as I already mentioned, is federal law; another is state law; and overarching both of them is the Constitution of the United States. So, first we have legislation, Federal legislation passed by Congress, and state legislation passed by the state legislatures. But there is always a need for interpretation of legislation and there are always situations arising which no statute appears to cover. Therefore, in this country and other common-law countries, juridical decisions are also laws. Judges can take legislation and interpet it to fit the conditions of the times which may be very different from what they were when the legislation was passed.

Administrative officials, including attorney generals, at the various states are also sources of laws. For example, the New York Attorney General just stated in his brief on a case in which my office was involved as amicus curiae that it was clear that persons under the age of 16 could be rendered contraceptive services by physicians in New York State and he didn't say that parental consent was necessary. His position can be regarded as a source of law. Similarly, the heads of health and welfare departments in the states are making laws in the United States, and to a considerable extent so are practitioners of professions. By that I mean that one of the criteria as to whether a doctor is guilty of malpractice is whether he has done what an honest reputable medical practitioner in that community would do in the case at issue. So, to a limited extent, medical practice is also a source of law.

Now, going back to 1940, all the clinics being closed in Connecticut it was decided by Planned Parenthood that something had to be done. The first case involving two doctors and a nurse who were prosecuted for being accessories to the crime of using a contraceptive never got to the United States Supreme Court, for technical procedural reasons. In 1942 another case involving the same statute prohibiting the use of contraceptives, however, did get to the Supreme Court which dismissed it on technical grounds and did not pass upon the constitutionality of the statute.

Meanwhile, a third attempt was again foiled on technical grounds in 1961. Other cases on contraception were being considered by courts in other states, state and federal courts and by the Post Office and Justice Departments of the Federal Government. The first one which I started to tell you about before was as follows and this was the way Mr. Ernest put it to me; he said there is a statute which prohibits "the importation of any article whatever for the prevention of conception." A doctor, Hanna Stone, is importing vaginal diaphragms from Japan; these can be used only for the prevention of conception; your job is to show why this statute doesn't apply to Doctor Stone. I remember going home and telling my husband that I had made a terrible mistake being a lawyer and that I thought perhaps I should be something else and now was the time. He persuaded me to look for precedents for saying that the exact words in a statute don't always have to be read literally. And I know now that there are many such cases, but at that time I remember finding only two. One was a decision of a court in Bologna, Italy, I think, in the 16th century. That case concerned an ordinance which prohibited the letting of blood on the street and it had been held that it did not apply to someone who applied a leach, an approved form of medical treatment in those days. The second case I found was a decision of the United States Supreme Court reviewing a federal statute which prohibited the importation of contract labor from abroad. It was a statute clearly aimed against farm laborers, particularly from Mexico. Mexican migrant workers often entered the United States illegally to pick berrires or other fruit. When the season was over, there they were with no means of subsistence. In connection with the statute prohibiting the importation of contract labor, I found a case where an Anglican clergyman was under contract to come to the United States to preach in Trinity Church in New York. Someone took the position that his labor came under the statute. The Supreme Court said obviously the statute didn't mean him and you have to interpret the statute in accordance with its

intent. So we won a decision establishing that the statute which in words seemed clearly applicable to Doctor Stone didn't apply to Dr. Stone or to any other doctor who wished to import contraceptives for the purpose of treating or preventing disease.

With this very good start we were then able to carve out a series of additional exceptions, for paramedical personnel, like health workers, for clergymen, for lawyers, for social workers, etc., etc.

Finally in 1963 a contraceptive called Emko, particularly well known in the Boston area a couple of years ago when a package of it was handed out to an unmarried woman at Boston University, an act which later became the basis of an important United States Supreme Court decision. The manufacturer of Emko had been advertising it in 19 national magazines, having a circulation of 13 million readers. Emko is a contraceptive foam and Mr. Johseph Sonnen who headed the company which manufactured it refused to be intimidated by the old Federal Comstock laws which, despite the Stone case, were still on the statute books and which in words banned the sending of contraceptives or advertising about them through the mails. On each ad there was a little coupon which said, my name is so and so. I am married and I want to use Emko to help me plan my family. The Postmaster at St. Louis, where the Emko Company was and is presently, noticed that lots of little packages were being mailed by the Emko Company to places all over the country. He opened one and was, it seems, amazed that it contained Emko.

He checked the statute, must have assumed that it meant what it said and declared all the samples unmailable. Our office was retained as attorneys to get the Emko samples through. This happened, as I said, in 1963, about a month before President Kennedy was assassinated. President Kennedy was our first Catholic President and he was also the first President to recognize that family planning was something to which Americans are entitled. His brother, Robert Kennedy, was Attorney General. I would guess that the last thing either of them wanted was a legal battle over the question of shipping contraceptives through the mails. I went down to Washington and met with representatives of the Justice Department and the Post Office Department and they were sympathetic but puzzled. They acknowledged that they and the courts had carved out from the statutes doctors, nurses, ministers, etc., but they said if we also regard shipments of contraceptives, we also carve up the ultimate consumer by their manufacturer as not covered by the statute, nothing would be left for the law to apply to and we really can't go that far. On the basis of our discussions in the office, I had an answer for that, namely, that the statute applies only when the government can prove beyond a reasonable doubt that the contraceptives are mailed with the intent that they be used for illegal purposes. I was asked how that could be shown. I replied when, for example a prostitute writes in and says please mail me a contraceptive that I can use in the practice of my profession-- If her profession was illegal in that state. They appeared relieved and a few days later handed down a ruling that the coupons ordering them stated that the person was married and wanted to use the Emko samples for family planning purposes.

With respect to the bans on contraceptives and contraceptive advertising, the law was finally repealed 99 years after it was passed, namely in 1971. There is no longer a general Federal ban on the mailing of contraceptives or contraceptive information or advertising, except for unsolicited contraceptives or any unsolicited contraceptive advertising or information, (If the recipient has ordered a magazine or other publication in which a contraceptive ad appears that is not considered unsolicited). Just a few weeks ago, the United States Supreme Court heard argument involving an advertisement of an abortion facility. (The law on abortion has developed in this country quite differently from the law on contraception, but as far as advertising is concerned, the issue is the same--freedom of the press. So, therefore, what the court says about banning abortion advertising will no doubt also apply to contraceptive advertising. [Author's note: The court subsequently held that the ban on abortion advertising was unconstitutional.]

During all the years from 1940 until 1965, because of the states' bans on contraception, there were no public health contraceptive services in the state of Connecticut or Massachusetts. There was an underground railroad established. Planned Parenthood people in Connecticut, for example, "transported" Connecticut women to Rhode Island and New York, where they could get contraceptive services. We had to go to the United States Supreme Court three times before that court finally held the Connecticut ban on the use of contraceptives to be unconstitutional.

In the next to the last case, the Civil Liberties Union brief urged for the first time ever that the Connecticut use ban violated a basic constitutional right of privacy. Constitutional right of privacy had been previously recognized by the United States Supreme Court in very different contexts — primarily in relation to the extent the press could intrude upon peoples' private lives. In the Connecticut case the argument was that a basic right of privacy was violated by the Connecticut new statute. I argued part of that case in the Supreme Court in 1962.

The argument was a very interesting one. It took place during the spring school vacation week during which school children of all ages are taken on a visit to Washington and it seemed clear that the children had been told, as they stood in a line in the huge marble hall outside the court room, that they would not understand what was being said in court, but should remember that it is a very famous court and they should pay attention. So they came in with rather bored expressions. They would sit down and they would hear a discussion that would go something like this: Justice Frankfurter asked the attorney for Connecticut, can't you buy condoms in any drugstore in Bridgeport? The attorney pondered that he didn't think so. The Connecticut attorney added that he would not do such a thing. So the Judge made it clear that he was asking whether a person could go into a drugstore in Bridgeport and buy a condom, the lawyers said he had never heard of anybody who had done so. By this time the children were entraced, Justice Frankfurter continued his efforts to show that in fact the anti-use law had no real impact. The children became more and more fascinated and some of them were hurriedly removed by their teachers, only to be replaced with another group of kids, who would hear similar arguments. At the end of the argument, one of the uniformed attendants came up to me and said, I don't know how you did

with those fellows on the bench, but you are with me and the kids. Well, that was all we won; the case was dismissed on the ground that the law was a "harmless empty shadow. We did get two dissenting opinions though, the theory of which was accepted by the majority of the course in the next case. It is true that the statute was not enforced against drugstores or private physicians, but it was enforced, of course, against the people who depended on public health facilities for contraceptive care. They were the ones who had to be taken to Rhode Island and New York for contraceptive services. The two dissents were written by two judges who had agreed with each other rarely about anything, Justice Douglas and Justice Harland. Both said that in their opinion the Connecticut use statute violated a constitutional right of privacy. When we came back to the Court in 1965, with the case that was argued by Professor Tom Emerson of the Yale Law School, seven judges and not just two held that a statute which prohibited the use of contraceptives was indeed an invasion of a constitutional right of privacy.

This decision in 1965 is the basis for almost all the cases involving abortion and contraception which have subsequently expanded this constitutional right of privacy. Soon afterwards other federal and state courts began to refer to the right of privacy not only in terms of the use of contraceptives by married couples, the context in which it was first announced, but in reference to all matters relating to marriage, the family and sex.

A few years later, in Boston, the authorities arrested a man named Bill Baird when, in connection with a lecture on contraception he was giving at Boston University, he handed a girl an Emko. His case went all the way to the highest court of Massachusetts, which held that the statute in Massachusetts limiting contraceptive sales to sales on prescription to married people was constitutional. Even non-prescription items could, under the Massachusetts law, be dispensed only on prescription. Although the Massachusetts Supreme Court Justice sustained Mr. Baird's conviction. He was released on a habeas corpus by the Federal District Court in Boston, which held that the statute is an unconstitutional violation of the basic right of privacy, even though the girl at B.U. who received the Emko was unmarried. That case went to the United States Supreme Court which held that unmarried persons had the same right of privacy as married persons.

Since then we have hot had any great difficulty with the law as far as contraception is concerned, except with reference to advertising and display. New York, for example, still has a statute which prohibits the advertising or display of contraceptives, either within or without the premises of a drugstore and which further provides that they can be sold only in drugstores and only to persons 16 and over. [Author's note: The New York statute has since been declared unconstitutional by a three judge Federal District Court in New York.]

The history of the legal aspects of abortion in this country was very different from the history of the laws on birth control. (Ultimately, of course, the birth control decisions paved the way for the abortion decisions.)

245

Actually, when the United States was colonized neither in England nor in the United States was abortion before viability considered a crime. It was an offense against the church law from time to time. St. Thomas Acquinas' view was that abortion wasn't an offense even under the law of the Catholic Church until "ensoulment"--the entry of the soul into the body, and according to him this took place 40 days after conception for males and 80 days after conception for females. (I never could figure out how you would know in those days which sex it was before it was born.) In the colonies and in England until 1803 abortion prior to viability was legal. And there is considerable authority to support the proposition that even after quickening or viability, abortion was not a serious offence in the early days of this country. In 1803, England to which we still looked for many of our laws, prohibited abortion except to save the life of the woman. A few states later followed suit. However, it was not until well into the mid-19th century that abortion was considered a major public health problem, not for the religious or metaphysical reasons but because it was very widely used by women who did not have the benefit of any of present day techniques of anesthetics, antispetics, or antibiotics. It may well have made sense then for states to pass laws prohibiting abortion except to save the life of the woman; virtually every state in the United States passed such a law.

When I first started to practice anybody who proposed that you should relax the ban at all in New York was finished politically. We knew a couple of assemblymen who introduced bills to liberalize the law just a little bit and they were defeated for re-election. However, in 1957 the American Law Institute, a learned society composed of judges, lawyers and law professors, to which I am proud to belong, proposed a tentative draft of a model penal code. It suggested an abortion section which provided that abortion could be performed not only to save the life of the woman, but also to preserve her physical and mental health, in cases of rape and incest and to avoid the birth of defective offspring. This suggestion became known as the American Law Institute ("ALI") law. The first state to adopt it was Colorado in 1967. In the years from 1967 until 1973, when the United States Supreme Court on January 2 invalidated all abortion laws, 13 other states passed ALI laws. During the same period four states in effect repealed their abortion laws and made abortion available on the request of the woman up to a specified number of weeks of pregnancy. New York permitted abortion on request up to 24 weeks of pregnancy and had no residence requirement. So New York from 1970 when the law was passed until 1973 when all the anti-abortion laws became unconstitutional under the United States Supreme Court decisions, became the abortion capital of the nation. Planned Parenthood and other groups were doing what they could to ensure decent facilities and a number of commercial interests began opening clinics as well.

By and large, the New York statistics reveal a number of very interesting things about that period: a vast decline in maternal mortality and morbidity, a declining birth rate, a decline in prematurity and in infant mortality and a decline in illegitimacy. The figures have been published by New York City officially, from the Health Services Administration and are available from Planned Parenthood. Three other states, Alaska, Hawaii and the state of Washington (by popular referendum), had "repeal laws" similar to New York's but with much less liberal time periods and with residence requirements.

Thus, when the Supreme Court held the Georgia and Texas abortion laws to be unconstitutional in 1973 18 states had already modified their strict prohibitions. What the Court was finally called upon to decide was whether the Texas and Georgia abortion laws were constitutional. The Texas law prohibited all abortion except to save the life of the woman. The Georgia abortion law was an ALI law which permitted abortion to save life, health, and where the pregnancy resulted from rape or incest or defective offspring were likely. The Georgia law also had a number of procedural provisions which the Court found offensive and discriminatory. The cases were argued in the Court by three women and one man. I don't mean to sound feminist, but the two women, Margie Halmes from Georgia and Sarah Weddington from Texas who argued against the validity of those statutes were superb, and I have to admit that the lady attorney general from the state of Georgia was also excellent arguing for the constitutionality of the Georgia statute. The only man involved in the final argument (the case was argued twice) was a gentleman from Texas and he was given a pretty rough time by the Court. For example, Justice Marshall asked him whether he had understood him to say that in Texas a fetus was a person entitled to constitutional rights from the moment of conception. The lawyer said yes. Justice Marshall went on to say, "But you nonetheless take the position that to save the life of the woman, the fetus can be killed. Does that mean," Justice Marshall asked, "that if the husband posed a threat to the life of the woman, he, too, could be killed."

The Court's decisions invalidating both laws were written by Justice Blackmun. Justice Blackmun, who was one of the Nixon appointees, has been the attorney for the Mayo Clinic for many years. He's been very interested in medical jurisprudence and in the course of the argument of the case. He asked several times, "What about the Hippocratic oath?" The Hippocratic Oath is an oath that all physicians used to take in this country. (It has been abandoned in many medical schools.) Doctors used routinely to swear to it when they graduated from medical school. Needless to say, some of the things contained in the Oath are not relevant today. For example, I believe that the Oath forbids the removal of kidney stones. It also prohibits abortion. None of the lawyers could answer Justice Blackmun adequately. However, Justice Blackmun in his decision answered himself and he said that the Hippocratic Oath reflected the thinking of a small band of Pythagoreans and that most Greeks at the time approved of abortion. In any event, the Court held that both the Texas and the Georgia statutes violated the woman's right of privacy.

In his opinion, Justice Blackmun divided pregnancy into three periods. He said that during the first trimester pregnancy the state may not regulate the practice of abortion at all; that abortion is a matter for decision by the woman and her physician and that the only requirement the state can impose is that a licensed physician do the abortion. From the end of the first trimester until viability, the state cannot legislate in the interest of fetal life, because a fetus is not a person for constitutional protection, but it can act to protect the health of the woman. After viability, the state

may legislate to protect the fetus, but an exception must be made for the life and the health of the woman. The decision was 7 to 2; the dissenting judges were Justices White and Reinquist.

After the Supreme Court's abortion decisions, many thought it was the end of the abortion controversy. Of course, it wasn't. There are determined people in this country who generally talk in terms of the "Right to life." They are well organized, highly articulate, and much more visible than those who support the Supreme Court decisions. On January 22 of the past two years since the Supreme Court decisions the Right to Life people have been on the steps of the Capitol wearing red roses and talking against the decisions. They ardently support "Right to Life" amendments to the United States Constitution--none of which so far seems to have much chance of adoption.

Constitutional amendment is a long process in the United States. An amendment has to be proposed first by two-thirds of Congress or by constitutional conventions in two-thirds of the states, and it must be ratified by three-quarters of the states. The Equal Rights Amendment has been around for a long time and has not been ratified by the necessary 75%.

There are also legislative attacks on the Supreme Court abortion decisions. One of the most extreme can be seen in a Missouri law which provides, among other things, that no abortion can be performed on a married woman without her husband's consent or on a minor without parental consent. Amniocentesis is prohibited altogether as a method of performing abortion. All kinds of records are required. The request for abortion must be in writing, accompanied by a statement by the woman who made the request that if a live child is born she relinquishes all rights to that child. The law was held constitutional by a 3 judge federal court in St. Louis. A young attorney who has been working on the Edelin case here in Boston went directly to the United States Supreme Court to get an order prohibiting Missouri from enforcing the law until after the Supreme Court had heard the case, and the Supreme Court did issue a restraining order suspending the operation of the law.

In the 1973 abortion decisions the Court left open the question of whether husband's or parents' consent could be required to an abortion. Since then a number of statutes involving that question have come before other courts and with one or two minor exceptions it is always been held that requiring parents' consent for an abortion of a minor, or husband's consent for abortion of his wife is unconstitutional.

Now I want to spend a few minutes on sterilization. Sterilization as a method of family planning in this country has a very different legal background from either contraception or abortion. Sterilization was really not much in people's thoughts until the 1920s or thereabouts, when a lot of attention began to be paid to the whole science of eugenics. It was

thought by some that diseases, criminal tendencies, mental retardation, etc., were inheritable characteristics which could be prevented by sterilizing the people who had them. It got completely out of hand. In one midwestern legislature a bill was introduced into one house which provided that chicken stealing was a hereditary crime and that anybody guilty of chicken stealing should be sterilized. The bill did not go through but that gives you an idea of what kind of thinking there was. Even now some 20 odd states have compulsory sterilization statutes, affecting people in mental institutions primarily. In Oregon the law provided that anyone likely to become a public charge could be forcibly sterilized if certain required approvals were obtained. I believe all these statutes are unconstitutional, and I hope that there will be an occasion for the United States Supreme Court to so hold. The Supreme Court has passed on sterilization statutes twice. The first time the Court upheld the validity of a Virginia compulsory sterilization statute. In the second case the Court held unconstitutional an Oklahoma statute not on right of privacy grounds but on the ground it denied equal protection of the law. A few states including some of the states which have compulsory sterilization laws would not allow people to choose voluntary sterilization. There were some years ago five states where voluntary sterilization was legal only for persons of medical necessity. However, this is no longer true, you can now choose voluntary sterilization in all the 50 states of the United States. A few southern states have requirements that have to do with such procedural formalities as waiting periods, consent of the husband and the like.

The whole subject of sterilization has come to the fore because of the Alabama cases, which were brought two summers ago. Two teen-age sisters had come to a family planning clinic not under Planned Parenthood. Their mother made an "x" signifying her consent to the procedure (she was illiterate). Some testimony indicated that the two girls had also consented. It appeared that they thought it was just a temporary thing. In any event the two girls were sterilized. This came to the attention of some of the civil rights groups and it became a front page story. As a result, the Federal Department of Health, Education and Welfare issued new guidelines, designed to prevent this kind of case. A federal court in the District of Columbia did not think that the guidelines were strict enough and held them unconstitutional. Under the temporary guidelines (in effect now) minors and incompetents cannot be sterilized at all with federal funds. Competent adults can, but they must be told they don't have to, that no federal benefit depends on their being sterilized, etc.

A couple of years ago, I attended an international conference on voluntary sterilization (the second such international conference) in Geneva, which is the base of the World Health Organization. And I would say there were representatives of most of the countries of the world. (There was supposed to be a representative from Mainland China, but he did not come, and a Japanese who had travelled extensively in China covered China.) A French woman lawyer who had been very active in the abortion and birth control movements in France and I were the co-chairmen of the legal workshop. The workshop developed a voluntary sterilization model statute. Subsequently,

I was invited to be on a task force on this subject by the Department of Health, Education and Welfare, whose final guidelines the Geneva draft may influence. In a way, we are faced with a very ridiculous situation in the United States as to sterilization. On the one hand, the poor and underprivileged have had great difficulty getting sterilization voluntarily and at the same time sterilization has been forced on others which doesn't make a pleasant chapter in American history. The rule used to be at various hospitals in which the poor depended for their medical care that the age of a woman times the number of children she had had to equal 120 in order for her to be able to obtain a voluntary sterilization. In other words if she was 40 years old and had 3 children she would be entitled to sterilization, but if she was 40 years old and only had 2 children, she could not. If she was 30 years old and had 4 children, then again she was entitled to be sterilized. Also, some doctors were scared to do sterilizations, because they learned in medical school something that isn't so and which was never taught in law school, namely, that performing a sterilization on someone who is competent and who asks for it might be considered an instance of the ancient common law crime, which exists in the laws of most countries under one name or another--"maiming" in English common law, or mayhem. It was defined originally to apply when a person deliberately injured himself or another person "in a manner which would interfere with that person's service to the King." It is difficult to see how voluntary sterilization in the US could be considered mayhem, and it never has been.

Nonetheless, doctors I would meet in groups or who would be on panels with me would frequently express concern about mayhem, despite the fact that the lawyers have had no such concern.

The last thing that I want to talk about is the question of medical and health services for persons under the age of majority. And I'm a little reluctant about doing it, because those of you who are not primarily interested in the United States may not have these problems. I remember that in Hong Kong I was told that the problem did not exist. I didn't gather that it existed in Japan either. It does exist in some of the Western European countries. Also in the Caribbean it is a problem. In this context, we come up against a whole different collection of legal principles which I think are common to many countries. Here, we are not primarily talking about laws which deal with birth control or abortion or sterilization; we are talking about laws which define what rights people under the age of majority have, if any. It is very important in this country for there are today many young people who are, in fact, making most of the decisions affecting their lives, even though legally they may not do so until they reach the age of majority, which in most states is now 18. Yet, the fact is that certainly in the sex field, in the drug field, in the field of mental illness, many minors are coping by themselves. Many of them are not getting medical attention, because they won't ask for parental consent.

The tradition in England and America about minors is that they have even fewer rights than women used to have. Women had very few rights 100 years ago. I remember reading in law school that they had a right not to

be beaten by their husbands with a stick thicker than their husband's thumb, which never struck me as a very substantial right,but maybe it helped. However, children had virtually no rights at all. They were considered the property of their parents. Indeed, in the early days of Anglo-American law, parents were not responsible even if they hurt their children, because the children were their property. Eventually, the governments began to take an interest in what happened to children so that parents ceased to have total power, and in effect the rights of children were determined by the parents, and the state. It is hard to believe that until about ten years ago it had never (as far as I know and as far as other people who studied the subject know) been held that young people had any constitutional rights at all. It was true that if parents grossly misued a child, such an abuse might be a violation of the criminal law of the state, but as far as children having any rights themselves, it was thought that their rights could be exercised by their parents. However, the American Civil Liberties Union brought a case to the United States Supreme Court having to do with the rights of children accused of crime. In our system if an adult is accused of crime, he has the right to bring charges, to remain silent, etc., etc. Children were never given these rights. In the now famous Gault case, the Supreme Court held that at least some of these rights must belong to juveniles in court as these applied to adults in court. Since then there have been a number of other cases involving the rights of juveniles.

A very interesting situation arose during the Vietnam War, when three teen-agers went to school wearing black armbands that signified their disapproval of the war. It was not alleged by anybody that they had created any public disturbance or interfered with the functioning of the school. The children, backed by their parents, refused to remove the armbands and were suspended from school. A case was brought by the American Civil Liberties Union, which went all the way to the United States Supreme Court. That Court held for the first time that children are not second-class citizens, that they have constitutional rights. The court considered that their constitutional rights of free expression had been abridged in this case. The Court did say, had there been evidence of disruption of the school, there might have been a different decision. However, since they were exercising their simple constitutionally guaranteed rights of freedom of speech and expression, they could wear their armbands and they couldn't be thrown out of school. Most recently, the Court has held that children cannot be suspended from school without notice and a hearing in advance to tell them what the charges are against them and giving them an opportunity to defend themselves.

On the health front, which is the front we are primarily interested in here, when I tell you that 52,000 youngsters in New York State under the age of 19 were pregnant in 1973, that's a rather alarming figure, and that's only New York State.

Student: Married or unmarried?

Mrs. Pilpel: Both, but mostly unmarried. The Common Law was that medical services could not be rendered to persons under the age of majority without the consent of the parnets or the guardian. But of that rule you can say that it isn't what it used to be and, in fact, it never was. It never was because there were always established exceptions. One exception was emergency. There was another exception for emancipated minors, which was generally defined in terms of marriage. In some states a minor who had been pregnant and a minor who was a parent would be considered emancipated. In some states, a minor who lived separate or apart from his or her parents and made major decisions affecting his or her own life might be considered emancipated. More recently, and this is an example of judge-made law which is very interesting, the courts began to talk about an exception from parental consent requirements for the "mature minor." The mature minor was defined as a minor who understands his health needs and the nature of the services requested and that such services must be for his benefit.

Some states have now adopted this rule in legislation. While this general development about health services was taking place, a very interesting trend developed with regard to venereal disease. When I first investigated this question about eight years ago, venereal disease was beginning to be recognized as a major health problem. At that time, something like ten states had laws which provided that venereal disease diagnosis and treatment could be rendered by physicians to minors without parental consent. That a very "radical" organization, the American Medical Association, was in effect urging civil disobedience in other states, urging the treatment of minors without the consent of parents; that there is an epidemic of venereal disease going on in this country and that a physician's duty is to treat it whenever he finds it, even though reasonably certain of being arrested or prosecuted if he does it. I guess the American Medical Association did not feel comfortable in this situation of at least apparent civil disobedience. The result is that today all states have state statutes which provide that a minor can be treated for venereal disease by a physician without parental consent.

A few states further provide that the physician may or must report to the parents subsequently. I would surmise that in those states minors are less apt to consult physicians even if they fear they have a venereal disease. In most states there is nothing said about parental consent at all in the venereal disease statute.

Venereal disease is indeed an epidemic but in many places teen-age pregnancies are even more of an epidemic. In New York, for example, the incidence of teen-age pregnancy is eight times that of teen-age venereal disease.

Apparently, many people feel strongly about abortion without parental consent. On the other hand, the state health department of New York State at one time was taking the position that they would do abortions on persons under 18 without parental consent, because they presented an emergency.

At the same time the Department did not authorize family planning services to anybody under 18 without such consent because they had not yet become an emergency. The first time I heard this said I thought it was a joke, but it was not. Two of my colleagues and I just authored an article published in New York Law Journal, with reference to contraceptive services to minors in New York, which takes the position that minors in New York State are entitled to abortion and family planning services without parental consent. Since its appearance, the New York State Department of Health has announced that it will make family planning services available to minors without parental consent.

I believe it will not be long now before all 50 states accept minors rights to family planning services and abortion without parental consent. Ideally, safe and effective contraceptives will be so generally available that abortion will no longer be necessary.

READING MATERIAL

Lee, International Status of Abortion Legalization, Law and Population Monograph Series No. 16.

Stepan and Kellogg, The World's Laws on Voluntary Sterilization for Family Planning Purposes, Law and Population Monograph Series No. 8.

Stepan and Kellogg, The World's Laws on Contraceptives, Law and Population Monograph Series No. 17.

SEMINAR ON LAW AND POPULATION:

LECTURE BY DR. MALCOLM POTTS

I suspect that there are two types of lawyers just as there are two sorts of doctors. There are those people, like Moses, who want to inscribe laws on tables of stones and ascribe them to God, on the principle that they are never going to be changed. And there are those like the people who wrote the American Constitution, who were to spell out a creative set of philosophies which could respond and adapt to change.

Among physicians there are those, particularly in the field of curative medicine, who are very hierarchical. Although they may adopt new treatment they never expect the face of medicine to change. By contrast, there are those in the public health and preventive medicine field who see the statistical as well as the individual problems that face the world and who are eager for innovation.

In the field of population and family planning, doctors have an uneven record; sometimes they have been very courageous while at other times they have blocked progress. In my opinion, at the present moment doctors are probably more of a retarding mechanism in family planning than they are creative ones. Interestingly, the legal profession has done some remarkably exciting things in the field of family planning over the past few years. No single step in medicine has been as important as the Supreme Court judgment in January 1973 striking down the Texas and Georgia statutes on abortion as unconstitutional. It was a remarkable achievement for a group of men with a mean age group of mid-60s and profoundly different from anything that the medical profession has achieved, or is likely to achieve.

This is not a comprehensive survey, but highlights some areas where the law can be creative and where opportunities exist for forwarding the basic human right that all adults should have access to means to control their fertility. Unfortunately, physicians sometimes find themselves navigating the ship of legislation in medical matters. The medical profession tends to say it is expert in this and therefore dictates the course to be followed. Therefore, I want to touch on a few of the technical aspects of family planning where professional opinions are not unanimous.

A. Age of Marriage:

Statute law relating to family planning is defective in a number of ways. The legal profession has an opportunity both by changing laws at the high level and by undertaking the review of certain points of detail to create a better, healthier and happier world. Existing government family planning programs, especially in developing countries, have omitted to deal with some of the key biological variables in human fertility, and interesting opportunities for legislation exist.

The first relates to the age of marriage. The age of marriage is an important variable, both in relation to a nation's birth rate and in relation to sort of status and dignity that individual women may achieve in their lives. Relatively few countries have made a consistent effort to raise the age of marriage. Only the Chinese appear to have been successful. They have even put the social ideal beyond the legally defined minimum. The latter is now in the low 20s for both men and women, and the former was the mid-20s. Age of marriage has been a very important variable in fertility, particularly in the pre-industrial Europe. Marriage patterns can be recovered from the parish records of churches in England and France. In 16th and 17th centuries the mean age of marriage for women was sometimes the late 20s and, on a few occasions, after a bad harvest or other economic calamity, the mean age of marriage of women sometimes rose to 30, when they were often marrying men who were a few years younger. By contrast, the mean age of marriage in some Asian countries is probably at the 15 or 16 year old level.

Lawyers always like cases rather than statistics. I would like to retell a conversation I had not long ago in the Philippines with a girl who had been married at the age of 14. She had a Catholic mother and a Moslem father. I went back patiently through all the things that had happened to her. She menstruated at the age of 12. She was bathing in the river when blood came and she was frightened. Her mother was already dead so she had nobody to ask. She stood up for the rest of the day and thought some disease had struck her. She was a bright girl and went to the village school. On one or two occasions in a highly innocent way she held hands and kissed her boy friend behind a banana tree in the back of the school. Her boy friend was 14 and just as innocent as she was. They didn't really know the facts of life. But he wrote her an affectionate letter which her father discovered among her school books. It was a Tuesday. Her father said, "You will be married on Sunday." The girl recalls it being "like a film." She was asked to play a role and she did not understand it. She told her father that she didn't want to get married but her father wouldn'nt listen. A wedding dress appeared and on Sunday some older relatives came. She was taken in a closed carriage to a mosque, went in there and saw her husband for the first time in her life. He was 16. I asked what her feelings were and she said, "Well, the first thing that I noticed was that he was shorter than me." She was totally bewildered. At home there was a small party for the adults but she didn't know what was going to happen. In fact, nothing did happen. Her husband got slightly drunk on coconut wine, so she retired to her room and did her homework. And next Monday she went to school and said, "I got married yesterday." Her friends laughed at her. No effort was made to consumate the marriage for some weeks after this. Eventually, the boy tried but she was petrified and screamed and her father could hear the quarrel. The father said, "Unless you please your husband, I will put you out of the house." This is the most threatening thing you can say to a girl in a traditional society. After a while she learnt some of the mechanics of sex, but even when she got pregnant she did not recognize what had happened. It was her father who told her.

It is very difficult to recover from marriage at such a young age. Many of the girls that I have spoken to from the developing countries describe their wedding nights as rape. It is hard to establish a dignified human relationship later. To raise the age of marriage is a social as well as a legal problem. There is no point in raising laws above what society will tolerate. In a country like India there is no way of enforcing legislation, so the age of marriage is one of the numerous cases where the law must go parallel or slightly ahead of social change.

B. Role of Contraception:

I want to make a point about human reproduction which I find is not much appreciated by many people in the field of family planning. Consider a woman who begins regular intercourse at a moment in time and does nothing to control her fertility. On an average, it takes three to six cycles to become pregnant. Pregnancy lasts nine months in the case of a live birth and breast feeding can last one to two years, especially in a poor country. In the western world, very few women breast feed and among those who do, their periods return after six to twelve months. In a country like Bangladesh, a woman may not begin to ovulate for much longer. Once ovulation returns, the woman is at risk of pregnancy. Breast feeding is the prime natural variable in spacing human pregnancies. Rosa, in UNFPA, has calculated that at the present moment all of the family planning programs in the world may avert about 24 million births, whereas breast feeding averts about 36 million.

Artificial feeding has several disadvantages. For example, in the Philippines they spend $13 million a year on artificial food for babies. Wherever I go in the developing world I see aggressive advertisement in the hospitals and in the streets promoting artificial feeding, which is given an image of being western, up-to-date and convenient. It is none of these things. The milk that is imported is a drain on foreign exchange reserves; the people buying it cannot afford it so they dilute it more than they should. It is mixed with dirty water so children get sick and some die, so there is an increase in infant mortality and the birth interval is shortened, as has occurred in the urban areas of West Africa.

Artificial milk is an area where, in my opinion, there should be some active legislation banning certain types of advertisement and activity. Medically, there are a few exceptional situations when women need to artificially feed babies, but it would be reasonable in developing countries to ban all forms of advertisement for artificial milk and supply it on prescription or make it available in an exceptionally confined situation.

C. Abortion and Contraception:

The age of marriage and breast feeding are examples of areas which are normally left out of thinking of most family planning programs yet are important. There are other variables in fertility control which family planning programs have omitted often but where the law may be more realistic than medical practice.

Consider a woman who begins regular sexual intercourse at a moment in time but, instead of having a live birth, she has an abortion. It takes the same amount of time to get pregnant, but she is pregnant for a shorter period of time and there may be only one month before she is at risk of pregnancy again. Thus, it is possible to fit more abortions into a unit of time than live births. There may be two or three, or even four abortions in the same length of time as it takes for the birth of a baby followed by an interval of breast feeding.

Society of the individual can achieve any goal it wants to with abortion, but without contraception it is an expensive method of fertility control in terms of health and professional services.

Abortion is an essential element in human fertility control. Abortion is essential because even the best contraceptives are not taps which turn human fertility on and off. All contraceptives have a failure rate. A contraceptive is really a mechanism for extending the length of time it takes to become pregnant. We normally think of contraceptive failure rates as the number of women getting pregnant each year among 100 users. But, put another way to interpret failure rates, is to say that if a couple do not use a contraceptive it will take three to six months for the woman to become pregnant; if they use an IUD it may take ten years to become pregnant, but in the end there is a statistical probability of pregnancy. So it is useful to regard contraceptives as a means to extend the length of time which it takes to get pregnant.

Two other things follow. One: even a poor method of contraception can change the length of time taken to conceive from three to six months to a couple of years. In this latter situation, whether the woman has an abortion or a term delivery, the length of time which it takes to achieve these things is now similar. It no longer takes several abortions to avert one delivery. The combination of abortion contraception is the combination which all human communities have always used to control their fertility. There are relatively few people who go through life relying entirely on contraceptives, whether abortions are legal or illegal.

C. Sterilization:

The final option is for a couple to have the children they want and then for one partner to accept sterilization. If people get married at the age of 20, they may have 25 years of fertile life when they must control their fertility. If they set the goal of two or three children, as in the western industrialized world, then they usually achieve this family size by their late 20s. There is no available method of contraception which allows a community as a whole to control its fertility for those remaining fifteen to twenty years of fertile life, with the predictability that people now expect to achieve. It is a disservice and a fiction to imagine contraception alone controls human fertility. It never has before and it will not in the foreseeable future. All human fertility is controlled, at a community level, by a combination of contraception

and abortion or with the help of sterilization.

D. Non-Clinical Methods:

Many doctors working in family planning emphasize relatively effective methods of contraception, such as the pill and IUD. I think it is a grave mistake that we do not look at simpler methods, such as condoms, more carefully. In the UK, the pill has only just overtaken the condom as the single most widely used method. In Japan, 70% of all contraceptive use involves condoms.

There are a number of ways in which the manufacturing and distribution of contraceptives relates to the law. There can be straight legal situations, such as in Ireland, where you may not sell or distribute contraceptives. There are certain situations where they fall under the law of obscenity and other situations where the kind of places selling condoms are controlled. For example in New York State* the sale of condoms is restricted to pharmacies, which is an unnecessary limitation. One of the first principles of family planning is that you want to make contraceptives as readily available as possible, because the people who are most vulnerable in the society to pregnancies are usually the people who need to get things most easily. It is a totally unnecessary and destructive piece of legislation to require that condoms be sold only in pharmacies, especially as anyone can go to 42nd Street and buy condoms as fancy goods! Yet if you sell the same object as a contraceptive, it is illegal.

I think it is true to say that the barbers in the United Kingdom (who are important outlets for condoms) probably prevent more pregnancies than all those specialist gynecologists put together. They are an excellent and convenient source of contraceptives. They are an example of how a society, given the freedom of action, can evolve very appropriate retail outlets for contraceptives. A man visits the barber at about the right frequency that he needs to get condoms. A barber shop has the right sexual connotations with Playboy and Mayfair magazines lying about. It is for men only. When the British barber finishes cutting your hair, he says, "Do you need anything else, Sir?" Thus, his way of saying, "Do you want condoms?" and the customer then has to say "Yes, please" or "No, thank you." This is an excellent way to dispense contraceptives because you help the customer over any embarassment. If a man has to go into a shop to buy contraceptives and finds a girl behind the counter, he may come out with a tube of toothpaste--and that night his girl friend gets pregnant.

* A recent case involving Population Planning (PS1) and York York State has concluded this restriction is unconstitutional.

The law is important. For example, Sweden has a tradition of being sexually liberal, yet the law relating to vending machines and condoms says that they must not be put in places where they can be easily seen, which is a negation of anything to do with promotion. India has a tax on imported contraceptives and yet it is spending millions of dollars on national family planning. There are often by-laws which control vending machines and condoms.

There are also specialized areas of legislation which affect the cost of contraceptives. Condoms and oral contraceptives are products of a very capital intensive industry. Condoms are made on very long machines with formers that dip into the latex. It is a highly automated industry and one machine makes millions of condoms. In Thailand, a relatively small primitive condom machine was able to make in a few weeks all the condoms sold each year. The company would have failed financially if they had not discovered another outlet for their rubber goods.

A lot of countries have legislation which encourages local industry and this is part of economic development. But it is counterproductive in the case of contraceptives because once you split up the industry you tend to put up prices. For example, in Brazil the cost of oral contraceptives is 2 or 3 times the price at which they can be purchased on the international market, because of their local product. You could make all the world's contraceptives in a couple of buildings as big as a jumbo jet Ranger.

The pill is one of the greatest inventions of the twentieth century. In developing countries the key factor in relation to pill availability is whether it is prescribed by a doctor or is sold like a condom. As long as it is on medical prescription, it cannot be distributed in any realistic way in developing countries.

I want to outline some of the decisions that have to be made in relation to oral contraceptives concerning patents and supervision, because this is an area where there is a good deal of legislation. There is legislation which regulates who and what a doctor is and what he does. Sometimes there is a system of delegated legislation, as in Britain with the General Medical Council. At several steps in the process the law and the method by which oral contraceptives should be distributed are related to one another. They are also related to one another in the developed world in relation to the law of tort and contract, because if a sufficient number of cases are carried against manufacturers in relation to adverse side effects of oral contraceptives, then it is possible that they might stop making them.

One has to look again at the logical steps that control decisions made about any drug. Unfortunately, it is logically impossible to prove that a drug is safe, until a lot of human beings have used it for a long time. This is a statement of scientific fact but one which it may be difficult for lawyers to deal with. The law deals in black and white, yes or no, guilty or not guilty. Drugs are never guilty or not guilty. The only question that can be answered at the end of a prolonged period of drug trials in animals and a small group of human volunteers is, "On the evidence available is it responsible to make

this drug available?" By definition, preliminary trials cannot discover whether a drug has any rare side effects. And the story of thromboembolism related to the pill is a classic example of this problem. This is a condition which is fatal in 1 in 100,000 people. It is not predictable in advance. The hard fact is that you must give the pill to at least a million people before you can even suspect the disease and perhaps to 10 million before you can measure the mortality rate. There was no way out of this situation. But when such a side effect is discovered, two questions can be asked: "Is the side effect which I have now proved to exist of grave concern and should I stop using the drug, or do the advantages of the drug outweigh the negative side effect?" Secondly, physicians must ask, "Is there any way of screening out those people in the population who may be at risk for the side effect?" Now in relation to the pill the consensus is that advantages outweigh the disadvantages and the medical fact is that you cannot screen out those people who may be at risk for serious side effects. It is very important, both medically and legally, not to ask unanswerable questions. We need to develop machinery which protests the consumer to the maximum within the logical constraints of research and development. As a personal opinion, I think that if somebody has a serious effect from a drug, society has some responsibility to that person, either to compensate them through an insurance system, national health services, or through understandable and acceptable methods of recompense under the law or tort. At the same time, we must take care not to develop a system which prevents the reasonable development of new drugs. This situation is now arising in the US. The investment required to get new drugs through FDA is of such a magnitude that manufacturers are reluctant to follow up promising discoveries. It is said that if we had had the statutory relations in the 1950s that now exist in the 1970s the pill would never have been introduced. Even penicillin might not now pass present FDA requirements.

In case of the pill there are important advantages to the individual woman, not related to the control of fertility which probably, of themselves, outweigh the disadvantages. From the point of view of risk of life, the most dramatic one is that if you use the pill you have less chance of being admitted to hospital with a lump in the breast. Breast cancer kills 1 in 18 women in the US. It is a disease which is directly correlated to the age when you have your first pregnancy. There are biological reasons for thinking, as well as the factual evidence which we now have, for believing that the pill may prevent breast cancer.

To return to pill distribution. In a country like Kenya there are 800 hospitals, health centers and dispensaries. At the present moment contraceptives are made available in those places, but we know that most people who attend any sort of health facility live close by. This is just a fact of life. So, in practice, these health faciliites are accessible to a fraction of the population. In Kenya there are more than 20,000 retail stores which people can go to. Everybody in every country of the world has access to a village store, but very few people have access to family planning clinics. Today contraceptives are not available to the bulk of the world's population. Yet a great deal of of nonsense is written about motivation and about people not wanting contraceptives. The real problem is that contraceptives are not available in ways that are economically and geographically acceptable.

When contraceptives are taken out of the hands of clinics and put into the hands of society, dramatic things happen. In Iran the pill was given to a group of women and after six months only, 12% continued to use it. Then a psychologist came along and gave the pill to the husbands and told the husbands, "You're a strong man, you make decisions, you are clever, your wives are stupid. Make sure they take the pill every day." By playing on their chauvinism, the psychologist found that at the end of six months, when the pill was given to husbands, 93% of the wives continued to take it.

The need for what I have called community-based methods of contraceptive distribution cannot be emphasized too strongly. There are 5,000 Thai doctors, 2,000 of these doctors are practicing in the US, 2,000 in the city of Bangkok, 1,000 look after the rest of the country, and of these 154 actually live in the villages where 30 million people reside. There are more doctors from India practicing in England than there are practicing in all the rural health centers in India. As long as lawyers blindly uphold medical trade unionism, we cannot extend meaningful health care, let alone family planning, to the poor of the developing world. We must have the freedom to delegate things. In Bangladesh a totally illiterate woman has been trained to do caporotomies and sterilize women. The doctor in the area has done about 70 operations and she has done about 70 operations and each group had one person who was ill enough to stay over night in hospital. You can train people to do a number of remarkable things.

I think it is an act of immorality that doctors are still involved in routine methods of contraception. They should be there to supervise people who have problems. The problem is a universal one: in India everybody is so poor that they cannot afford health care; in the USA health care is so expensive no one can afford it.

One of the greatest restraints on doctors delegating pill distribution in the USA stems from possible medico-legal consequences. Doctors and lawyers together are rapidly building a practice of medicine which is counter to the interest of the society. Important changes have got to be introduced which will secure the rights of the consumer, which I do believe is immensely important, without getting into the situation which we now have where many people who receive medical treatment in the US are overtreated due to medical legal requirements. The need to delegate family planning procedures was vivdly brought home to me last year. I was in Phnom Phen. It was besieged and you could lie awake at night in a hotel and hear the guns; two or three rockets a day arriving in the city. In this situation I was tremendously impressed and moved to find doctors who were dedicated to providing family planning. I also found that, with exception, nobody wanted to have a baby until the war was over. Yet the old French law was operative and contraception illegal. I found myself taken to the two big hospitals in Phnom Phen, one built by the Russians and one by the Americans. In the first there were wounded people arriving about every half-hour. Every corner of the hospital was filled with the wounded along with their families. They had run out of X-ray plates and

they had run out of stainless steel pins for repairing fractures. I went into the operating theater and there was a woman on the table who had just had a hysterectomy because she had had a badly done criminal abortion. She was still in the operating theater because they did not know where to put her. Next day I found a doctor supported by two or three midwives running a family planning clinic and writing out pill prescriptions. There were a million ways they could have used their skills more fruitfully if they had delegated the simple task of pill distribution to any available person. It would be unfair to criticize the Cambodians, whose courage I deeply appreciate, but it is disappointing that western medicine has so impressed the dangers of the pill upon people that doctors should let wounded people die because they're writing pill prescriptions. The US and UK have been the prime creators of medical nonsense around the world.

The fundamental problem facing the doctors is one that lawyers need to appreciate: it is that by our training we are diagnosticians. Most of the doctor's training is involved with how to discover what disease a person has and then moving on to treatment. Family planning presents doctors with a problem: it does not concern patients, and people are not "ill;"instead someone makes her own diagnosis by saying, "I'm fertile and I don't want to be pregnant." The whole of a doctor's status and the raison d'etre for his training is taken away from him. The magician's power is removed. A person comes along and says, "I want an abortion, sterilization, or I want to use the condom or the pill." The physician becomes a technician, like the person at the gas station that fills up the tanks. This is the real challenge of family planning to doctors. Many doctors do not like to live in this kind of world. Personally, I'm not ashamed to regard myself as a complicated plumber. I think in nearly everything in family planning from sterilization to abortion the consumer knows best. There are relatively few situations where technical legal competence may override the choice of the woman or man.

In the case of abortion, weighty additional problems are involved and doctors and lawyers have a complicated task of writing intelligent laws. Personally, I cannot go to the women's liberation extreme of accepting it as purely a woman's right to decide on terminating pregnancy, although I admit she is better placed than anyone else to weigh the foetus involved.

In a way, the current abortion debate is something like wars of religion in the sixteenth century when two groups of Christians felt that each knew the only way to salvation. For 100 years they fought and mutilated each other, until they eventually decided that tolerance is a virtue. At the present moment we have two groups of discussants in relation to abortion: one group says that the woman has total right over her body and another group supports the inviolate sanctity of human life. I believe we will discover that tolerance is a virtue in this situation as well. The US Supreme Court decision defines the limits of that tolerance and is a remarkable and creative judgment.

In the world of population and family planning, the key changes in the past years have often come from lawyers. In particular, the changes in abortion laws, which have been accomplished in Europe and in North America and have been one of the major factors that has contributed to the current approach to zero population growth in both the US and the UK. In allowing individual couples to achieve their fertility goals with the maximum accuracy and dignity, we need the maximum symbiosis of medical and legal skills.

Lee: Thank you. Before opening the floor to discussion I want to call on Dr. Morgan, who has spent a few years in Nigeria working in a hospital there and was concerned with the African method of family planning using the traditional methods. I think you made a number of statements in Accra to the effect that the indigenous methods of family planning could be more fully explored rather than the western method. Could you elaborate on that?

Dr. Morgan: Yes, we found that several methods of traditional contraception were being used in Nigeria. They were very hard to study, some of them were dispensed by the native doctors who didn't want to give away their secrets. But one of the things that they were giving away was this kind of horrible looking black grease that in effect was spermicide, which we could never find out out whether it was in fact too effective or not. The other thing that seemed to work was these kinds of charms. There was a ring, which a doctor in Lagos would gladly show you and to prevent pregnancy he would bring out that little ring which goes up the girl's finger and along with payment by her boy friend of 5 guineas and appropriate ritual they are assured that this is effective. Now I don't know if there is a psychic element to fertility or complete faith in the doctor and one thinks that one has got something that prevents fertility like the ring was supposed to.

The other method is, of course, the traditional absence while baby is being breast fed. I don't know how much everybody is aware of this. I don't know how prevalent it is outside of West Africa, but in West Africa while a child is being breast fed it is illegal to get pregnant bedause this poisons the breast milk and the existing child may die. This is one of the existing reasons for the very high level of traditional worships that are carried out in West Africa, because every woman wants to have as many children as she can, and yet there are a lot of abortions and so this may be a reason. Now what is happening is that our friends, Nestle and Company, with powdered milk have come along and, in addition to other risks of powdered milk that you may have heard about--the bottles aren't sterilized, the mothers discover that they can get pregnant without waiting the usual three years because they aren't giving the child the milk of their own breast, it is somebody else who is taking care of the milk. A Nigerian did research on this and found a significantly higher fertility in Nigerian towns and he attributed this to Nestle and other milk manufacturers.

Lee: Back to your story earlier about the Philippines and on ignorance about marriage. In 1972, the Mayor of Cagayan de Oro and I were trying to start up a model city project. Among the programs we planned was a municipal ordinance requiring all couples planning to get married to obtain during the ten days waiting period family planning counselling and a certificate to this effect. Only with this kind of certificate could they receive a marriage license. I got a letter yesterday from the Secretary of Social Welfare of the Philippines telling me that as of September of last year 229 municipal governments in the Philippines already had enacted this type of ordinance. A draft instruction is being prepared for the President to sign so that it can become a nation-wide law in that country.

Potts: I think that's magnificent. I was telling the story of this girl in the Philippines. She was 16 when she had intercourse and she became pregnant. So I asked what did she do once her father told her she was pregnant. She said, "I tried to get an abortion." So I said, "Look, you just said you didn't know what menstruation was, you didn't know you were pregnant, how did you know about abortions?" She said that village midwives delivered babies and they would do massage, which is a way of doing a bi-manual examination and squeezing the uterus very hard. Most developing countries have access to people who use traditional methods of abortion, often without payment, as a part of their service to the village. The girl knew about this, but her father decided she was going to have the baby. She was scared stiff of the pregnancy and wanted to get rid of it. She also knew, and again gave perfectly valid explanations for how she knew, that there was a local doctor about twenty miles away who would do abortions for 80 pesos. Again, she could not obtain an abortion because of the social pressures from an older generation. Her father set people to watch her. Following her pregnancy at 16, she then resisted intercourse and only had coitus three times in the next eighteen months and got pregnant again. She again tried for an abortion and failed. I believe that people in the developing world want to control their fertility..

There is in the middle of Manila the most prestigious Roman Catholic Church called the Quiapo. Every Sunday morning during the singing of Mass the Cathedral is full. Outside around the Cathedral are about forty stalls in front of which hang pictures of Christ and the Virgin Mary and there are a lot of candles. And in between there are various vegetables and some beer bottles full of a black liquid which is the local abortifacient. The saleslady sells about twenty bottles to people going to Mass. This is a sort of nonsense world we live in. Here is something that is supposed to be against religion, against the statute of the country, which either does not work or is dangerous, and which is literally nailed on to the major church in Manila. The important thing is that all over the world we have traditional healers, herb doctors, people who have all the access to society and would get contraceptives around if we allowed them. One step we need to take is to replace these ineffective or moderately dangerous things with modern pills or condoms there and yet keep the same trusted and demonstrably successful outlets.

Lee: There is a conflict of interest involved and I wonder how you would resolve this. Let us say that a midwife has been making a living by delivering babies. Now there is a project in the Philippines which is to get the traditional midwives to go into family planning. Now the more family planning becomes successful, the less income the midwives will get. How would you deal with that?

Potts: Well, most of the traditional midwives are close to their community and they have seen and experienced what a lot of children means, or they wouldn't, for example, offer the traditional abortion system. I think they need a reward and I would say that in nearly all the communities with any kind of cash economy people can sell contraceptives and can get immediate reward. In Thailand, we have a scheme in about sixty villages and in eleven months we got about 2,000 people taking the pill. It is not sold for the usual $2 or $3 price, but at 25 cents. The last person in the line keeps a 20% profit. Contraceptives are put into the distribution line free of charge. The community helps devise its own mark ups and choose prices which are meaningful to the community.

Student: I appreciate what you're saying, but I've also been in a hospital and have great fear of the drug culture. It seems, like you said, that you have to experiment with drugs for many years and then give them to people, but yet how do you compensate them if something goes wrong?

Potts: Either I stop all new therapeutic advances and say that we have no further advances, or I take a risk. It is a risk we must all appreciate. There is no alternative. There is no way of proving a drug safe until it has been used by millions of people for generations.

Student: You pointed out in the article that the risk of dying from getting murdered is greater than the risk of dying from taking the pill in the USA.

Potts: Yes, very considerably. But we are still left with a genuine problem and society must evolve a machinery for dealing with it. First of all, some people do die of the pill, which is a tragedy. But when an individual dies, all we can say is that they were more likely to die because they took the pill. We cannot prove a causal relationship.

Secondly, we are dealing with statistics and we can never do anything about the people who did not die. I mean I can never line up 100 women and say these are the women who didn't die because they took the pill.

I think that the law can ensure that the people are informed of risks. Should it prevent them from taking reasonable risks? I would totally ban smoking; it has risks of such outrageous extent that they are very difficult to verbalize. More men will have died in Britain this century from smoking than in both world wars. Probably more than 100,000 people die every year because of the heart disease and lung cancer that follows smoking. For every woman that may have died of the pill, there are 1,000 people who die because they smoke. I think on grounds of civil liberty people need to be able to make choices involving risks. The believe the right to chose the pill is an essential one: I doubt if it is reasonable to permit smoking.

Student: I was wondering if the people who were more likely to have medical problems from the pill were the people with blood pressure. Isn't that more often in developed countries that people would have high blooc pressure?

Potts: In some developing countries the black population has a lot of hypertension. But some hypertensive people take the pill and have a fall in blood pressure. There was a report by the Royal College of General Practitioners in Britain which studied 23,000 people taking the pill and 23,000 not taking it. It is the biggest study of its sort in the world and took eight years to compile. It states that there is no way of screening out those people who get high blood pressure.

There are certain people such as diabetics who are not good at taking the pill and are not good at having babies. So again, they are in the same mathematical trap because they have got a higher risk of maternal mortality and therefore it is more in their interest to use a really effective method of birth control.

The pill is a modification of nautrally occurring hormones. Biologically, women were designed by nature to be pregnant or breast feeding most of their lives. If you take a row of women in Bangladesh or in West Africa and line them up, the largest single group is breast feeding, the next largest group is pregnant and the smallest group is having menstrual cycles. Such women may have 60 or 70 menstrual cycles in a lifetime. In the present western world a woman may have 250 or more menstrual cycles, which is highly abnormal. There the modern woman is already doing something which is abnormal. We know that breast disease kills one in eighteen American women, yet it is a very rare disease in developing countries. Already women take enormous risks with their lives. Breast cancer is comparatively much less common in Japan than in the US, but the Japanese women who come to Hawaii or California have the American incidence of breast disease after two generations. Therefore, breast cancer is an environmental disease, like lung cancer. I think you can make a very strong case that it may be a more natural situation taking the pill than not taking it, as the hormone balance in women using the pill is more like pregnancy or breast feeding than repeated menstruation. We should certainly disabuse ourselves of the idea that there is anything natural left in this world. Not doing things is also unnatural. I believe the pill is less unnatural than many years of fertile life without pregnancy and lactation.

Student: Is it fair to suggest selling the pill over the counter in developing countries, but not in western countries?

Potts: Last year a group of English doctors published a letter in the British Medical Journal saying that they felt it was responsible for nurses and midwives to be the prime distributors of all contraceptives. It was signed by the President of Royal College of Obstetricians and Gynecologists and by the Noble prize winners. Now the Government has set up a gynecologist post to look at the recommendations. We now have responsible people in important positions

within the medical establishment making a categorical statement that we do not need doctors to distribute oral contraceptives.

I know a nurse practitioner in Pittsburg who does excellent very early abortions. She does a better early abortion than I do, because she does ten to fifteen every week, which I don't do.

Student: I want to say something on that same theme. Now in terms of this country alone before distribution a physician examination is given. Now, do you think that will be necessary in other countries?

Potts: No. I think it is not necessary even in this country. The value of medical examination of pill users is largely fantasy. It does a certain amount of preventive medicine. If we are going to do something we should call it by the proper name. There is no necessary relationship between giving out contraceptives and doing preventive medicine. I do not believe there is much to be gained by doing routine breast examination, because this is a very disappointing disease to cure. There has been no increase in expectation of life for breast cancers over past decades. There has been an increase in the time between diagnosis and death, because diagnosis gets done earlier.

We now have a methodology that everything is curable, and it is somehow or other the doctor's fault if somebody dies of disease. American women, in particular, seem to have a remarkable ability to believe fantasy when that doctor is all powerful. The reality is that his skills are limited.

Lee: In a lot of countries the paramedicals would use a check-list, asking the users of the pill of their medical state. Do you think that can also be extended?

Potts: I think it's a brilliant way of keeping doctors happy. Anything that will keep the doctor happy and will stop them messing things up is to be welcomed and the person who invented that check list is quite honest about this. It doesn't get applied when you get down to village level, but it is a very good political gambit.

Student: I was under the impression that doctors were going away from general practice into specialization because they like to treat exotic individual cases rather than the routine ones. So I would think that dispensing birth control would be considered routine, and isn't there enough demand for doctors that they could earn enough money without doing it?

Potts: I entirely agree with this statement. I can never see what motivates most doctors to want to structure family planning. I never see why they devalue their own skills that they want to go on doing them. I really believe that life is much more exciting if you concentrate on problems. I have been to many family planning clinics and find many bored doctors. I think a bored doctor is a terrible thing. I think if a doctor is bored he is doing the wrong job.

Lee: Let me ask you for a piece of advice. I agree completely with you that one reason why family planning programs never get anywhere in India is partly because Indian Medical Association is so narrow minded and that they require

doctors to prescribe pills or insert IUDs. Now the lawyers would like to do something about this. However, the lawyers in India defer to the judgment of the doctors and the doctors control the Indian Medical Association. Here you have a vicious circle. How do you break out of it?

Potts: There are some countries which have been the light and there are some precedents thatone can look at and probably at the earliest possible stage, at least in India,the lawyers can help a lot by saying exactly what we have got to change. I often find this very difficult to discover, because you are not dealing with grand abortion laws, you are dealing with lots and lots of regulations and statutes, etc., and even in my own country I'm not quite sure who or what thing or animal has to make the decision about giving out pills. Here we are not quite sure which button to press. So I think if the lawyers in all countries can be given the information on which they can make a judgment that this is a genuine problem, then they can look at their own country situation and say this is the button you have to push.

READING MATERIAL

UNITED NATIONS
DEVELOPMENT PROGRAMME

UNITED NATIONS
FUND FOR POPULATION ACTIVITIES

PROGRAMME DES NATIONS UNIES
POUR LE DEVELOPPEMENT

FONDS DES NATIONS UNIES
POUR LES ACTIVITES EN MATIERE DE POPULATION

UNFPA/SLP/TUN/74/5
17-21 June 1974

LAWS REGULATING THE MANUFACTURE AND DISTRIBUTION OF CONTRACEPTIVES

by

D. M. Potts
M.B., B. Chir., Ph.D., D. Obst., R.C.O.G.
International Planned Parenthood Federation

Background Paper prepared for the Symposium on Law and Population
Tunis, 17-21 June 1974

Sponsored by the United Nations Fund for Population Activities and the United Nations, in cooperation with the World Health Organization, International Labour Organization, United Nations Educational, Scientific and Cultural Organization, International Planned Parenthood Federation, and the International Advisory Committee on Population and Law.

269

International Symposium on Law and Population

LAWS REGULATING THE MANUFACTURE AND DISTRIBUTION OF CONTRACEPTIVES

D.M.Potts M.B.,B.Chir.,Ph.D.,D.Obst.R.C.O.G.
IPPF,London

Contents

Introduction
The biology of the reversible methods of contraception
Methods
- a. Coitus interruptus
- b. Prolonged lactation
- c. Rhythm method
- d. Condoms
- e. Spermicides
- f. Intrauterine devices
- g. Steroidal contraceptives
- h. Manufacture

Current legal restrictions
- a. Manufacture
- b. Tariffs and taxes
- c. Distribution, prescription and display
- d. Advertising

The need for change
Ways and means of change
Recommendations.

INTRODUCTION

Family planning is now recognised as a basic human right. It is an ideal well buttressed by the older, universal notions of the right to privacy and the inviobility of the domicile.

In the contemporary world, demographic factors, while philosphically secondary to broad concepts of human rights, have assumed immediate, practical significance. It is gratifying then, that attention to the legal restraints on the distribution of contraceptives is also an important factor in improving family planning services. Family planning has an uphill task in many countries, resources are often in short supply and the elimination of legal barriers to the distribution of contraceptives can often prove a significant variable, where a small investment in human effort can yield a high return.

Laws and regulations controlling the manufacture and distribution of contraceptives are various and difficult to catalogue. Nevertheless, the total range of controlling factors needs to be understood. In the following paper examples are given, but no attempt is made to provide a comprehensive review. The important problem of contraceptive use by minors is discussed elsewhere in this symposium.

THE BIOLOGY OF THE REVERSIBLE METHODS OF CONTRACEPTION

The word contraception, for a series of reasons, is sometimes misused. Here it will describe the reversible methods of contraception which act before implantation of the fertilised egg. This definition allows the inclusion of coitally related methods (eg. hormones which act within 24 to 48 hours of sexual intercourse), but excludes menstrually related methods (eg. the use of prostaglandins or the surgical techniques of "menstrual regulation"). The definition also includes intrauterine devices which may act before <u>or</u> after fertilisation, or before <u>and</u> after fertilisation.

Whenever contraceptive methods are reviewed, it is important to understand the biological function of a contraceptive. Semantically, and in the perception ot of the lay public, a contraceptive is often regarded as a tap turning fertility off and on. Unfortunately, all methods have a measurable failure rate, and none are adequate for the community as a whole to control fertility over a fertile lifetime to within the goals set in modern industrial societies, or sought for in many developing countries. Abortion and sterilization are a necessary part of fertility regulation.

In biological terms, a contraceptive is an agent which extends the length of time it takes to become pregnant. A woman who has regular intercourse, but does not use a contraceptive, requires approximately three to six menstrual cycles to conceive. Even a simple method of contraception greatly extends this time. A very effective method will so reduce the probability of conception that there may be less than one pregnancy in a decade of exposure.

METHODS

a. Coitus interruptus (withdrawal). This remains the majority technique for much of continental Europe, it is significant in Latin America, the Philippines and most Moslem countries, but seems genuinely less common in Hindu and Oriental societies. Many couples achieve low pregnancy rates with its use. In historical terms it has been a significant variable in demographic change.

b. Prolonged Lactation. Calculations in one developing country show that more people are protected against pregnancy by lactation than by the very extensive family planning program.

While lactation does have a contraceptive effect and is often prolonged for this reason, it is difficult to predict when the first ovulation will occur and the woman is vulnerable if she uses no other method towards the expected end of lactation.

c. The Rhythm method (periodic abstinence). Like oral contraceptives and intrauterine devices, there are several

varieties of the rhythm method. Those which attempt to identify when ovulation has occurred and restrict coitus to the days following proven ovulation can achieve a high degree of effectiveness. However, a significant number of women have menstrual cycles of such irregularity that many versions of the method are unsatisfactory. It is also difficult to use during lactation and near puberty and the menopause.

d. Condoms. Consistently used, condoms are an effective method of contraception and have the advantage of not requiring medical supervision. Their use is rising rapidly, especially in the developing world, and outstripping production.

e. Spermicides. A variety of spermicides are available, including tablets, jellies, creams, foams and water soluble plastic films. Some are used alone, others in combination with a mechanical barrier (the diaphragm or cervical cap), which acts as a vehicle to hold the spermicide in relation to the cervix.

f. Intrauterine devices. There are two main types: inert plastic devices and those which have an active chemical or metallic addition to them. They all require a trained person to insert them and therefore, in addition to any regulation of distribution, are associated with problems of medico-legal responsibility.

g. Steroidal contraceptives. A variety of hormone agents will control fertility. They are mostly given by mouth, but some are available as injections and experiments are taking place with subcutaneous implants.

The orally effective agents mostly consist of combinations of oestrogens and progestins, but some progestin only preparations ('mini-pills') have been developed. The combined pills, properly taken, have the lowest failure rate of any reversible contraceptive. Both oestrogen and progestins, in isolation, can prevent embryonic development and implanation when given post-coitally.

When relatively little was known about oral contraceptives

Best Available Document

their use was always supervised by medical practitioners. Today it is thought 45 million women use this method of contraception, experience extends over a decade and a half and good side effects (eg. on breast disease) , as well as bad effects (eg. on thromboembolic disease) have been discovered. It is difficult to predict those women who may suffer side effects and the role of medical prescription of oral contraceptives is under review. It has been withdrawn or modified in some countries (eg Pakistan, Philippines and Thailand). Manufacturers and the dispenser have obligations in tort,as well as statute law,in relation to oral contraceptive The introduction of new pharmacologically active compounds is regulated by drug registration committees in many countries.

h. Manufacture. Spermicides can be made in small quantities with relative ease. Most IUDs are moulded in plastic and, given adequate quality control, relatively small scale local production is possible.

Oral contraceptives and condoms are manufactured by capital intensive processes, requiring a minimum of labour, much of which is highly skilled. Great economies of scale are possible. Conversely, low volume production tends to be associated with moderate to poor quality, especially in the case of condoms. A single condom machine can often more than meet the market potential of a country of tens of millions of inhabitants.

Packaging costs are a large proportion of pill and condom manufacturing costs (often over 50 per cent,in the case of condoms). Packaging is amenable to local, relatively small scale production, which may also have the advantage of meeting local marketing needs.

CURRENT LEGAL RESTRICTIONS

a. Manufacture. The manufacture of contraceptives is only rarely prohibited. Spain (Penal Code Sec. 416) and the Gabon do forbid manufacture, but several countries which are equally, or more conservative, such as Eire, Portugal and Argentina, permit local production.

The manufacture of oral contraceptives is usually controlled

the authorities with delegated powers (Pharmacy Law Sec. 12) do not permit the manufacture of steroidal products for contraceptive purposes. Until recently, certain European countries (eg. Austria) had specific legislation forbidding IUD manufacture.

Sometimes contraceptive manufacture falls under blanket legislation controlling industrial development, as in Iran and Mexico , where there must be a 51 per cent state ownership of any industry.

In addition, there are less obvious, but possibly more important places where the processes of the law influence contraceptive manufacture, especially in relation to steroidal contraceptives. It requires a large investment of money and many years to produce a new, pharmacologically active contraceptive. It can take ten years to conclude all the toxicological tests required before a new product is released for use. Once in widespread use, rare adverse side effects may arise and tort liability can prove costly to the manufacturer.One fact and two questions may help illuminate this important and still evolving area of medico-legal thinking:-

i. It is impossible to discover all possible side effects of a new therapy, until it has been widely used for many years and until at least one generation of children has been born to users

ii. a. What, if any, responsibility does a manufacturer have for an adverse side effect (such as thrombosis) which could not have been predicted when the drug was first used?

ii.b. What, if any, liability does a manufacturer have for known side effects when the user has been warned and and made an informed decision to select the method in question (eg. the pill rather than the diaphragm)?

The law has an important task to perform in sharpening the distinction between negligence and mishap and in protecting the rights of the consumer, without pressing extreme cases which would slow contraceptive development leaving the community using the second best, because the investment for necessary improvement had become unrealistically high.

b. Tariffs and taxes. Price is an important aspect of accesibility of the community to contraceptives, whether sold to the individual in a rich country, or in bulk to a government or international agency.

Even countries with overt family planning policies, such as India, Thailand, Iran and the Philippines, maintain tariffs against the import of contraceptives and/or raw materials. Most developing countries treat contraceptives like any other commodity, although the logistics of manufacture and the relatively modest turnovers relative to the social significance of the end product suggest a special case might be made out. Indonesia took a forward looking step when it abolished the tax on contraceptives in 1971 (Decree Minister of Finance, June 1st).

c. Distributiom, prescription and display.This is an area where attention to detail is essential, for relatively minor restrictions can have a major effect on the consumer:the man who buys a tube of toothpaste, because he is too shy to ask the girl in the pharmacy for a condom is a reality. Regulations, such as those until recently enforced by the Pharmaceutical Society in Britain which literally made the condom an under the counter item, must have caused many unwanted pregnancies. Those most hurt by relatively trivial barriers are often those most in need of help.

A few countries forbid the sale of contraceptives. In Indonesia it is largely that no one has yet repealed an anachronistic, colonial law (Chapter XIV of the Penal Code: Crimes against morals) which forbids the dissemination and display of contraceptives: the government employs approximately 5000 fieldworkers each one of whom is eligible for nine months imprisonment under Article 283 of the Penal Code. In Ireland the law relating to contraception remains the subject of intense political concern. Contraceptives and contraceptive information cannot be sold or promoted under the 1935 Criminal Law Amendment Act and the 1929 and 1946 Censorship Acts. In 1973 the Irish Supreme Court upheld the individuals right to use contraceptives (Mary McGee case), but did not strike down the laws relating to sale. In February 1974 the Irish Family Planning Association and Family Planning Services

Best Available Document

Attorney General, following requests sent to the two organisations by young school children whose parents were acting as agents provocateurs. An acquittal was achieved because true selling had not occurred. A private members bill to partially reform the anticontraceptive laws fell in March 1974. Currently, the coalition government introduced a very limited reform which would permit the supply of contraceptives to married couples, over 18 from a limited number of licenced places.

In 1974 Argentina, by executive decree, forbade the promotion of any contraceptive measure and limited the use of steroidal preparations to strictly medical indications.

Often the display of contraceptives is forbidden, even when sale is legal. This is the case in Belgium (Penal Code Sec 383), In France and several other countries and in the State of New York, condom sales are limited to pharmacies. In Britain, German Federal Republic, Sweden and some other countries national, or local statutes regulate the siting of condom vending machines. In Sweden (Royal Order No 326 June 5th 1959) "the presence of contraceptives in the vending machine must not be indicated in such a way that special attantion is drawn to the fact" - hardly a regulation devised to please a salesman.

Oral contraceptives can fall under the same restrictions as condoms and spermicides, but the major barrier to their wider use is often the prescription requirement. Often, even in developing countries such as Indonesia, this bottleneck is made tighter by a limitation of sales to pharmacies. (In Botswana, which has 600,000 people, there are two pharmacies). In practice oral contraceptives will not be available to the bulk of the world's population who live in villages until the prescription requirements are reviewed.* The People's Republic of China, Bangladesh, Philippines, Pakistan, Thailand and Fiji are countries which have removed or modified the requirement.

The pharmacist and/or prescribing physician have liabilities in tort. In the USA in Troppi v. Scarf (31 Mich. App.240,

---

*The consequences of prescription regulations and current medical opinion were well summarized in an IPPF statement 1973

THE NEED FOR CHANGE

Coitus interruptus, prolonged lactation and the rhythm method do not require any material aid (other than a clinical thermometer for one version of the last procedure), therefore they have never been, and never will be, regulated by any aspect of the law. They are all widely used and can be tolerably effective. Therefore, their practice immediately discredits and invalidates any legal effort to restrict public access to the other means of fertility regulation. Laws attempting to restrict the alternative methods might be considered analogous to a penal system which punishes murder if it is committed with a pistol or a knife, but not if it involves strangling or drowning.

If it is assumed that family planning is a basic human right and if it is accepted that fertility regulation has beneficial social and medical consequences, then it is appropriate to consider altering restrictive legislation in the area of contraceptive manufacture, distribution and promotion. But how much effort should be put into this field?

Oral contraceptive pills can be obtained in Eire, providing they are not labelled as such on the packet; the Swedish regulations on vending machines are not enforced; Indonesian fieldworkers for family planning are not being imprisoned. Nevertheless, change would be welcome. Family planning practices appear to diffuse down social networks from the socially priviledged to the most disadvantaged. In Europe this process has taken a century and is still incomplete. The developing world cannot, and must not wait so long, either to meet the demands of social justice or to tackle demographic problems. Legal changes are a prerequisite for what has been called the "democratization of birth control". The amount of effort to be expended in changing anticontraceptive legislation should not be judged on the basis that many individuals can circumvent almost any barrier to obtain contraceptives, but by the fact that the socially most disadvantaged are usually most hurt by restrictions, however trivial, that increase the social, economic, cultural and geographical distance between them and the service they need.

In many countries, that have adopted family planning (and population) policies, the spread of family planning has been slow and relatively costly. It is regrettable that many of these governments , often individually spending millions of dollars on family planning, have still not [illegible]ted the ledger of contraceptive legislation. It is paradoxical that in developed areas, such as New York State,restrictions make it almost more difficult to obtain a condom than an abortion,while in Dublin a man may go to prison or be fined for selling a contraceptive,although it is perfectly legal to perform a vasectomy regardless of age or marital status.

Changes in legislation have proved potent instruments for improving family planning services. Further changes will be welcome: the ability of manufactures to mount advertising campaigns may prove more useful than training another group of field workers - and would cost the state nothing. The removal of prescription requirements for oral contraceptives could well achieve more for family planning in a developing country than negotiating a loan from an international agency to build several thousand more family planning clinics.

WAYS AND MEANS OF CHANGE

In a field like contraception, which is still subject to change and development economy of legislative action seems wise. The USA has seen a rash of legislation,over the past few years, designed to ease the distribution of contraceptives. In some cases, for example Iowa State (SB 1076) the words, " prevention of pregnancy" were simply deleted from a statute regulating obscene literature. However, in other cases, for example California (SB 567) and Massachusetts (HB 3250), restrictive clauses were replaced by explicitly liberal wordings,

> "Prescriptive devices shall be dispensed by prescription through physicians and pharmacies to all, regardless of age, marital status, religion and without spouse or parental consent.
>
> "Non-prescriptive contraceptive devices such as condoms, foams,creams, jellies, suppositories may be distributed in all retail outlets and by all social agencies, public

health nurses, physicians, etc, to anyone, regardless of age or marital status, religion and without spouse or parental consent." (HB3250)

In situations where opinions on birth control are sharply polarised, such legislation may give encouragement to ardent family planners and act as a deterrent to those who would further their own beliefs by prosecuting others. However, in a philosphical sense, straightforward repeal of restrictive legislation would seem simpler.

The Californian legislation to "amend.. and repeal sections 4306 and 4323 of the Buisness and Professional Code, relating to prophylactics", while constructive, verges on the meddlesome and redundant in specifying that condoms must be "hermetically sealed in a manor approved by the (State) Board(of Pharmacy)." An injunction which would be out of place, for example, if plastic instead of rubber condoms were to be marketed. In short, in the case of restrictions on contraceptive distribution, repeal is almost always preferable to reform. Adequate control of many aspects will always remain under various trade description, obsenity laws and other statutes and regulations applying to condoms as well as other comodities.

RECOMMENDATIONS

1. Laws regulating the manufacture, sale, display advertising and importation of contraceptives should be repealed, permitting these items to be treated like any other common, high volume, low price commodity. It is to be noted that contraceptives would remain subject to a reasonable application of obscenity laws, trade description acts as well as the normal responsibilities of manufacturer and distributor under statute law, tort and contract for adequate standards of production, accurate labelling and honest advertising.

2. Tariffs and taxes should take into account the logistics of contraceptive manufacture and the needs of the community for cheap, high quality products. In many countries a special case can be made out for excluding contraceptives from normal tariff and tax policies.

Shamlaw · AlEssa
729-2421

Reprinted from
Human Rights in Health
Ciba Foundation Symposium 23 (new series)
published 1974 by ASP (Elsevier · Excerpta Medica · North-Holland), Amsterdam

The basic human right to the means of controlling fertility

MALCOLM POTTS

The human reproductive system appears to have been programmed by evolution to produce an average of approximately ten live-born deliveries in a lifetime. However, some restraint on fertility is achieved in nearly all human societies. The regulation of fertility is not a novel practice of industrialized nations, but an almost universal element in civilized living.

Sociological factors, such as the delay of marriage, or the practice of prolonged lactation, help to reduce the average total number of conceptions in a fertile lifetime. Once a potentially fertile union has been established a number of elements are involved in deliberate family limitation. The reversible methods of contraception have an essential role to play, but they all have a measurable failure rate, both as a result of mechanical or physiological failures and as a result of incorrect use or lack of use. On the one hand, even the poorest method can extend the average time taken to conceive from a few months to a year, but on the other hand, even the best method is inadequate to control fertility over a fertile lifetime within the goals set in most developed and many developing nations (Table 1). It is misleading to consider a contraceptive as some sort of tap controlling the transport of sperm, or like a set of traffic lights commanding the release of the ovum. Contraceptives are best understood as procedures which reduce the statistical probability of a pregnancy occurring or, put another way, extend the time taken to conceive. It is essential to recognize that induced abortion is the basic element in the regulation of human fertility and has been used by every community that has attempted to regulate its fertility, although it remains against the statute law in many countries. Male or female sterilization, if available, is widely acceptable in a variety of cultures and can be made a constructive part of fertility regulation. In this chapter the means of controlling fertility are taken to include abortion and sterilization as well as the reversible methods of contraception.

TABLE 1

Births averted by insertion of intrauterine devices

Age of acceptance	*Additional pregnancies in absence of contraception*	*Additional pregnancies if IUD inserted (and reinserted in same pregnancy interval)*	*Births averted*
22.5	7.14	6.48	0.66
32.5	3.10	2.24	0.86

(Data from Potter 1971.[6])

The United Nations, under Article 55 of the Charter, is required to assist nations to achieve a higher standard of living, to help solve economic, social and health problems, and to create universal respect for human rights and fundamental freedoms. Resolution 18 of the International Conference on Human Rights held in Teheran in 1968 stated that 'couples have a basic human right to decide freely and responsibly on the number and spacing of their children and a right to adequate education and information in this respect'. The Secretary-General of the United Nations was even more straightforward when he spoke in 1967 of the 'right of every family to information and to the availability of services' in the field of family planning.

THE PRESENT SITUATION

Organized programmes of family planning have been relatively disappointing in their results. No doubt the novelty of the enterprise and its previous controversial history have contributed towards the relative lack of achievement. At most only five national programmes have had any measurable impact on fertility[3] and even these results have been disputed. In the large populous countries of the world such as Indonesia, Brazil, India and Nigeria the number of couples accepting family planning through organized programmes does not equal or exceed the additional number of women who are at risk for pregnancy each year, as a result of the young age-structure of the population.

In the late 1960s India was spending 0.1 % of its Gross National Product on family planning, or US $48 million or $0.09 per head per year.[2] In the developing countries of the world, but excluding the People's Republic of China, donor communities and the governments themselves are now spending perhaps

282

US $400 million a year on family planning. At the research level, the World Health Organization spent US $6 million in 1973; the National Institutes of Health, in America, about $10 million.

Family planning, more than agricultural development or industrialization, is subject to controversy, involves a great many social variables, and is susceptible to greater uncertainties of political commitment. Aims can become confused and essential elements among the means to control fertility are overlooked for religious and political reasons. The aim of reducing birth rates and the aim of fulfilling the basic human right of a family to control its size are not necessarily congruent. In practice, at present and for the forseeable decades, achieved family size is greater than desired family size in nearly all countries which have high rates of population growth. Therefore, in practice, at present both aims can be met together. Many current family planning services are under-utilized, so there is much debate within the organizations attempting to provide family planning services about the allocation of resources to the expansion of current services, the provision of new forms of service, educational and motivational efforts, and economic incentives. It is a major thesis of this paper that fertility control is more than contraception, and that the available services are more limited, unattractive, ineffective and inconvenient than is commonly realized.

THE TWOFOLD PATH

The evolution of family planning programmes and services has been coloured by the controversial past history of the subject.[7] Currently it is acceptable to administrators and politicians to visualize the control of human fertility mainly in the framework of family planning clinics, which are conceived of in medical terms, capitalizing on the unwritten principle that doctors are the one group within the community having the right of access to the human sexual organs without taking part in coital activity. Medically based methods of family planning are offered in such clinics with the minimum of publicity. For technical reasons the major methods happen to be oriented towards the woman. The use of condoms is largely overlooked and the role of coitus interruptus treated with a giggle or a blank stare. The exceptionally important methods of sterilization and abortion are largely omitted. Sterilization is still treated in basically medical terms—the woman must have medical indications or a minimum age or parity to 'qualify' for sterilization. A great many groups and individuals in the family planning movement go to considerable lengths to disassociate their activities from anything that might be connected with abortion.

Often activities are hopefully presented as reducing abortion rates. When abortion is considered, its possible physical and psychological ill-effects are given considerable emphasis.

Services of this type have not attracted more than a small minority of married fertile women in any country, and in most of the world they have reached only 1 or 2% of the population or less. The response to disappointing results has often been to put increasing sums of money and human resources into so-called 'motivation', rather than to change the service.

The second path that could be followed, and which is just beginning to emerge on a small scale in a number of areas, has a different philosophy and a different profile of methods used. An attempt is made to break out of the medicinal philosophy and the thinking and vocabulary of marketing is often found attractive. Instead of a 'patient' you may have a potential 'consumer'. (Semantically, the word 'patient' when used in family planning implies that sexual activity is pathological.) Instead of a clinical method to be prescribed when there are no contraindications, you have a product which can be packaged. It may be a coloured condom with a fancy shape that is advertised in new and amusing ways; or it may be a technique of vasectomy made available on the railway stations of Bombay and 'packaged' in a form that is culturally acceptable to the community. The doctor ceases to be a judge making decisions and dispensing services on medical indications, but becomes a servant of the community. In some ways the doctor's role in family planning is simplified to that of a technician whose work in the community is like that of a carpenter (perhaps we should remember at least one carpenter who became highly and widely regarded by a large part of the world's population). The consumer's choice becomes of paramount importance. Methods are available electively. Practices, regulations and laws are drafted in the interest of the community, not in the interest of medical trade unionism. There is reality about the need for sterilization and compassion about the role of abortion in the control of fertility. A vigorous effort is made to integrate these methods into the services and to make it as easy as possible for the couple to change from one method to another, to decide on sterilization, and to integrate abortion with the reversible methods of family planning.

An unfortunate argument has arisen about the relationship between family planning and health services. Nortman[4] has written: 'thus far [family planning] programmes have been structured so that family planning is a by-product of health services, and not health improvements a by-product of family planning'. The problem can be answered in two sentences: (1) family planning is a necessary and valid part of health care; (2) health services never have been and are unlikely to become the exclusive, or perhaps even major outlet for family planning.

284

In several countries the time is now ripe for an expansion of the already important role played by the typical commercial and other non-clinical distribution of contraceptives.[1] Sometimes sales could be enlarged by merely improving the promotion of products and altering the profit margins. In other situations the cost of contraceptives needs to be subsidized at some point between their manufacture and their retailing, in order to bring their price within range of the bulk of the community.

The subsidized marketing of contraceptives is one example of simple, but potentially cost-effective, methods of expanding the use and acceptance of family planning. The principle being followed is to build on simple, local, indigenous channels of distribution which are outside government health services, do not require special clinics or bodies of specially trained personnel, but can be created within the resources of the urban or village community. A number of possibilities conforming to this philosophy are available, and need to be investigated and exploited. Such simple means of distribution might involve pharmacies, local stores of any type, the use of barbers for the distribution of male methods of contraception, the use of traditional health personnel for both condoms and (where legal) oral contraceptives, the use of traditional midwives (the dukun, bedan, dayar, helot), the use of the newly literate local leader who can be made into a depot-holder for contraceptives. It is also recognized that private medical practitioners already supply much of the family planning advice in many countries and are respected by the community, and that their input could be expanded. In many of the examples given, the possibility of financial gain to the distributor is likely to improve distribution.

The advantages of this approach are those of simplicity, the minimum number of administrative steps between the donation of international support and its usefulness at the field level, a lack of competition with already overstrained health services, the avoidance of long latent periods while institutions and establishments are created and, possibly most important of all, *cultural acceptability*, as family planning will be made available from within the familiar domestic resources of the community. The disadvantages are that family planning methods may be misunderstood and that it is not known whether continuation rates will be the same as, or less or greater than, with methods made available through more highly structured services.

THE HEALTH COSTS

Mortality and morbidity in pregnancy, for both mother and child, are high at the extremes of fertile life and rise with parity. They are also sensitive to

changes in socioeconomic status. Declining maternal and infant mortality in Western countries is partly the result of increasing use of techniques for the regulation of fertility, which have greatly reduced pregnancy rates in older, parous women, and partly the result of improved obstetric services. Therefore, family planning services are an appropriate and (most people would claim) an essential part of maternity and child health services.

Today, as every day, 70% of the deliveries taking place in the world will be without the assistance of a trained person. The task of extending maternity services is considerable and if in any way family planning services can precede improvements in maternity services, without competing with those services for significant funds, then the health of the community will benefit.

Simple methods of distribution, not involving clinics and doctors, would allow contraceptives to reach most parts of the world. However, there is an almost unshakable belief that doctors do something useful when supervising the distribution of contraceptive pills and an impression that it is unethical to suggest alternative systems. The reverse way of posing the question, namely that it is unethical to use a doctor's skills unless it can be rigorously justified, rarely seems to be asked. The International Planned Parenthood Federation made an important statement on this point in April 1973. It faced the reality that 'in many countries the regulations that are supposed to limit oral contraceptives to doctors' prescriptions are generally ignored. Those who can afford to purchase them from commercial outlets do so without medical supervision; however, national and international agencies abide by regulations, only distributing free or subsidised Pills through doctors. As a result there is discrimination against many of those most urgently in need of protection against unplanned pregnancy'. While recognizing that there are small but measurable risks with the use of oral contraceptives the IPPF believes that 'whoever normally meets the health needs of the community, whether doctor, nurse, traditional midwife, pharmacist or store keeper, can be an appropriate person to distribute oral contraceptives and we call upon our Member Associations to pioneer innovating schemes for the distribution of oral contraceptives'.

The need to justify prescriptions for contraceptives is a more correct and constructive starting point than the need to justify the removal of oral contraceptives (or any other drug) from prescription. A link between medical services and contraceptive provision would be obligatory if the non-supervised use of a method presented risks which were as great as or greater than the risks of not using the method. There are no circumstances where this is known to occur (Table 2). If we accept access to the means to control fertility as a basic human right, then we must be reluctant to accept any pattern of medical or para-medical supervision which cannot be justified.

286

TABLE 2

Pregnancies and deaths associated with contraception, pregnancy and induced abortion in one year (data from Tietze 1969[9])

Method	*Rate per 100 000 women of reproductive age in fertile unions*	
	Pregnancies	*Deaths*
None	40 000–60 000	8–12
No contraception: all pregnancies end in illegal abortion	100 000	100
No contraception: all pregnancies end in legal abortion	100 000	3[a]
Steroidal contraceptives	100	3[a]
Mechanical methods: no induced abortion	11 800–13 000	2.5
Mechanical methods: all pregnancies legally aborted	14 300	0.4[a]

[a] The mortality rates used by Tietze[9] in his 1969 calculations can probably be revised downwards for both oral contraceptives and early legal abortion.

THE ECONOMIC COSTS

Many countries, both rich and poor, might be criticized for not spending more on health, and the money that is spent is often poorly divided between curative and preventive medicine. But wishful thinking will not release resources and, however imperative the cause, finance is likely to be limited. Many developing countries spend less than one US dollar per person, per year, on all aspects of health care.

Of the two paths outlined the simplest is also the cheapest. Current, highly structured family planning programmes consume a great deal in overheads and in purchasing professional skills. The IPPF, which places a greater emphasis on services than most other international organizations, spent approximately US $3.2 million on commodities in 1972 (70% on contraceptives and the remainder on vehicles, audiovisual aids and clinic and office equipment). The total budget for that year was approximately $25 million. The cost of averting a birth through the Indian family planning programme fell from $100 in 1956/57 to $30 in the late 1960s, but the latter figure still represents four months income for the average Indian. At the present moment (mid-1973) government budgets for family planning are being cut in India and in these circumstances most observers would guess that it will be the effectiveness of the programme that will be decreased, rather than the efficiency increased.

Even if money were available for the highly structured programme, any

effort depending on the large-scale deployment of doctors would fail. The adverse ratios of people to physicians in developing countries, especially in rural areas, do not need emphasizing. For example, there are more Indian doctors working overseas than there are engaged in rural medical practice in India.

Among large developing countries only the People's Republic of China appears to have made useful progress in extending a meaningful family planning service to its people. Total review of a programme in a land so large is not yet possible but the testimony of those who have seen some part of the programme is unanimous in its enthusiasm and sense of excitement. No doubt, the profound changes which have taken place in the community contribute to a greater or lesser extent to the success of the programme and some people might even argue that they were a prerequisite for success. The programme has the characteristics of the simple pathway outlined: the indigenous resources of the community are used in training a great corps of barefoot doctors, and highly structured, culturally inappropriate health and family planning services have not been attempted. The rational distribution of simple reversible methods of contraception, including the distribution of oral contraceptives by barefoot doctors, combined with free access to sterilization and abortion, is a unique and welcome feature of the programme.

The Chinese programme could be, and perhaps should be, a model for the rest of the world. Guesses are that the Chinese population growth rate is now at or below the world average. William Draper, whose vigour and persistence has established the major part of the budget for the IPPF and the United Nations Fund for Population Activities, has suggested that a world plan of action might be based on the Chinese experience. In 1964 Chou En-Lai proposed that China reduce its then estimated population growth from 2½% to 2% by 1970 and to 1% by the year 2000. Draper has been the first person bold enough to tentatively spell out the cost of such a programme. Concentrating on the developing world—but assuming that China continues its own indigenous effort—Draper estimates that at the present moment US $200 million is contributed annually to family planning by bilateral and multilateral agencies (more than half this sum coming from the United States) and that an equivalent sum is contributed from the budgets of developing countries themselves. If it is assumed that population growth in the developing world falls to 1% by the end of the century, the target population would rise from the present 2000 million to 3400 million. This might require a rise in contraceptive use from the present estimated 10% of couples to 50% of couples by 1990. On international markets oral contraceptives cost 13¢ to 17¢ a cycle and condoms from less than $2 to $2.50 a gross. The direct cost in contraceptives of supplying

125 million couples at approximately $2 a couple per year in 1980 would be $250 million, and in 1985 to supply 240 million couples at $1.50 each per year (a fall of cost is assumed with rising volume), $360 million. In other words, the total projected contraceptive costs for more than a decade ahead are less than the current world expenditure on family planning. Draper allows two to three times the cost of contraceptives to run the distribution system—and this may be realistic. He also computes costs for population censuses, research and educational motivational costs. His total bill for 1980 is computed at $1200 million and for 1985 at $2000 million.

Important unknowns in the Draper programme include variations in the estimate of couples currently using contraceptives, and different guesses about the monies which could be raised by local subsidized marketing, as opposed to totally free distribution. A role for sterilization and abortion would also greatly alter the achievements of the programme.

There can be little doubt that the programme can be and should be attainable and it is to be hoped that sums of money of the order of an annual cost of $1000 million to $2000 million in the latter part of this century will be aimed for. Sweden and Norway now allocate 10% of their total development aid to population activities and if this proportion was accepted by the countries with really large Gross National Products, such as Japan, the USA or the Common Market countries, these figures could be generously exceeded. The Gross National Product of the USA, Canada, Germany, France, the UK, Sweden and Australia exceeded a million million dollars in 1969: one-tenth of 1% of that GNP would suffice, and such a calculation assumes no contribution from the wealth of the USSR, the smaller countries of Europe or the nations of Eastern Europe.

Unfortunately, aid targets are not always met: national governments will often (as in India at the present moment) economize on long-term family planning programmes in order to release short-term resources for what appear to be more immediate aims; crises in balance of payments and sudden changes in political attitudes can all affect the available sum of money. Contraceptive costs are presumably those that can least afford to be cut back. The professional supervision of distribution, and the investment in so-called 'motivation', are the areas that must come under closest scrutiny if money runs short.

The 'simple path' not only accepts the role of induced abortion and sterilization in the regulation of fertility but attempts to optimize the relationship between these surgical procedures and the use of reversible methods of contraception. It is indicative of the restraints within which current programmes operate that no direct comparison of costs, in health or economic terms, between contraception alone and a contraception-plus-abortion programme

has been attempted. However, there are indirect observations suggesting that the latter would be cheaper when measured by either parameter.

THE POLITICAL COSTS

The high ethics that underlie the concept of human rights and the base pragmatism that motivates political action are intertwined, even though the practitioners of the first might deny it and of the second might sneer at the suggestion. Family planning legislation and the discussion of political action often turn upon the issue of the human right to control fertility. For a long time 'protecting institutional doctrine was given a higher political priority than protecting the free choice of the individuals'.[5] In the United States, and in other countries that have contributed towards the financing of the international family planning movement, the philosophy which was politically necessary was also that with the greatest ethical content: 'this [that is, family planning] is entirely a matter of freedom of information and freedom of choice, without compulsion, with complete respect for the views of the individual, his religious inhibitions, and it is merely a matter of making knowledge available, it is mainly an exercise in freedom of speech, freedom of thought and freedom of information', said Senator Gruening at the US Congressional Hearings in which he initiated the current generous aid from the US to international family planning. As Piotrow points out, 'the question birth control advocates and policy makers usually had to face was "how can you justify using taxpayers' money for a cause that many taxpayers consider immoral?"... the Gruening Hearing seized the initiative and asked instead "how can you justify withholding such important and useful information as birth control from the poor and disadvantaged who want to have it?".'

The Congressional Hearings in 1965 were opposed by the National Catholic Welfare Conference who argued that if the government supported birth control it violated a citizen's 'right to privacy'. Eight years later, the United States Supreme Court was to defend the woman's right to an abortion because to deny it would be an invasion of her privacy. Here the same ethical right is being quoted on the one hand to support opposition to making family planning advice available to those who desire it and, on the other, to support the proposition that abortion should be available on request. Rarely can ethical principles have found themselves with such different bedfellows.

Bad judgement on the possible acceptability, or unacceptability, of particular patterns of contraceptive distribution is common. Basically, simple methods of distributing contraceptives probably present fewer challenges than highly

structured programmes. However, the challenges that do occur are in the minds of social élites. When condoms were distributed in Kenya through local stores in a way which appears to meet the community's needs, social leaders complained they were being 'distributed like lollipops'. There was a fear that condoms might get into the hands of the young unmarried, although the possibility that sexual activity might be entirely in the hands and minds of the young unmarried was overlooked.

Simple availability of family planning services extends the choice of individuals. It enables demographic ends to be achieved through democratic means. In the last analysis, a wide, well-advertised availability of contraceptives backed up by elective sterilization and abortion may be a more secure defence of human freedom than a partial availability of methods for regulating fertility backed by strong educational and motivational campaigns. Most people would prefer the participation of the community in the regulation of fertility to the manipulation of individuals' choices.

WHICH PATH WILL SUCCEED?

There is some evidence that the simple path can work. The low birth rates of the economic depression in the Western world in the 1920s and 1930s were achieved by a simple distribution of the reversible methods of contraception, by a widescale use of coitus interruptus (and possibly by some use of alternative patterns of sexual congress), and by illegal abortion. The medical profession made only a minimal public contribution to the control of fertility at this time, although in private they used these same means to limit their own family sizes. Today, some of the lowest birth rates in the world are found in the countries of Eastern Europe. Family planning programmes are poorly developed and governments encourage people to have children, through tax policies, child allowances, advantages in housing, and the availability of nursery schools. Coitus interruptus, rather poor quality condoms and legal abortion combine to produce low or very low birth rates.

There is little or no evidence that the complex channel works and some evidence that it has failed to achieve set goals. Even the apparent success of well-developed clinic-based programmes, such as that in Hong Kong, has been questioned by demographers. The example of the Indian government in political commitment and courage in the field of family planning has been rightly praised. However, the detail of implementation has been poor and mainly limited to medical methods of contraception (until the late but useful addition of condom marketing). A new abortion law was implemented in

April 1971 but has been choked with bureaucratic regulations. When family planning programmes began in India the annual addition to the population was five million a year and now after 20 years of government initiative in this field the rate of population growth is 13 million a year.

Some people recognize the limitations of the complex path, but hopefully plan to escape from it by some quantum leap in contraceptive technology. There is little evidence that this is going to happen and if it involved a medication the necessary programme of animal and human testing could well make for a decade's delay between the demonstration of the possibility of the method in men or women and its widespread implementation.

Others emphasize 'motivation'. The role of motivation in family planning programmes is variously assessed. Some observers see 'backward unenlightened communities' that must be browbeaten into having smaller families. Others believe education, and in particular sex education, alone can stem the tide of human reproduction. Others would plaster the world with posters exhorting women to consider their health and men to shoulder their economic responsibilities in order to escape from the slums in which they live—invariably illustrated with pot-bellied children, empty rice bowls, broken furniture and leaking roofs. Few pause to ask whether fertility regulation services are really available.

In my personal experience I have yet to visit a country where the services are not behind the willingness of individuals to plan their families. Conversely, I have never seen services, tailored to meet the needs of the consumer, that are under-used. I have seen empty clinics, but then I am not sure the community wants many clinics. Recent market research in Thailand suggested that women found going to clinics for oral contraceptives inconvenient and the physical examinations undesirable:

> 'I go to hospital when I am sick. When I don't have anything wrong with me, I don't think about going to hospital'.
>
> 'I feel shy to have somebody examining my body. When I am sick it's all right'.
>
> 'Why should the doctor have to examine me thoroughly in order to prescribe me pills?'

In Brazil, clinics see an average of 0.2 to 2.4 women an hour, although the average doctor in a Brazilian hospital may have the responsibility of making life and death decisions about hundreds of out-patients each day.

The claim that services lag behind motivation is sufficiently radical to need some justification. To start with England: the father of ten children requested

vasectomy. The London National Health Service consultant who delivered his wife refused sterilization (on the grounds that there were no medical indications) and refused to give the Pill or an IUD to the wife. The man had tried using condoms and withdrawal but both methods failed. The couple had no emotional objects to contraception and had been attempting to get a vasectomy for four years, but could not afford the £25-£60 asked.

The human right to family planning is denied in Sweden, where you can buy condoms, have a legal abortion, get sex education in school, but must fly to London if you want a vasectomy. It is denied in Japan, where you can get an abortion, buy the best condoms in the world, but the Pill and IUD are illegal. It is denied in Indonesia, where there is a massive family planning programme, but abortion and male sterilization are not used and the Pill is officially on prescription. It is denied in India, where abortion and sterilization are widely practised but no genuine effort to distribute oral contraceptives has ever been made.

In any sphere of human endeavour other than one related to human sexuality, the simple path would be chosen in preference to the complex one, on economic terms if no other. It is likely that this choice would be considered well-confirmed by the observational data of the past 100 years of fertility control in developed nations and the past 10 to 20 years in developing ones.

I believe it would be possible to extend the ways and means of controlling human fertility to almost the whole of mankind within the next 10 to 15 years at a very modest cost, if the first set of principles is chosen. If the alternative course is adopted, it may be that, even in 50 years' time, these minimum human needs will not have been fulfilled, despite a very considerable investment. I also believe that the simple rapid approach, although apparently challenging some important aspects of ethics, may involve less potential invasion of human freedom than the explicit intended consequences of some of the giant family planning bureaucracies that have been created.

Discussion

Wenche B. Eide: I would like your comments on postpartum programmes, which are seen as one way of reducing costs. This is partly for logistic reasons, in the sense that the woman is already present after her delivery.

Potts: A world plan of action for postpartum programmes has been put forward by Taylor & Berelson[8] of the Population Council. At a modest expense (between 40¢ and $1.60 a head) it would be possible to improve world maternity services and add an integrated family planning programme. I do

not think this is a way of reducing family planning costs; it is a way of reducing what the élites perceive as the political costs.

Nothing would be more pleasing than to think that the world will extend its maternity services, but it is a fact that 70% of the women having babies today are not attended by a trained person. Clearly, it is important to extend maternity services, but it will be a slow and painful process and is unlikely to be given high political priority. Therefore if family planning services are tied to maternity services, we deny family planning to the bulk of the population in the rural areas. The argument made is that we should add family planning to health services rather than to say that family planning by itself has an impact on health. In fact, maternal mortality in England has declined partly as a result of better obstetric services, and partly because few women now have ten children, and older women are not producing children as frequently as before. Therefore, women at greatest risk in pregnancy and delivery are being protected because of fertility regulation. If family planning services were extended ahead of structured health services into a developing community, that would itself have an impact on health. The maternity-related family planning service, which is very much a goal of WHO, could be irrelevant to the major problems. This is not to say, of course, that if one *can* have a maternity service, family planning should not be an integral part of it.

I recently saw a report on a large developing country by an international adviser on family planning. Basically his advice was to build a maternity service. But that is not immediately feasible in the country concerned. Essential problems were being avoided for political reasons. The adviser lacked the courage to say that what would have impact would be (1) changing the national abortion law and (2) taking the Pill off prescription. It is wrong for political reasons to hide behind maternity services, which exist only on paper. There will not be adequate maternity services in that particular country before the population has doubled, and even that is an optimistic guess.

Wenche B. Eide: I react somewhat to the postpartum programmes, because many of them appear to have been designed by men who seem to imply as a fact of life that the first thought of any woman after having given birth to a child must be: 'Never again!' I have seen this seriously stated in family planning literature. If contraceptive advice is to be related to the postpartum period, it should at least be done in a more positive way, by stressing the importance for the newborn child that a long time period should elapse before the next is born, so ensuring good health for the mother and thus good nutrition and health for the child through satisfactory lactation, and adequate care in general. But all this I believe must be easier to carry out through the mother and child health services wherever they exist.

Potts: One should not bring undue pressures to bear on people over family planning. I am worried by the pressure put on women to accept sterilization when they are aborted in England. They are sometimes told that they cannot be aborted unless they are also sterilized. Another limitation of maternity-related family planning services is that they make only female contraceptive methods available. Most family planning is done by men, because men are the decision-makers of the family for the bulk of the world's population. So contraceptive methods must be packaged and marketed for men.

Victoria Garcia: I would like to describe the other side of the coin and to present family planning as a preventive health measure to be used by health personnel when they make plans to improve the health and well-being of the community in their charge. We think that women have the right to have the children they want and can take care of, and they also have the right, when they decide to have a child, to have it with the best medical care available. In Latin America the groups exposed to maternal and child health risks make up 63% of the population. Maternal mortality is to a large extent avoidable, and occurs mainly as a result of toxaemia in pregnancy and related accidents, infection, and especially clandestine abortions. A number of people have reported that high parity—particularly 'grand multiparity', which is variously defined as births following five, six or even more pregnancies or deliveries—carries increased risks of maternal mortality and obstetric complications.

Some health problems, for example malnutrition, are probably directly related to the increased strain on family resources with each additional child; in the case of common infections, larger family size may lead to more frequent exposure of members of the family to infection. Malnutrition is one of the most widespread and important health problems, for the quality of a family's nutrition can determine the quality of each member's health, affecting the children's growth and development, dental health, and resistance to infection.

The aims of the family planning programmes in Latin America are: first, to make it possible to plan family size; that is, to enable each couple to have the number of children that is best in terms of their health, socioeconomic position and life roles. Second, to make it possible to plan birth intervals to safeguard maternal health and infant well-being and development. Third, to make it possible for women to have children at the age at which pregnancy carries the least risk for the mother and the greatest chance of a successful outcome. Also to make it possible for couples to obtain diagnosis and treatment of sterility and to avoid unwanted pregnancies; and, finally, to prevent abortion, especially illegal abortion.

It is easy to understand that with these conditions the educational component of each programme has to be very carefully planned.

295

Potts: This is a very political presentation, which I am sure is likely to be successful in Latin America, but it must be understood that it is an artificial approach. The reality is that human beings have a basic human right to decide how many children they are going to have and so family planning needs no other justification, although it can also be justified on grounds of health and on demographic grounds. There is no conflict between these arguments, and programmes must often be packaged for political reasons. One cannot go into Latin America and say, 'make contraceptives available'. However, if we *believe* the mythology we put forward for political reasons, that is when we make serious mistakes. In my opinion, the major decision that has to be made in Latin America is for a non-physician distribution of all contraceptives. Without this decision, an enormous and very serious bottleneck will continue there. Perhaps approaching family planning entirely as a health matter is the Latin American way of escaping the mediaevalism of the Catholic Church, just as we in Britain, with our uncertainties about sexuality, involve doctors too much in family planning, not because of their skills, but because, as I said, they are the one group that society allows to look at the genital organs without taking part in coitus.

Victoria Garcia: In many countries in Latin America one finds all kinds of contraceptives available in drug stores even without a medical prescription. But people still have great confidence in doctors and medical services are well accepted, even in rural areas. In Chile the programme has been officially part of the National Health Service since 1964 and the birth rate has decreased from 3.5% to 2.8%. Our programme is not aimed at controlling the population but at controlling illegal abortion. In Latin America, women carried the burden of limiting their families; only recently have men become interested in family planning, and begun to demand information and counselling.

Potts: The use of clinics and hospitals does not account for any significant part of this decline in the birth rate. In no country of Latin America has the recruitment to the family planning programmes equalled or exceeded the annual addition of women at risk of pregnancy, because the age-structure of the population is already biased towards the young. Latin America, like the rest of the world, controls its fertility primarily with illegal abortion, a few sales of condoms and over-the-counter pills, and much reliance on coitus interruptus. My vision would be to take the existing technology that we know the community uses, to improve it mildly, and really to get across to 80% or 90% of the people, rather than do something which makes *us* feel very comfortable but merely helps 1% or 2% of the population.

Victoria Garcia: The programme in Chile now covers 12% of the women of fertile age. The aim is to extend the coverage to 25%.

Potts: In any other programme, such as vaccination for example, we would not be happy with this aim. I think we have the opportunity to reach 75%.

Victoria Garcia: We are happy with this aim, if it is possible to do it at reasonable cost and at the same time to give guidance and comfort families, and to establish a better relationship with the health services.

Pirie: You did not mention prostaglandins, Dr Potts. What is being done there? And secondly, who stops condoms from being sold in supermarkets in Britain, along with soap and toothpaste? Or do some supermarkets stock them?

Potts: There is a changing pattern in the sale of condoms in the UK. Until a few years ago the Pharmaceutical Association would not allow shops to stock condoms as an above-the-counter article. The manufacturers were not regulated by statute, but they did not want to offend certain groups, so they would not risk selling in supermarkets. They are now beginning to experiment in new retail outlets and condoms are frequently put on the counter in pharmacies. We are getting a better advertising system as well.

Pirie: But who says no?

Potts: We do: this is what the élites do! I wanted to run advertisements on certain London underground stations for a birth control clinic. The Greater London Council refused to allow the advertisement. The advertising of contraception is prohibited in the London Transport regulations.

Prostaglandins are, I think, a good alternative for a late abortion, but so far have not been made a practical proposition for early abortion. Until 12 weeks the hand-operated vacuum aspiration pump is effective, and more predictable than prostaglandins.

Tewari: The package idea is certainly fascinating, but it has its limitations. We used this idea in India in the early 1950s for malaria, before the malaria programme came into existence. Quinine was sold by every village teacher and every post-office. The same is being done now as part of the family planning programme, with about 100 million condoms being produced annually. There is a good distribution system through commercial channels. Unfortunately, there are no takers, and that is where the question of motivation comes in, and of whether, having developed a system of distribution for a packaged system, one can leave it at that. The other thing to note in a country like India is the opportunity that this programme is providing for building up an infrastructure for maternal and child care which would probably not otherwise have come into existence for some time. One of the advantages of the investment in the family planning programme is the way it is helping in the provision of a basic health service at the periphery. The situation, with about 70% of deliveries not having any trained attendants, is a very real problem and to the extent that the family planning programme, whatever the methods or tech-

niques adopted, helps in the infrastructure being brought up to a certain level, it should be welcomed and promoted.

Potts: I would prefer to justify maternal and child health services on their own grounds. I am unhappy when people mix them up and want to divert money intended for family planning to maternal and child health services. Either one can say that there is too much family planning money, which is a valid argument; or one can say that one wants more money for maternal and child health services; but other courses involve a political blurring which is misleading.

The condom programme in India has gone better than the other programmes; there *are* takers. And again, when one looks into the details, the problems arise in getting things out of the bureaucracy and out of the health structure. D. R. Gupta, a marketing executive for the condom programme, told me that the two chief bottlenecks were that the government would not allow him to employ outside advertising agencies, or to run market-research programmes. Until the programme is professionalized with a proper marketing technique and until condoms can be sold in the way baby foods are being sold in East Africa, there will be little progress. At the present moment, we have some good ideas, but they are all on paper and are inhibited because people will not take the last step. In England, we do not permit advertising of abortion. Abortions can be done, but nobody must know how to get them quickly. In India, you have the perfect example of a sensible abortion law—a very humane step forward for the largest democracy in the world—and yet the bureaucratic regulations controlling abortion are designed so that every possible mistake is made, and in the whole of India in 1972 there were only 20 000 registered legal abortions. Official estimates of illegal abortions run to 2-3 million annually. It will not prove possible to pick up any more of the potentially illegal abortions and bring those women into the family planning service, making abortion a turning point in their contraceptive practice, without a big advertising campaign. It would not offend the slum dweller, who wants to know what to do.

Evang: I think you are over-simplifying the problem, Dr Potts. You cannot base yourself on the idea that the customer is always right in a situation where very complex attitudes are involved. We have seen what has happened with breast-feeding when advertising has been allowed to take over, and that is a relatively simple thing. We have plenty of evidence to the effect that without the availability of contraceptives in a country being changed in any way, the birth rate has been fluctuating violently. How do you explain that, since the motivation is the same? How have the Chinese succeeded? Not by selling contraception. They went about it in exactly the opposite way to what you recommend. They produced the motivation and then came to the customer.

Another point: I think you confuse commercialized medical services in rich countries, and the way in which doctors monopolize these (in this I agree with you), with the fact that in all poor countries health services are free public services. This is the only way of serving the people. And these countries are in the painful process of developing health services which might provide not only service, but also attitudes: to breast-feeding, to muscular exercise, to nutrition. These are *parts* of life; so is family planning. And the fragmentation of this into an anti-tobacco service and a breast-feeding service and a family planning service is a hopeless way and is tremendously costly. It would be tragic if your view represents the trend in the International Planned Parenthood Federation, because it goes completely against the present development towards producing an all-embracing health service. Motivation is still the important thing. You cannot get rid of the health service, because as yet there is only one contraceptive method that can be sold directly to customers, namely the condom; the birth pill has not yet reached the stage where it can be let loose on the population. There are risks. The other methods all require health services—not necessarily a doctor, but the new type of widened health service using auxiliary health workers.

Potts: The views I presented are my own; I have polarized things in my paper as a shorthand approach to a complicated subject. However, the IPPF now recommends all its member associations to look carefully at new methods of distributing contraceptive pills, and does not think that the doctor is an essential element in this. Many people would now hold that you should sell pills like condoms, and that to withhold them is damaging to the population. I made the calculation that in India, if pills were available in shops like condoms and the uptake was only about 3 or 5% of fertile couples, roughly 2000 maternal deaths would be saved each year. I think we kill those people through our attitudes. I am not saying that family planning should *not* be a part of the health service; but health services are very limited and do not reach rural areas. It would benefit those people to offer them family planning services not based on health services as soon as possible, if it is technically feasible to do that—and I think it is feasible. My second point is that within the limited budgets available for health services, too much is being absorbed by this very expensive process of family planning, in the way we now do it.

D. B. Jelliffe: To some extent this is a false polarization, and I want to make a bridge between the two approaches. Why should health services and the family planning *and* other types of health activity not be marketed? Take soap: it is the best preventive of skin disease, but we do not give soap out through health centres. I am in favour of anything which can be marketed or where modern advertising techniques can be used. The health profession has

299

to get out of its rigid stance in this regard. But from the other point of view, there are misconceptions about the types of health services that we should be talking about. These are not health services that will be dominated by doctors. In my field, child health and nutrition, the trend now is towards simpler services which really reach the rural areas, and are based on medical auxiliaries. My feeling is that the marketing approach to family planning is needed—provided there is a market; provided there is the motivation; and provided there is a money economy, which there may not be in many parts of the world. But equally, there is need for a low-cost, rural mother and child health service of which family planning and the distribution of contraceptives would be a part. The proportions of each approach would vary with the circumstances. The commercial techniques successful in Japan would not be very successful in rural Uganda. Dr Evang mentioned China. One of the ingredients of their success in family planning has been the distribution of contraceptives through the barefoot doctors. The barefoot doctor is an example of the type of rural health activity I am describing. My plea would be to avoid polarization and to have an amalgam of the two approaches, the percentage of each depending upon the local type of economy and type of ecology.

Potts: I agree very much with that. I would only add that one should avoid prejudging the situation. There have been too many experts saying that Indian women will not use pills; in Kenya there is now a condom-marketing scheme in an area of half a million people in which half the outlets of the village shops are taking up and selling condoms in dispensers. This is a subsidized scheme, but it appears to be acceptable to the community and a useful addition. People for years said that Latin American men would not be vasectomized. Services have been made available in Colombia and quite a lot of men have been vasectomized.

Bradley: I see a similarity between this discussion and those concerned with water supplies, in that when the medical professionals are involved, they become more concerned about making one person more sick because it is on their consciences as professionals, than about the ninety-nine whom they are not treating because they do not see them. The argument for dissociating the contraceptive pill from the doctor is surely very similar to that of dissociating small water supplies from the engineer. If you can show statistically that the community is much better off with one thing than another, you must separate the doctors from the 'patients', or they will have too much on their consciences when one person dies after taking the pill or after a slightly substandard water scheme has been built. I suspect that part of this discussion is really about institutions and professions.

300

References

1. BLACK, T. R. & HARVEY, P. D. (1972) in *New Concepts in Contraception* (Potts, M. & Wood, C., eds.), Medical & Technical Publishing Ltd, Oxford & Lancaster
2. HICKMAN, B. D. (1972) *Economic Incentives: a strategy for family planning programmes*, General Electric Company—Tempo, Center for Advanced Studies, Santa Barbara, California
3. LAPHAM, R. J. & MAUDLIN, W. P. (1972) National family planning programmes: review and evaluation. *Studies in Family Planning 3(3)*, 29-52
4. NORTMAN, D. (1972) Status of national family planning programmes of developing countries in relation to demographic targets. *Population Studies 26*, 5
5. PIOTROW, P. T. (1973) *World Population Crisis*, Praeger, New York
6. POTTER, R. G. (1971) Inadequacy of one-method family planning program. *Studies in Family Planning 2(1)*, 1-6
7. SAI, F. T. (1973) An analysis of future population pressures. *Proceedings of the Royal Society of Medicine 66*, 123-127
8. TAYLOR, H. C. & BERELSON, B. (1971) Comprehensive family planning based on maternal/child health services: a feasibility study for a world program. *Studies in Family Planning 2(2)*, 22-54
9. TIETZE, C. (1969) Mortality with contraception and induced abortion. *Studies in Family Planning 1 (45)*, 6-8

301

SEMINAR ON LAW AND POPULATION:

LECTURE BY DR. MICHAEL S. TEITELBAUM

This discussion will describe population problems and some of the issues they raise for policy-making. We shall touch upon five major areas. First, what are the key population policy issues confronting the world? Second, how are these issues perceived around the world? Third, how were they dealt with at the World Population Conference in Bucharest? Fourth, what can we learn from the European demographic transition regarding these policy issues facing the world today? And fifth, what are realistic objectives in the population field for governments of developing countries and for international agencies such as the United Nations?

Policy Issues and Perceptions

The key policy questions on population which face the world as a whole are actually quite simple. First, what ultimate population size can the world support, and within that limit, what human values ought to be maximized? Second, by what processes will population growth rates ultimately decline? Mathematically, we know they must decline. But is there a need for efforts directed specifically toward fertility reduction, or will general social and economic development bring this about "naturally"? This question will justify a look into the European experience and its possible applicability for the modern world. The first question -- the ultimate sustainable population size -- appears to be unanswerable. Some people argue that the biological carrying capacity of the earth has already been exceeded by the world's population of about four billion. Others have calculated that with present technology, sufficient food can be produced for forty to fifty billion people. (Regarding this latter contention, one must remember that many of these estimates of forty billion to fifty billion depend on assumptions which exclude the questions of capital, politics, and organizational capacities, for example.) A range of estimates from less than four billion to up to fifty billion is hardly a satisfying scientific situation. Therefore the first question is an open one.

A determination of desirable population size on grounds of human values is also difficult in scientific terms. It is difficult to come to agreement on this issue becuse we find ourselves arguing about our values. Ultimately the political process or policy process will have to decide those questions. There is, however, an objectively answerable question in all of this. That is, we can define a desirable rate of population increase. We cannot put an upper limit to population size, and we cannot say what values we ought to maximize, but we can say something about the rates that are desirable. The present rates of increase in some developing countries threaten to overwhelm their capacities of accommodation. Whether their populations now are too large for what they ultimately could support is an open question, except in a case like Bangladesh where it appears that the margin is being approached. But it is clear that rates of increase are too rapid in many countries for them to have time to accommodate themselves to that change. It is difficult to find any convincing argument for rates of increase exceeding 1.5 percent, which is about the maximum that was ever reached during the European transition. Perhaps some will

disagree, but it is difficult to find any reason to prefer a 1.5 percent rate of increase to a 1.0 percent or 0.5 rate of increase. Indeed most of the discussion of how many people Nigeria or Chad can support does not consider the question of how rapidly should it reach that number; at what rate of increase? There is substantial evidence that extraordinary rates of increase tend to retard the development process. On scientific grounds it is clearly appropriate to seek a reduction in very high rates of increase to more moderate levels.

Here we confront the key scientific and political matters of the question: What processes will cause population growth rates to decline, and is there need for policy efforts directed specifically toward that decline? Some of the opinions on these questions are summarized in my paper which appeared in Foreign Affairs. I have sought to describe fully 16 analytically separable positions on the need, or lack thereof, of direct policy interventions in the population area. These positions range from the pro-natalist to the accommodationist, to the doomsaying. Brief compass, there appears to be no real agreement on this key issue.

Some of the responses to these policy problems are related to the Bucharest Conference. Here we come to our second and third general topics of discussion, world-wide perceptions of population issues and the way they were confronted at Bucharest. In policy terms, there appeared to be roughly three categories of countries at Bucharest. First was the majority of countries. At the heart of their interpretation of the situation was what might be called the holistic development position consisting of anti-colonial sentiments, and a sense that shortages in the world are due to over-consumption in the rich countries. There was, however, a good deal of disagreement among this first group, of which countries as distinct as Italy and China were members. In some cases, countries added a pro-natalistic sentiment to their basic position. They said that population growth was good; it furthered development rather than retarded it. In that category fell most of the African countries with some exceptions, led by Algeria and Argentina. Interestingly enough, they were joined by China, which some may have found puzzling. But this group also included strong anti-natalist views expressed by India, Mexico, Egypt, Yugoslavia and some Latin American countries. The presence of both China and India in this group may have been due primarily to political considerations; the Indians must have felt some concern about being out-flanked by the Chinese.

A second prominent position was the "population programs plus development" position. Development is very important, they agreed, and it ought to be pursued with all due and deliberate speed. But population policies and programs are also important. In this second group we find most of the rest of Asia (with the exception of China and India), most of Western Europe, the United States and Canada -- broadly, the non-socialist developed and developing countries.

Finally it was surprising to find the traditional Marxist view being put forward by the Soviet Union and Eastern European countries. They said that there is not such a thing as population problem in the abstract.

Capitalism, socialism, and feudalism each have concomitant population problems and unique population laws. The problems that the capitalists are pointing to in the developing countries are really the problems of capitalism, not problems of population. The blame rests on colonialism, neo-colonialism, and imperialism. Their conclusion, supported without much reservation by many developing countries, was that there was no need for population policy per se because demographic factors are derivative from social and economic factors. In a properly organized world and/or society, demographic trends will be in consonance with social and economic levels of development.

There were some interesting anomalies in the positons taken by various countries. The Chinese delegation, for example, was the first notable delegation to publicly attack the draft Plan of Action as overly concentrated on demographic variables and lacking emphasis on the need for a new international economic order. They said that the new international economic order would eliminate the effects of "imperialism, colonialism, neo-colonialism and hegemonism." Further, China said that the population growth of the Third World was "a very good thing" because it had allowed these countries to be the main force opposing the domination of the superpowers. The idea of a population explosion was "an absurd theory, concocted by the superpowers" in order to maintain their hegemony; and the real need was "to smash the old economic order" and to establish the new. They were asked on several occasions about their own policy of birth planning, which is apparently one of the most vigorous anti-natalist policies in the world. Their answer was an interesting one. Yes, they said, we do have a policy of birth planning and it is very important, but it could only be implemented after the necessary social and economic changes had taken place. They emphasized that the goals of their program were not necessarily to lower fertility but to bring fertility and mortality into balance. They pointed out that in some sectors of China there were efforts to raise fertility as well as efforts to lower fertility in other sectors. It would have been interesting to hear them give the identity and relative sizes of these sectors. In fact it appears to be true that in some areas of China such as Inner Mongolia and some of the minority populations the birth program is intended to raise fertility, because these populations represent very small minorities of the Chinese population.

One of the key issues at Bucharest underlying much of the debate was whether one really can expect a "natural" or automatic decline in fertility in developing countries or whether one needs to make policy interventions towards that end. The theory of demographic transition was a very important component of this debate. It is hard to argue that an academic theory per se can be central at an overwhelmingly political United Nations conference. But demographic transition theory, based upon the European experience, does underlie many of the interpretations of the realities that were presented by various delegations. This development justifies an assessment of what is known about what actually happened in Europe, and the extent to which these processes can be expected to occur again in developing countries, given their similarities and dissimilarities to the nineteenth century European situation.

Demographic Transition Theory

The theory of demographic transition is not a formal theory, but rather a set of empirical generalizations, many of which are increasingly being shown by recent research to be problematic. The theory seeks to characterize three stages of fertility and mortality, viewed as derivative from fundamental economic and social changes of development of "modernization". (In this respect, it fits in with the interpretation of the first group of countries discussed above, who said that development will "take care of" population. It is also related to the views of the third group of countries: the traditional Marxian view that demographic processes are derivative from social and economic transformations.)

The first stage of the transtition theory is characteristic of human species throughout most of history. Equilibrium of population size is achieved over the very long term (thousands of years) via high birth and high death rates. Infant mortality is very high and fertility is also very high, although both are perhaps never at the biological maximum. A high rate of mortality is considered to be inevitable by the theory due to the absence of modern forms of sanitation, agriculture, transport and medicine. Given this high rate of mortality, a very high birth rate was required, by definition, of any population which still exists. The theory implicity assumes that people do not have many children "automatically," but that societies must develop pro-natalist pressures to maintain high enough fertility for self-maintenance. It is, of course, a basic survival issue for the society that its population at least reproduce itself over the long term. The result has been a pro-natalism that is deeply entrenched and highly institutionalized in human society.

Another aspect of transition theory focuses on the death rate. The death rate is viewed as beyond the control of the society. They do not have the technology or the organizational skill to reduce mortality by any substantial amount. However, it is assumed that most people would like to live for a long time, and that when new marginal improvements in methods of reducing mortality are discovered, they are therefore readily adopted by the population. This creates an unstable equilibrium because high fertility is strongly institutionalized and supported by social sanctions, while, reductions in mortality are also viewed in a positive light.

This instability leads to stage two of the demographic transition, in which declining mortality coupled with high fertility levels maintained by traditional social institutions creates the so-called population explosion. This is simply an acceleration of difference between the death rate and birth rate.

Finally, in stage three, according to the theory, individuals begins consciously to control their fertility. This leads to a decline in aggregate fertility, which lags behind the mortality decline and the duration of which is due to the traditional social institutions which are slow to change. The theorists of the transition explain the adoption of new smaller families by reference to the industrial transformation and urban transformations of nineteenth century Europe. The family and its role and structures has been changed in several ways: in production, in consumption, in education, in recreation. This type of change weakens the social pressures built into the social system which favor high fertility, most of which were funnelled through the agrarian family of the past. The economic value of children and the cost of raising them higher. The theory predicts in these general terms

the forces of social and economic transformation of industrialization and urbanization will inevitably lead to a reduction of fertility. There is no time scale put on this process and the causal flow is ambiguous. One must therefore view the theory as a set of high level generalities regarding the effects of development upon fertility. The theory does not describe the posited process in any detail, nor does it state how long it takes for this causal structure to operate.

The first statement of transition theory was developed in the 1920's. Hence it is an old theory which has been elaborated over the past half century. What is its current state of acceptability among demographers and social scientists? One can say that transition theory provides some general hypotheses which in fact have been confirmed by subsequent events. There were predictions based on transition theory in the early 1950's that the sub-continent of Asia would experience quite rapid population growth, because mortality could be expected to decline more rapidly than fertility. In fact that is what happened. However, the theory underestimated the rate of decline in mortality. Some of these predictions in the early fifties claimed that South Asia might expect a growth rate as high as 1.2% to 1.5% by 1965. Of course growth has been more rapid than that, since the reduction of mortality has been much more successful than that expected. But the general tenor of their prediction has been borne out by experience. When one gets into the explanatory level of <u>why</u> fertility declines, however, the transition theory is open to more serious scientific questions. Surprisingly, studies on this point are rather scarce. The theory has been accepted as "true"; indeed, most demography textbooks contain a chapter somewhat at the beginning describing the demographic transition, in which this theory is put forward as if it were facts.

<u>The Princeton European Fertility Study</u>

One empirical study of the theory, probably the most intensive study to date, has been going on in Princeton since 1969. Basically this study is an attempt to take the theory seriously, to operationalize the theoretical and causal structure of the theory, and to view Europe as a demographic laboratory. The study concerns developments which have happened already and which are not questions of prediction. This study attempts to view population at a sufficiently low level of aggregation so that we are not talking about national phenomena, e.g. what happened in Germany versus Austria. Rather it covers smaller levels of organization, specifically the province or county level. This is a huge task, because there are over seven hundred provinces in Europe, but some of the results have now appeared in print. A book on Germany, by John Knodel, just came out. A book on Portugal and a forth-coming book on Italy, both by Massimo Liui-Bacci, have also been published.

One important finding of this study, now that we have some overall view of the data, is that general fertility levels in pre-transition Europe were far from uniform. The general assumptions of transition theory was that all societies before the transition had high fertility and then experienced a decline in mortality followed by a decline in fertility, but this does not hold empirical "water". First, the decline in fertility levels in Europe were highly variable from province to province and from country to country. They were also relatively low by modern standards.

Fertility in this case is fertility within marriage, because there is also a pattern in Europe of late marriage and a high proportion never marrying, which is quite distinctly different from the marriage pattern in many developing countries. This also tended to depress the overall level of fertility. But when the effects of marriage age and marriage frequency are removed, and we isolate what happens only within marriage using certain analytical techniques, we find a high variability in (marital) fertility. This phenomenon is not predicted by the theory.

What might explain this variability? First, fecundity, which is defined as the biological capacity to reproduce, could have varied from province to province and from country to country because of nutritional factors. At Harvard, Rose Frisch has been doing some research on the effects of nutritional levels on fecundity, and has found that if the fat level in the woman's body drops below a certain percentage of her body weight she will stop ovulating. Further, if it drops below another level, she will stop menstruating. Therefore a population such as that of rural Bangladesh might conceivably consist in part of women who are not at full fecundity levels. If they are at the margin of subsistence and do not have much fat in their bodies they may not be ovulating every month. This nutritional factor is one possible explanation for variations in fertility in Europe, Bangladesh, and other countries. Another possibility is that the prevalence and intensity of lactation can have an impact on fecundity. The social view, as opposed to this biological deterministic view, is that many pre-transitional populations were in fact practicing birth control before the transition. If that is true, transition theory assumes that birth control was not practiced until the urban and industrial revolutions changed people's life views.

When the socio-economic factors which the transition theory relates to a decline of fertility (such as the level of industrialization, urbanization, education of women, infant mortality levels) are tested as hypotheses to explore the actual delines in fertility that took place from province to province in Europe, the results are not conclusive. In some countries for example, you find the expected relationships between some of these factors and fertility, whereas the country next door contradicts the hypothesis. In virtually every country (with the possible exception of England) one finds sub-national clusters of provinces in which fertility is substantially higher or lower than it should be as predicted by the theory and where fertility declines earlier or later for no apparent reason. One interesting anecdote, for example, is the case of Spain. The analysis for Spain was done by William Leisure. He calculated provincial marital fertility levels, and collected data on socioeconomic variables such as percentage industrial, percentage urban, educational levels, income levels, and many other variables which would fit into transition theory and which are available in the data. The result of his findings, however, still showed peculiar clusters of provinces which had very high fertility next to other clusters which had very low fertility, clusters which he found very difficult to explain. He then took an unlabeled map of these clusters to a specialist on Spain, whose reaction was that his map represented the standard linguistic map of Spain. Most of the variation in Spanish marital fertility took place between, rather than within, these regions.

Ansley Coale sought to summarize the findings to date of the European Fertility Study in a 1973 paper. He tried to describe the generalizations which remain in terms of three broad preconditions for a substantial decline in fertility within marriage. First, fertility must be "within the calculus of conscious choice." Potential parents must consider fertility control as an acceptable mode of thought and form of behavior, balancing out the advantages and disadvantages before deciding to have another child (unlike, for example, most present day Hutterites and Amish, who would consider such calculations immoral and do not control marital fertility). The second generalization that Coale put forward was that reduced fertility must be seen to be advantageous. Perceived social and economic circumstances must make reduced fertility appear as an advantage to individual couples. Third, effective techniques of fertility reduction must be available. Procedures that would prevent births must be known and there must be sufficient communication between spouses and sufficient sustained will on the part of couples to employ them successfully.

European data show that the high level of development that was reached in Europe was ultimately sufficient to establish pre-conditions for a decline in marital fertility. But there is no evidence whatever that this high level of development was necessary for these pre-conditions to be established. We have many cases in Europe in which low levels of development are also associated with a sharp reduction in marital fertility. The best examples of this are rural France and Hungary.

Transition Theory and the Developing Countries

Is what remains of the transiton theory relevant to developing countries? This is an important scientific question because clearly transition theory is subject to serious weaknesses and ambiguities in explaining what happened in Europe. However, some of the theoretical shortcomings in the European analysis may be due to problems of inadequate data. Developing countries provide an opportunity to test the theory in a situation in which one can collect the kind of data which is needed. Research of this kind is very important for policy and for law. If it can be shown that within a reasonable period of time, development will lead to a "natural" decline in fertility, then the underlying assumptions of population issues which are held by many heads of the governments of the world today will be validated. If so, we could stop having world population conferences and stop spending scarce money on population programs because population control will occur automatically as development proceeds. If, on the other hand, it appears that the transition theory is not appropriate for the conditions of the developing countries, then revised assumptions are in order about what may be expected in developing countries, and what relevant policy positions might be taken. Let us compare some of the ways in which developing countries today differ from the the nineteenth century European countries. What factors might inhibit fertility declines and what might be expected to cause a more rapid decline in fertility, than occured in Europe?

Several factors may contribute to inhibiting declines in population growth in developing countries. The first is the pace and the source of mortality decline. The declines in mortality in every European country were gradual and generally related to the social and economic forces of development and industrialization. The same is not true for many of the developing countries, where mortality declines have been far more dramatic than in Europe and have often resulted from imported technologies rather than indigenous development processes. The result is that mortality levels in de-

veloping countries are much lower than those of early industrial Europe (i.e., Europe of a comparable stage of development), and the factors which brought this about may be less indigenous than those in Europe.

Second, it is not often realized that fertility in most developing countries today is much higher than in pre-transition Europe. For example, in Britain the crude birth rate in the early nineteenth century was generally less than 35 per thousand. In many of the developing countries today it is over 45 per thousand, i.e. thirty percent more. In some countries it is over fifty percent more. This phenomenon is primarily due to the practice of early and nearly universal marriage in the developing countries.

The opportunities for migration also account for differences between Europe and the developing countries. Rapid population growth can be mitigated by migration. This occurred in Europe, which exported literally tens of millions of their citizens to the New World, to Oceania and to their overseas colonies. But this is not a realistic prospect for most of the developing countries today. There are no more open continents (that we know of), and politically not many countries are willing to accept large numbers of migrants. The largest number of immigrants into any country of the world comes to the United States each year in the amount of about 400,000 per year. 400,000 per year, however, is not going to offset the population growth rate of Southeast Asia. Further, I believe that immigration limits in many countries are likely to be reduced in coming years.

Fourthly, the rate of population growth is much more rapid in developing countries than it ever was in Europe -- indeed it is quite unprecendented in the history of the species. Algeria, Colombia, or the Dominican Republic, for example, which by the best of estimates are growing at 3.4 percent per annum, will double their populations in twenty years. At that rate of increase they will increase by thirty-two-fold in a century. European nations never experienced anything like that rate of increase. The maximum average doubling time in Europe was about ninety years and the maximum doubling time for any country over a sustained period of time was fifty years. Europe never had to confront the rates of growth in demand for basic necessities of life and for social investment that developing countries now deal with every day. Further, these demands often compete with investment in physical productive resources such as industrialization and agriculture. That kind of competition can impede social and economic development. If you have to direct large fractions of your available resources to meeting social needs, then you are less likely to industrialize as rapidly, given limited capital. Saudi Arabia or Kuwait are different because capital is currently not a real constraint. They do not have to make those trade-offs. But in a typical developing country where capital is limited the trade-off can impede development. Perversely, if the process of rapid development does lower fertility, then the effect of the trade-off would be viciously circular.

The fifth factor is the momentum for further growth, a phenomenon that is not well-known on the part of most government leaders. It is mathematical certainty for example, that many developing countries will nearly double their populations even if they reach replacement fertility (roughly the two-child family) next year. The only way that will not be true is if mortality goes up sharply (in which case there would no longer be replacement) or if the fertility rate declines to below the two child family, which seems unlikely. I remember a meeting that I had with the finance minister of Algeria, which typifies the desbelief in population growth monmentum.

Kellogg: The Algerians passed two laws in 1974 to make family planning even more difficult.

Teitelbaum: This minister was a very educated and astute man, a Ph.D. in economics. He knew what was happening in his country. He had two children himself and when I asked him why, he said that is all he could afford and so on. I asked him what sort of population he would like to have in his country, and had he ever thought about that? "Oh yes." he said, "we economists think about that all the time. We are good planners and we have decided that based on a comparison of our resources with those of similar countries of similar size, such as Yugoslavia, we can happily support 30 million people in Algeria. We have only 14 million now. So why are you people telling us that we ought to reduce our rate of fertility promptly? We'll take care of that when we have reached our 30 million." I said, "You can't do that". He said, "What do you mean we can't do that, we can do anything we want to do." I pointed out to him that he could not allow the population to grow to 30 million before fertility declined without overshooting his target. He said he did not believe me, and I promised to do the necessary calculations and send them to him. It turns out that, given the momentum for growth as built into the Algerian age structure, if they want to have 30 million people (not 40 or 50 million) they have to reach replacement fertility by 1980. If they do what he said they were going to do, which was to wait until 1980 or 1985 when fertility would start coming down as a "natural" consequence of their development program, my calculations indicated that they would end up with roughly 80 million. (He never responded to my letter.) This point about population momentum is not a debatable question; it is simple mathematics.

The sixth factor concerns the opportunities for occupational and rural-to-urban mobility. During the European transition the opportunity for mobility away from agriculture and from the rural areas to the urban areas provided alternative opportunities for the rural population. This is more difficult in many developing countries today. First, their rural populations are growing much more rapidly than in the European case. Second, urbanization rates in developing countries have been even more rapid than in Europe, and many developing countries have developed government policy to reduce the rate of rural-to-urban migration because of the serious strains it causes in the urban sector. They just cannot icrease the potable water supply fast enough, or the decent housing fast enough, and it is preferable in terms of welfare to adopt policies which encourage people to remain in rural areas where they are actually better off in many respects. Certainly the government is better off as a result, because it does not have to frantically produce urban services. But by reducing the rate of rural to urban migration, the hypothesized impact on fertility is diminished.

Another factor involves the opportunities for female labor force participation. Some people contend that increased entry of women into the non-agriculture force in Europe was a factor in fertility decline. Obviously, anyone who has read anything about Victorian England can picture women working in the mills. In most developing countries there is growth in demand for female labor than in Europe, in part because of the greater increase in male labor supply. For if the males are the traditional industrial workers a more rapid growth in the male labor force tends, all other things being equal, to limit the growth of demand for female labor.

Finally, educational opportunities differ. If school age cohorts are doubling every two or three decades, as they are in many developing countries, then it is not surprising that great difficulty is experienced in seeking to expand educational opportunities from, say, ten percent up to ninety percent going to secondary school. Given that each successive cohort is substantially larger than its predecessor, the diffculties in expanding the coverage of the educational system are enormous. In Nigeria, for example, the government has recently become very concerned about the rate of population increase. Based on oil revenues the government laid down a political decision that there would be universal education by 1976. They actually attempted to calculate how many places they would need by that year. However, in addition to the number of places needed, which implies x thousands more teachers, schools and classrooms, the number of potential students will be increasing for the foreseeable future. Not only will Nigeria have to build up to this enormous investment by 1976, but in addition they must keep it growing to provide places for the burgeoning child population. So the operational hypothesis that one may make is that the more services that a government feels obliged to provide to its population, the more compelling is its need to do something about the rate of increase. If most of the people lived out in the bush and the government never saw them, or if they were subsistence farmers and did not enter into the economy in any real way, it does not really matter up to some point how many millions of people there are or how rapidly they are increasing. But if the government has to do something for those people, then population size and growth rate become relevant factors.

Let us move to the other side of this discussion. There are also differences between the situations of European transition and modern developing countries which tend to favor more rapid fertility declines in developing countries. First is the accelerated pace of social and economic development in these countries. Development has been more rapid in modern developing countries than it was in Europe. If development does "cause" fertility reductions, then one would expect that fertiltiy reductions would happen more promptly and more rapidly in those countries than in Europe.

Second, better methods of fertility control are available today. The European fertility declines were based primarily upon increased and more effective use of traditional methods and abortion. By modern standards the effectiveness of these traditional methods is not high, and the danger of abortion in the nineteenth century was horrific. Clearly we now have improved contraceptive technologies, and safe abortion techniques. Safe and voluntary sterilization was also unknown in 19th century Europe. The only method of sterilization that was known was castration, and that was not acceptable to most people. Now we have vasectomy and several varieties of safe female sterilization procdures. Whatever the level of motivation to restrain fertility may be in a given population or a given individual, improved methods make it more likely that desired family size will not be exceeded.

Third, greater latitude for deferment of marriage and increased nonmarriage exists in developing countries. In Europe the demographic transition began in the context of quite late marriage and high proportions never marrying. In Ireland, an extreme example, thirty percent of women never married; the European average was about ten percent. In most developing countries, marriage is nearly universal. Also, there is latitude for increasing

the age at marriage. Indeed this is exactly what the Chinese government is trying to do. There are different reports of this, but one reports a recommendation by Chairman Mao that the sum of the two newlyweds ages at marriage should equal fifty. Other Chinese materials recommend that the women ought to be in her late twenties at the time of marriage, because this will allow her to develop her capacity and contribute to the community. The Chinese put the recommendations in terms of national ideology, but they are directed towards an increase in the age of marriage.

A fourth factor is that the small family norm is more legitimate in developing countries today than it was in pre-transitional Europe. This is due in part to the "demonstration effect" of Europe, which has been enhanced by improved international communications, expanded trade, and intellectual diffusion. Many of the elites in most developing countries think that a small family is legitimate and attractive even though most of their countrymen may not agree.

Fifth, there is greater interest in and capability for planning by governments in the modern period than in the 19th century. Most nineteenth century European countries did not have any government planning; laissez-faire capitalism prevailed. Today most modern leaders are aware of the importance of planning, and have economists and planners who are able to do the kinds of calculations that any demographer would do to show the implications of current rates of growth. Few, if any, were doing this in the nineteenth century in Europe, due to lack of governmental interest.

Finally, international assistance is an additional difference in the modern world. Organizations such as the United Nations and bilateral agencies are available upon request to assist in development processes. If their services are used properly, delays that would result from indigenously "rediscovering the wheel" can be reduced.

It is interesting that empirical findings show that although most developing countries have not had fertility declines, in those countries which have had fertility declines, such as Taiwan, this decline seems to be more rapid than those experienced in Europe in the nineteenth century.

In conclusion, several points are noteworthy. We believe from European experience that a high level of development will be sufficient to bring down levels of fertility in developing countries although we do not know how long this process takes. At the same time, however, we know that a high level of development was not necessary to bring down fertility in Europe. There is no reason to think that a high level of development will be any less sufficient or any more necessary for the reduction of fertility in developing countries than it was in Europe. But one must realize that those high levels of development that have been experienced by Europe and in parts of Latin America are not a realistic prospect for most of the developing countries, at least for the next two decades (with the exception of some oil-producing countries). It is unlikely that within such a short time they will achieve the levels of development that have been achieved over the last two centuries by European countries and Japan. When transition theory is applied to these kinds of circumstances, it fails to provide adequate answers to two basic questions. First, will the moderate levels of development to which these countries can realistically aspire over the coming two decades be sufficient to reduce population gro We know that high levels of development are sufficient, but we do not know if moderate levels are sufficient to establish

these pre-conditions for fertility decline in a "natural" way. Second, if such declines do occur, will they occur soon enough and at a pace rapid enough to compensate for the sharply increased pace of mortality decline these countries have achieved, and the high initial fertility levels that characterized them, as compared with pre-transitional Europe?

I do not think we have answers to these crucial questions. We will have to see what develops. But it is clear that transtion theory is overly-simplistic, that it does not clearly predict what will occur in developing countries, and that it is therefore of questionable merit as an instrument for policy formulation.

DISCUSSION

Lee: What are the implications for law then?

Teitelbaum: Well, one of them is that you better not bet on the demographic transition taking place "naturally." It may happen. It's preferable if it happens. But if it doesn't happen (and the theory doesn't tell you one way or other), then it may be too late to do anything else. If we do a 25 year experiment in Algeria, in which we say we are not going to allow any family planning programs, and postulate that the natural processes of social and economic development will bring about fertility decline, by the time we have completed this experiment (25 years from now) the population will have become 35 million. There would also be a built-in dynamic for substantial further growth to 50 or even 60 million. If it turns out that the level of development achieved by Algeria by that time is not sufficient to reduce fertility to the replacement level, then it's too late to achieve a target of 30 million; you've already passed it, and you're probably going to overshoot it very substantially. This extra growth will have to be accommodated with food, jobs, housing and clothing. Hence one must be fully aware of the policy implications of taking a position based on a naive interpretation of what happened in Europe.

Kellogg: Are you familiar with the fact that demographic transition started early in France, before the Industrial Revolution had taken place?

Teitelbaum: France is one of the many exceptions to transition theory and a powerful reason not to accept a simplistic deterministic view. As far as we can tell, marital fertility in France began declining before the turn of the 19th century, somewhere in the middle of the 18th century. The reasons are very unclear, because France was not an industrial, urban country. It was not even an industrializing, urbanizing country at that time, and nothing in transition theory would have predicted that decline in fertility. So, we must agree either that the theory fails in general, or that there are important exceptions to it.

Lee: How about the land tenure system? Did that have any effect?

Teitelbaum: That's one speculation; I don't know if it can be supported by evidence. Etienne van de Walle at University of Pennsylvania is studying this now. The fertility decline could also have had something to do with anti-clericalism, but whatever it was, it doesn't fit into transition theory very well.

Student: What about the effect of social mobility? There were lots of opportunities to move from one social level to another, because you could buy yourself a noble title. So there were more social opportunities.

Teitelbaum: Well, not too many peasants could do that. The decline in fertility in France, as I remember, took place in quite rural and poor areas where people were no closer to becoming bishops than they were to taking off in a jet plane. They seem to have been reducing their fertility earlier than in most industrializing countries, and we don't know the reason for it. I think we are going to end up saying that "There are some general-

izations one can make about fertility declines, and here they are: 1,2,3. But there are lots of exceptions to these."

Cultural factors are important, e.g. cultural barriers in the diffusion process. One thing I was playing with in the English data was to look at the counties that had ports, the major in international trade, because they seemed to have the earliest decline in fertility in England. I thought maybe there was a sort of "infection", coming across the Channel from France and then moving across the landscape like a plague. You can see how cultural factors can diffuse and we know that from other kinds of studies. If there is a linguistic break or mountain range that sets off one group from the other, then cultural diffusion is inhibited. This could be a major factor, but it doesn't have any place in traditional transition theory.

Student: You mentioned that in China they are practicing birth control. Also in China women are involved in all sectors of the economy. Have there been any statistics on the population of China that show whether it's decreasing or remaining the same?

Teitelbaum: The population is doing neither. Rather it is increasing. There's no question about that. However, you may have meant to ask whether the fertility rate is decreasing. There have been some "data" (or rather, numerical assertions) on this, but I don't accept them as factual because we don't even know how many people there are in China; and if that's the case, we don't have a denominator on which to base our rates. I would guess that fertility must be coming down in China, based on subjective reports. The Chinese clearly are using contraceptives. In fact, the Chinese are now producing more contraceptive pills than any other country in the world. So, I think that fertility in China is coming down, but how fast it's coming down and where it is now, is anybody's guess.

Student: If resources are held in common by all, and any one person takes more than his share, his gain is the whole amount whereas his loss is only a tiny percent of that amount. So, no one takes an overall view of their country's resources.

Teitelbaum: Well, some may take such a view of the resources in their country. Take Argentina, for example, where the government has said that it wishes to have 50 million people, and by God it's going to have 50 million people. You ask why, and the government will say: "Well, north of us we've got Brazil, and if we don't fill our empty space, Brazilians will fill it." When you ask some Brazilians why they are pro-natalist, they will say that there is an open Amazon region and that if Brazilians don't fill it up, Peruvians and Bolivians will. Some Brazilians also say that population growth stimulates economic growth. So, pro-natalistic sentiments derive from concerns about power, resources, defense, and so on. Garrett Hardin's paper "The Tragedy of the Commons" is interesting in regard to resource issues. I think it uses a misleading analogy, but it certainly is well-written and engaging.

Student: In your paper you used the phrase "mutual coercion, mutually

agreed upon". Is that from the "Tragedy of the Commons"?

Teitelbaum: Yes.

Student: I was wondering whether you think that's an important motivator of the policy-maker, and if it is, why his (Hardin's) conclusion should be that coercion will probably be necessary?

Teitelbaum: Well, that is, or was, his view. I have a little hypothesis of my own, which is that population hawks all grew up in California. I think we social scientists lost our chance; we could have predicted that. All we had to do was to look at the population growth rates in California, which were extraordinarily high (due to heavy in-migration) for many years. We could have predicted there would be a reaction to that, with somebody saying "Stop population growth, and use coercion if you have to." Erlich and Harden both come from California, and I don't think that's an accident.

Student: You said that less-developed countries today are experiencing much more rapid development than 19th century European countries experienced. So, in terms of the demographic transition it would be expected that fertility decline would come faster too. Is it true that distribution of wealth in less-developed countries is also affected negatively by these rapid social and economic developments? Would distribution be an important factor in fertility decline? I'm thinking of Taiwan and South Korea, where documents say that a trend towards more equal [distribution of income was important] in causing the concurrent decline in fertility.

Teitelbaum: Well, there are not very good data on that, as you might expect, because getting hold of information on wealth distribution of Nigeria or India, for example, is quite impossible, but such data as they are indicate that there may be some truth in what you suggest. If you are interested in the subject, there's a book published by the World Bank called Population Policy and Economic Development. It's a blue paperback and there's an appendix on this exact subject. It sounds plausible, but I don't think we know if it's true.

Student: What about internal disorder as a depressant to population increase. Do you see that as a possible factor in developing countries?

Teitelbaum: Well, it raises mortality, and that reduces population increase. With regard to fertility, however, if you believe as many villagers do that God determines how many children you are going to have and you therefore make no attempt to control your family size, internal disorder will have no effect on your fertility -- at least not through any voluntary action on your part. On the other hand, if you view fertility to be within the calculus of conscious choice, then you might well reduce your fertility during times of disorder.

Student: During the British imperial administration of the Sudan, the question of security, law, and order caused imperial administrators, the district commissioner, and the governor to overestimate the population,

as well as to distribute them all over the place -- to scatter them in small numbers.

Here is my question to you. In Africa, in places like the Sudan and sub-Saharan Africa especially that which is savanna, what do you think was the population growth rate in the first 40 years of this century? Between 2.2 and 3.4 percent?

Teitelbaum: I would guess that it was quite low, certainly less then 1 percent, maybe less than 0.5 percent, but I don't know. There is a book called the Demography of Tropical Africa by William Brass and others. It's about the best book on the demography of Africa. They try to give the history of each country's population change, but this is very difficult, because, as you say, the imperial or colonial administrators' data were inaccurate in one way or another, and there weren't any indigenous sources of data against which to check the administrators' data.

Student: Yes, but inaccuracy involves overestimation as well as underestimation, and if they overestimated they probably went as high as 10 percent.

Teitelbaum: Most people think that the 1963 census was a gross overestimation of the population of Nigeria. But on what basis do you know this? Only the government can do a census. Nobody from a university can go out and estimate the population of Nigeria. It has to be the government, and even if the government does a good census, it may not want to reveal the true data, or any data. That's the situation in China, where we have to make do with errors of up to 200 million in our estimates, which is almost the population of the Soviet Union. That's a large number of people. For that reason alone, we are surely quite inaccurate in our estimate of what the world population is.

Student: If I may ask you again, what do you think could have been the rate of natural population increase in Africa in the past?

Teitelbaum: Although I'm embarrassed to say that I've never been anywhere south of Tunis, I would guess that it must have been quite a low rate of increase in most countries of sub-Saharan Africa, simply because of the mortality problems. In fact, in many African countries today the best estimates of fertility are relatively low for a population that isn't practicing contraception. Some people say that's because of venereal disease which, in the Cameroons for example, is the cause for quite low fertility in certain population groups; this is reasonably well documented. Another factor might be nutrition. If women in these countries are suffering from nutritional deficiencies, then I would expect their fertility to be relatively low by comparison to that of Algeria or to other countries that are not developed countries but which nevertheless have much better nutritional situations. As far as the Sudan goes, I really don't know how reliable it is. There are sources to which one could go about historical demography in sub-Saharan Africa, but I just don't think they are good sources.

Student: In Kuwait we have a 10 percent annual rate of population growth, partly through a high rate of immigration. Is it possible to develop Kuwait?

You mentioned that money is not an obstacle. I think it is. For during my life, education used to be free for everybody, but now they are limiting it to Kuwaiti and then foreigners. So could we develop Kuwait, despite such a high rate of population growth?

Teitelbaum: If countries like India and Bangladesh had the per capita resources that Kuwait has and used them as intelligently as Kuwait appears to be using them, then they would have very good prospects of developing more rapidly. Of course, such development would be more difficult in a country like Bangladesh, because where the margin of subsistence is so close, the country would have to import such large volumes of food that just the sheer bulk of the ships to import the kind of food needed for the growing Bangali population would tie up the ports and cause dislocation. Kuwait, I don't think, would face that kind of problem. Firstly, it could develop its own agriculture much more substantially than it has. The problem is water, but if you have almost limitless energy through flare gas and so on then you could desalinate water and irrigate. I think this is what is going to happen in the Middle East. Many of the oil-producing countries are going to push forward rapidly on generating agricultural resources sufficient to sustain their own population, because I think they are concerned about the threat of food cutoffs from the exporting nations if there were to be another oil embargo.

Student: In Kuwait we have a program to raise cattle in the Sudan.

Teitelbaum: But if you raise cattle in the Sudan, then you are still dependent upon the government of the Sudan. If the government of the Sudan can decide in 20 years that it doesn't like Kuwait and can expropriate all the cattle that Kuwaitis have invested in the Sudan, then this is not a very stable source of food. It is a good stop-gap and is a good thing to do, but it would not be a basic supply of food that Kuwait can control, and that's what I assume Kuwait wants to do.

Now the second question: Can Kuwait develop while population growth stays as high as 10 percent? Yes, Kuwait can develop because of its resources and because it is starting from a very small base population. A 10 percent increase for a population of 900,000 is only 90,000.

Student: The problem is that there are more non-Kuwaitis than Kuwaitis.

Teitelbaum: I imagine that immigration controls will appear in the next 10 years.

Student: Something interesting about Kuwait is that one-half of the population is less than 15 years old.

Teitelbaum: That's a mathematical outcome of the high fertility rate. If the birth rate is high, then you have a very young age structure. That's where the population growth momentum comes from. If birth rates go down in Kuwait in the next 20 years, then gradually the average age will change to an older age over the next century. If that happens, you'll find Kuwait's age structure will eventually (i.e. in a hundred years) exactly like the age

structure of Sweden today, which is about the oldest. The age structure is strictly a mathematical outcome of the fertility and mortality rates, except in a place like Kuwait where there is rapid immigration. In these countries you can say that age structure is determines both by the birth rate and by the age composition of the migrants. I don't know what these migrants look like, but I would guess that they tend to be youngish, probably in their teens and twenties, and probably heavily male, because they're looking for work. So Kuwait probably has a very peculiar age structure as well as sex structure. There are likely to be too many males floating aroud for the number of females. If the high rate of immigration continues, this peculiarity will continue. If the government reduces the rate of immigration, the peculiarity will disappear over time.

POPULATION AND DEVELOPMENT: IS A CONSENSUS POSSIBLE?

By Michael S. Teitelbaum

CONCERN about population growth is only one of many issues on the world's agenda, and it is fair to say that as compared with immediate problems such as energy, food supplies and monetary reform it ranks low among priorities of statesmen. However, as Canute learned in his confrontation with the tide, some processes have an inexorable force and will neither disappear on their own nor cease on request. Population growth is one such process. Over the past few years discussion of what actions are appropriate to confront the flow of human reproduction has entered the arena of international affairs, and 1974 will mark the first worldwide intergovernmental conference on the subject, to be held in Bucharest in August.

While in the past there has been extensive debate concerning the virtues and disadvantages of population growth, there is today hardly any responsible spokesman who would argue that it can logically continue forever. All agree that in the long term the necessity for "zero population growth" will be seen as a truism rather than a slogan, for the alternative of unending population growth in a finite world is patently absurd.

There are ramifying debates, however, as to (1) the process by which such growth will decline and eventually cease, (2) the time perspective which is appropriate for this to take place, and (3) the need for efforts directed specifically toward reducing population growth as contrasted with general economic and social development. Advocates of exaggerated positions have joined the fray with gusto and have often taken center-stage, leading to a political and ideological polarization of major proportion. On the one hand, the so-called "population bomb" is blamed for most of the ills of the world, including hunger, poverty, pollution, crime, and even mental illness. From this perspective such problems could be resolved via voluntary or coercive population pro-

---

Some parts of this paper draw heavily upon previous work of the author and a variety of others as prepared by Bernard Berelson in *World Population: Status Report 1974*. New York: The Population Council, January 1974. The very helpful comments of Bernard Berelson, Ansley Coale, Adrienne Germain, Oscar Harkavy, Michael Henry, Lyle Saunders, Vivien Stewart and William Sweeney are also gratefully acknowledged.

grams if only the political will and financial resources were available. On the other hand, advocates of the contrary polar view repeatedly rise to deny the salience of current population growth as a problem, and to decry what they view as its increasing overemphasis among the purveyors of development assistance.

Even within the ranks of those most concerned over world population growth, there is a growing current of doubt about the effectiveness of deliberate governmental population policies. By "population policies" here we mean only those deliberate governmental actions intended to affect fertility behavior (though policies affecting mortality and migration may also properly be considered population policies). Such population policies include programs and laws affecting information and education, family planning services, and incentives directed toward fertility behavior, as well as efforts to alter the frequency and age of marital unions. Many commentators are now vigorously proclaiming the ineffectiveness of such special policies, asserting that only through improvements in health, nutrition, income, social justice, status of women, or other such general factors will the issue of population growth ever be resolved.

The debate is increasingly one of international politics, crosscut by the currents of academic theories, ethical principles, and religious and ideological doctrines. Mere data cannot be expected to resolve such debates, which derive more from perception than from fact. But if the debate *were* a rational one, what *could* the data tell us? To what extent can the strongly held positions on "the population problem" be supported by fact, and to what extent is agnosticism in the absence of factual data an appropriate posture?

II

There can be no doubt as to the factually extraordinary nature of the current population situation of the world. From the appearance of mankind to early modern times the human population grew at a rate averaging very close to zero. For short periods local populations might have grown relatively rapidly, but then disease or famine would set in and the population would stop growing or would decline. The overall human growth rate cannot have averaged more than two-thousandths of a percent (0.002 percent or 20 per million) annually up to early modern times. The average birthrate was high but so was the death rate,

and the result was near-equilibrium. Merely to survive as a species, humankind had to maximize its reproductivity to compensate for its devastating mortality, and strongly pro-natalist social institutions were therefore by definition characteristic of all human societies which survived through this epoch into the modern world.

With the appearance of scientific, political, social and economic institutions capable of reducing human mortality, mankind's equilibrium began to change, first gradually and then dramatically. As the then-developing countries of eighteenth- and nineteenth-century Europe pursued their processes of modernization, industrialization, and urbanization, their death rates began to decline, while birthrates remained at the high levels supported by millenia-old social practices favoring high fertility. The result was a major acceleration in population growth, with sustained growth rates many hundreds of times greater than previously. Annual population growth rates of 0.5 to 1.5 percent (5,000 to 15,000 per million) became common, and sustained growth rates for Europe as a whole averaged about 0.7 percent. While such figures may not sound high when compared to current rates of economic growth and inflation, they resulted in a doubling of the European population during the nineteenth century. In the context of these increases and of the periodic economic and agricultural setbacks of nineteenth-century Europe, waves of European migrants flowed to colonies on other continents. Only after many decades did these rates of population growth begin to moderate, not through a return to previous high mortality rates, but through a decline in fertility.

This process of change from high-mortality/high-fertility to low-mortality/high-fertility, and finally to low-mortality/low-fertility came to be called the Demographic Transition. It was an historical process easier to describe than to explain. The causes of the mortality decline are variously held to reside in improved sanitation and health measures, in new and more productive agricultural crops (such as the potato) introduced into Europe from the New World, in improved communication and transport of foodstuffs to reduce localized famine, and in an inexplicable decline in the virulence of epidemic diseases such as bubonic plague and smallpox. The causes of the fertility decline are even more in dispute. Concepts such as urbanization, industrialization, modernization, compulsory education, recog-

322

nition of the decline in infant mortality rates, and even a growth in "rationality" and "hope" are variously employed to explain the course of fertility decline. Yet as one examines all available data a satisfying explanation becomes more and more evanescent. For example, England, the pioneer of the Industrial Revolution, with her rapid urbanization and modernization, did not experience a decline in fertility until the late 1800s, while France, with her tepid pace of development, her Catholicism, and her large peasant population, was the pioneer of the fertility decline.

If one cannot be confident as to the causes of fertility decline, there can be no doubt as to its reality and persistence. The long-term trend of fertility in developed countries has been downward throughout the twentieth century, with the post-World War II "baby boom" (which in fact characterized only a few developed countries) representing merely a temporary aberration from this trend. By the 1970s fertility rates in nearly all developed countries had dropped to levels very close to "replacement" (that number of children required simply to replace the present population of reproductive age), and the prospect arose of a new equilibrium being established.

The population history of the developing countries of the twentieth century is markedly different. The decline in mortality began only four or five decades ago and has been far more precipitous than the earlier decline in Europe. In large part these later declines have been unrelated to economic development—due instead to the importation and rapid implementation of modern and relatively inexpensive public health measures and medical technologies which had been developed only gradually during the nineteenth and early twentieth centuries. At the same time birthrates in the developing countries at the onset of the mortality decline were substantially higher than those of pre-industrial Europe, due primarily to the prevalence of earlier and more nearly universal marriage in the developing countries.[1] While birthrates have subsequently declined in some developing countries, typically they have remained higher than those of pre-industrial Europe, while mortality declines have been dramatic. The result has been population growth rates in the developing countries which dwarf the previously unprecedented rates of

[1] The pattern of late marriage and non-marriage which characterized industrializing Western Europe is so unusual that it is known as "the European marriage pattern." See John Hajnal, "European marriage patterns in perspective," in *Population in History*, edited by David V. Glass and D. E. C. Eversley, Chicago: Aldine, 1965.

323

nineteenth-century Europe. Some developing countries are currently experiencing growth rates approaching 3.5 percent (35,000 per million), fully twice as great as the highest experienced during Europe's most rapid growth. The average of all developing countries, including those which have experienced unmistakable fertility declines, is still about 2.5 percent. A difference of such magnitude has enormous implications when one is dealing with population processes. The disequilibrium of birthrates and death rates in the developing countries over the past four decades has been literally extraordinary—quite unprecedented in the history of the human species, including that of nineteenth-century Europe.

If the pace of both mortality decline and population growth has quickened among the twentieth-century developing countries as compared with those of the previous centuries, so there are modest signs of a quickened pace of fertility decline. In the case of England, for example, fertility did not show an unambiguous decline until fully 100 years after mortality began to fall. In contrast, as we see in Table I below, at least a dozen developing countries of small to moderate size can unambiguously document a substantial decline in birthrates only a few decades after the onset of substantial declines in mortality.

TABLE I

DECLINES IN CRUDE BIRTHRATE (LIVE BIRTHS PER 1,000 POPULATION) IN 1960s

Area	*Certain decline*	*Possible decline*
Asia	Hong Kong (15 or more)	China (5–9)
	Singapore (15 or more)	Turkey (5–9)
	Taiwan (10–14)	
	South Korea (10–14)	
	Sri Lanka (5–9)	
	W. Malaysia (5–9)	
Latin America	Barbados (10–14)	Brazil (5–9)
	Chile (10–14)	Colombia (5–9)
	Costa Rica (10–14)	Cuba (5–9)
	Trinidad & Tobago (10–14)	El Salvador (5–9)
	Jamaica (5–9)	Guatemala (5–9)
	Puerto Rico (5–9)	Venezuela (5–9)
Africa	Mauritius (10–14)	
	Egypt (5–9)	
	Tunisia (5–9)	

( ) = approximate number of points decline.
Source: Berelson, *World Population: Status Report 1974*.

324

In addition, as the table indicates, another group of countries may have experienced such declines, but limitations of available data preclude any firm conclusions. In some cases changes in age structure and marital patterns were important factors in declining birthrates, but in many there is unmistakable evidence that fertility within marriage is undergoing downward revision.[2]

As in the case of the European Demographic Transition, an explanation of the above declines in birthrates in developing countries is a matter of almost continuous academic disputation. Some argue that most of the countries with clear declines in fertility have experienced rapid economic development, industrialization, and urbanization, and it is the impact of these socioeconomic forces which explains the declining birthrates. Others point to the intensive population and family planning programs in most of these countries and argue that declining birthrates may be explained at least partially in terms of the high effectiveness and acceptability of these programs.

Whatever the truth of various explanatory positions, the present world distribution of birthrates is so closely related to development status that the birthrate itself can be used as an efficient way of distinguishing developing from developed countries. There are few exceptions to the rule of thumb that developing countries have birthrates above 30 per thousand while developed countries have birthrates well below 30 per thousand. Indeed the few notable exceptions to this rule are themselves instructive, for they are developing countries, such as South Korea and Taiwan, which are well along the roads of both development and their own demographic transitions.

III

Perhaps the least widely understood aspect of population growth is its tendency to continue even after fertility has declined. Rapid population growth can be said to have the property of *momentum,* much like the tendency of a fast-moving vehicle to continue its motion long after its brakes are applied. There are two components of this population momentum, one obvious and the other more subtle. The obvious factor is that the

[2] John A. Ross, *et al.*, "Findings from family planning research," *Reports on Population/Family Planning, 12,* October 1972, Table 2; Robert J. Lapham and W. Parker Mauldin, "National family planning programs: review and evaluation," *Studies in Family Planning, 3* (3), March 1972.

325

social and economic forces encouraging high fertility have been established over the millennia of mankind's existence on earth, and simply cannot be eliminated overnight. We know from the European experience that such changes can take many decades, and even if the process is greatly accelerated in today's developing countries it can still take many years. The more subtle basis for the momentum of population growth resides in the age structure of a rapidly growing population. Such a population is distinguishable from a slow-growing population by the former's very "young" age structure, i.e., by its large proportion of children and adolescents. In such a country there are many more young people than adults, and as the young enter the reproductive ages there inevitably will be more potential parents. The implications for future growth of this population momentum are often overlooked. Government officials, even some well versed in economics, often view population growth rates as amenable to the same type of short-term manipulation as other societal rates such as investment rates, interest rates, and unemployment rates. Such perceptions are factually incorrect; the momentum of population growth is determined not by government policies but by the inexorable logic of mathematics.

Let us assume, for example, that development and population efforts will be exceedingly successful over the next decade, and that by the period 1980–85 fertility in developing countries will decline to the "replacement" level now characteristic of developed countries. Under such an exceptionally optimistic assumption the population of the developing world would nonetheless continue to grow for many decades, and would eventually reach a size fully 88 percent greater than its 1970 level. All large developing countries would experience very substantial population increases due to their built-in momentum for further growth, although there would be differences in the magnitude of these increases.

If we now relax our extreme assumption of a fertility decline to "replacement" level by 1980–85 and assume that this level will be reached 20 years later in 2000–2005 (which would still represent a rapid fertility decline when compared to the experience of Europe), another set of figures emerges. The difference in eventual growth indicated by the two sets of figures illustrates how important to eventual population size is the date by which fertility declines to low levels. In the present example

326

a difference of "only" 20 years implies an eventual population increase in developing countries of nearly four billion instead of the 2.2 billion resulting from the early fertility reduction. The point is shown dramatically in the following table:

TABLE II

Country	Population circa 1970 (in millions)	Eventual population size (in millions)		Percent increase from 1970 level	
		Replacement by 1980–85	Replacement by 2000–05	Replacement by 1980–85	Replacement by 2000–05
China	734	1,270	1,622	+ 73%	+121%
India	534	1,002	1,366	+ 88	+156
Brazil	94	192	266	+104	+183
Bangladesh	69	155	240	+125	+248
Nigeria	65	135	198	+108	+205
Pakistan	57	112	160	+ 96	+181
Mexico	51	111	168	+118	+229
Philippines	38	79	119	+108	+213
Egypt	34	64	92	+ 88	+171
Developing World	2,530	4,763	6,525	+ 88	+158
World	3,652	6,245	8,135	+ 71	+123

Source: Tomas Frejka, *Reference Tables to "The Future of Population Growth,"* New York: The Population Council, 1973.

These illustrations demonstrate not only the power of population momentum but also the degree to which most developing countries are already virtually assured of major population increases, whatever happens to fertility levels. In most cases the focus of present policy decisions directed toward fertility behavior need not be on the next 75 to 125 percent increase; such growth is coming, welcome or not. The issue at hand is the desirability of subsequent increases of even greater magnitude. The momentum of population growth thus requires that policy-makers think beyond the next development decade, beyond the next election, and even beyond the next 50 years—into the next century. In an age when officials must necessarily concentrate upon the coming harvest or the rates of price increases of raw or manufactured goods, such a perspective requires statesmanship of an impressive dimension.

IV

Faced with such a problem and imbued with farsightedness and vision, what should a policy-maker actually do? If it is true that our understanding of fertility decline in both nine-

teenth-century Europe and twentieth-century developing countries is at best merely tentative and at worst almost nil, one may well ask how anyone could be justified in asserting that any particular policy is *the* "correct" one. Unfortunately, such scientific ambiguities have not been reflected in humility on the part of discussants of these issues. A policy-maker seeking to find a sensible way to deal with population issues will find himself assaulted on all sides by strongly held and aggressively asserted positions as to why he ought (or ought not) adopt specific policy approaches. As the issue of population has become more and more one of policy rather than science, political considerations have naturally become more determinant in the elaboration of these positions. Furthermore, the near identity between high fertility and low development status (for which there may be causal connections in both directions) has meant that international discussions of population have increasingly taken on the flavor of a debate between the developing and developed worlds, in the same category as such debates regarding raw materials, colonialism, and the terms of international trade.

The result of all this can only be confusion, particularly on the part of the intelligent and concerned policy-maker who is seeking the best possible advice on what if anything should be his government's policy regarding population growth. In the interest of clarification it is possible to dissect analytically the various positions one from another, but with two important caveats. First, limitation of space makes it inevitable that descriptions of these positions will be oversimplified distillations of what are often subtle and eloquent arguments. Second, it must be noted that these positions are distinct from one another only in analytical terms; in the real world a person or country will usually adopt several of the positions which are mutually supportive of a particular perspective on population issues. A list of extant analytical positions ought to include at least the following:

Positions Against the Need for Special Population Programs and Policies:

1. The Pro-natalist position
   —Rapid population growth in a particular country or region is a positive force on grounds of (a) economic development, in that a larger population provides necessary economies of scale and a sufficient labor supply; (b) protection of currently underpopulated areas from covetous neighbors; (c) differentials in fertility among ethnic, racial, religious, or

328

political population segments; (d) military and political power and the vitality of a younger age structure.

2. The Revolutionist position
   —Population programs are mere palliatives to fundamental social and political contradictions which will inevitably lead to a just revolution, and may therefore be viewed as inherently counterrevolutionary.
3. The Anti-colonial and Genocide positions
   —The motives of rich countries which are pushing poor developing countries to adopt aggressive population programs are open to suspicion. These rich countries went through a period of rapid population growth as a component of their own development processes, and their current efforts to restrain population growth in the developing countries are an attempt to maintain the status quo by retarding the development of these countries.
   —One can also see the undue emphasis on population as an attempt on the part of the rich developed countries to "buy development cheaply."
   —Finally, a person who is very suspicious of the motives of the developed countries could see in their population efforts an attempt to limit or reduce the relative or absolute size of poor and largely nonwhite populations. Such a practice could be seen as a subtle form of genocide deriving from racist or colonialist motives.
4. The Over-consumption position
   —So-called "population problems" are actually problems of resource scarcity and environmental deterioration which derive primarily from activities of the rich developed countries, and not from high fertility in the developing countries.
   —Even if fertility is too high in the developing countries, this is a consequence of their poverty, which in turn results from over-consumption of the world's scarce resources by rich countries.
5. The Accommodationist position
   —As in the past, growing numbers can be readily accommodated by improvements in agricultural and industrial technologies.
   —The world has already shown that Malthus' predictions were incorrect; the same is true of the neo-Malthusian predictions and solutions.
   —That which is termed "overpopulation" in a given situation is really a matter of underemployment. A humane and properly structured economy can provide employment and the means of subsistence for all people, no matter what the size of the population.
6. The Problem-is-Population-Distribution position
   —It is not numbers per se which are causing population problems, but their distribution in space. Many areas of the world (or country) are underpopulated; others have too many people in too small an area.
   —Instead of efforts to moderate the rate of numbers growth, governments should undertake efforts to reduce rural-urban flows and bring about a more even distribution of population on the available land.
7. The Mortality and Social Security position
   —High fertility is a response to high mortality and morbidity; bring these levels down and fertility will decline naturally.

329

—Living children are the primary means by which poor people can achieve security in old age. Hence a reduction in infant and child mortality levels or provision of alternative forms of social security would lead to a reduction in fertility.

8. The Status and Roles of Women position
   —High fertility levels are perpetuated by norms and practices which define women primarily as procreative agents.
   —As long as women's economic and social status depend largely or solely upon the number of children they bear, there is little possibility that societal fertility will decline substantially.
9. The Religious Doctrinal position
   —In one form this position holds that population is not a serious problem. Be fruitful and multiply, God will provide.
   —In another form this position holds that while current rates of population growth are a serious problem, the primary instruments to deal with them are morally unacceptable, e.g., modern contraception and surgical sterilization are "unnatural," abortion is "murder."
10. The Medical Risk position
    —The goal of fertility reduction is not worth the medical risks of the primary instruments of population programs. Oral contraceptives and intrauterine devices have measurable, if small, short-term risks, and some people fear their long-term effects. Sterilization and abortion are operative procedures, all of which have an element of risk, particularly when performed outside the hospital.
11. The Holistic Development position
    —Fertility decline is a natural concomitant of social and economic development, as proven by the European Demographic Transition.
    —Most of the fertility decline in developing countries with family planning programs therefore derives from the impact of social and economic development rather than from the programs themselves.
    —International assistance for development is too heavily concentrated upon population programs, and is short-changing general development programs.
12. The Social Justice position.
    —Neither population programs nor economic development as presently pursued will bring about necessary fertility declines.
    —Fertility will not decline until the basic causes of high fertility— poverty, ignorance, fatalism, etc.—are eliminated through social policies which result in a redistribution of power and wealth among the rich and poor, both within and among nations.

Positions Supporting the Need for Special Population Programs and Policies:

1. The Population Hawk position
   —Unrestrained population growth is the principal cause of poverty, malnutrition, environmental disruption, and other social problems. Indeed we are faced with impending catastrophe on food and environmental fronts.

—Such a desperate situation necessitates draconian action to restrain population growth, even if coercion is required. "Mutual coercion, mutually agreed upon."

—Population programs are fine as far as they go, but they are wholly insufficient in scope and strength to meet the desperate situation.

2. The Provision of Services position

—Surveys and common sense show that there is a great unmet demand for fertility control in all countries; hence the main problem is to provide modern fertility control to already motivated people.

—Some proponents also hold that the failure of some service programs is due to inadequate fertility control technologies, and that the need for technological improvements is urgent.

3. The Human Rights position

—As recognized in the U.N. Tehran Convention (1968), it is a fundamental human right for each person to be able to determine the size of his or her own family.

—Furthermore, some argue that each woman has the fundamental right to the control of her own bodily processes. (This position usually leads to support for abortion as well as contraception.)

—Health is also a basic human right, which population programs help to achieve through a variety of direct and indirect pathways, including the direct medical benefits of increased child spacing on maternal and child health, and the indirect effects of reducing the incidence of dangerous illegal abortions.

4. The Population-Programs-Plus-Development position

—Social and economic development are necessary but not sufficient to bring about a new equilibrium of population at low mortality and fertility levels. Special population programs are also required.

—Too rapid population growth is a serious intensifier of other social and economic problems, and is one, though only one, of a number of factors behind lagging social and economic progress in many countries.

—Some countries might benefit from larger populations, but would be better served by moderate rates of growth over a longer period than by very rapid rates of growth over a shorter period.

—An effective population program therefore is an essential component of any sensible development program.

As has been noted, these analytically separable positions are by no means mutually exclusive in the real world. Typically a given proponent will adopt an array of these positions which are found to be mutually reinforcing of the conclusion being put forward. For example, a common argument heard from representatives of Third World countries might include elements of the Pronatalist, the Anti-colonial and Genocide, the Over-consumption, the Accommodationist, the Medical Risk, and the Holistic Development positions. Two countries might agree in their overall posture toward population programs, but might at the same time

disagree strongly on the specific positions supporting the common posture. It is little wonder that international debates on population programs often fail even to define the issues, much less resolve disagreements. Such difficulties are compounded by the incendiary nature of some of the rhetorical positions; terms such as "counterrevolutionary," "genocide," "population bomb," and "population crisis" are hardly conducive to sober reflection on empirical realities.

V

Despite such centrifugal tendencies, which often seem to send international meetings careening off onto tangential paths, it is encouraging that one can now perceive a fragile but growing consensus coalescing about a small number of arguments which are firmly rooted in the best available evidence. The central core of this consensus is the Population-Programs-Plus-Development position described earlier, but amended importantly by incorporation of major elements of disparate other positions. Partial elements of this view may be discerned in the writings and speeches of a number of statesmen, economists, demographers, educators, and family planners.

The consensus position begins with a frank recognition that population growth is not the only, or even the primary, source of the poverty, disease, illiteracy, and gross inequality which now characterize the world. The ultimate solution to such problems depends on the true social and economic development of the poor countries and regions of the world. Such development cannot be "bought cheaply" through concentration on population as the major problem. Second, the consensus position recognizes that whatever the population problem may be it is not uniform throughout the world, nor can a single characterization be correctly applied to all countries or even to all developing countries. In some areas it is evident that the population is already too large for indigenous resources, while in others resources are available in abundance, and development might be served by substantial increases in population size. Third, it is recognized that many of the problems arising from population concentrations derive from patterns of distribution and rural-urban migration as well as from overall rates of population increase. Fourth, the consensus position explicitly recognizes that, barring catastrophe, the population of the world and particularly of the developing coun-

332

tries will increase dramatically no matter what population policies are adopted; hence the world's technological and economic resources must be mobilized to assure that these sharply increased numbers can be accommodated and provided with opportunities for lives of dignity. Fifth, the consensus notes the happy convergence of most voluntary population programs with the goal of maximizing the basic human right of each individual to determine his or her own fertility.

The advocates of the consensus then go on to recognize the reflexive importance of rapid population growth upon the prospects for true social and economic development. While reductions in population growth rates are by no means sufficient to bring about such development, the very rapid growth rates of some countries stand as serious impediments to such progress. This is true both in areas in which population size is already taxing available resources and in those which could benefit by very substantial population increases. In the first case both the absolute size of the population and its rate of increase are important, while in the latter case attention is drawn to the benefits of moderate as opposed to rapid rates of increase. Hence population programs are seen as necessary but not sufficient components of all development programs. In no case is the goal in the short term a cessation of population growth, for the momentum of growing populations for further growth is well recognized in the consensus position. Indeed it is the force and duration of this momentum which provides a powerful argument for early attention to population policy, even in those fortunate countries for which substantial further growth may be a positive development.

The mechanism by which fertility is to be moderated combines strenuous efforts at accelerating social and economic development with vigorous programs directed specifically to population concerns. The consensus position recognizes that the overall level of social and economic development has effects on fertility levels which are largely independent of and distinct from the effects of population programs. But the converse proposition is also recognized as true: that population programs providing modern methods of fertility control have effects upon fertility levels which are independent and distinct from the effects of the overall level of economic and social development.

After more than a decade of experience with population programs in a variety of developmental settings, we now have con-

vincing empirical evidence of the validity of both of these propositions. If all countries for which data are available are categorized simultaneously in terms both of the strength of their family planning programs and of their relative levels of social and economic development, the data show that *both* factors are important in explaining declines in birthrates and differences in contraceptive use. In a study done at the Population Council,[3] 26 developing countries were categorized simultaneously in terms of their development status[4] and the strength of their family planning programs.[5] Each country was then characterized by two indicators of fertility control: the proportion of married women of reproductive age who are family planning users, and the change in the crude birthrate over the decade of the 1960s. The study documents the importance of both development status and program strength. For example, in countries with high development status, those with strong programs (such as South Korea, Taiwan, Singapore and Hong Kong) show much higher contraceptive use and much sharper birthrate declines than do those with moderate and weak programs (such as Chile, Jamaica and the Philippines). By the same token, of those countries with moderate program strength, those with high development status (such as Chile and Jamaica) show much higher contraceptive use and much sharper birthrate declines than do those with middle and low development status (such as Colombia, Pakistan and India). Hence more than a decade of experience is available to document the proposition that programs directed to economic development and to population growth *are* mutually supportive; there is no empirical warrant for the "either/or" type of argument.

In view of such considerations, the consensus holds that policies and programs are required *both* for general development *and* for specific population concerns, and that these complemen-

[3] Bernard Berelson, "An evaluation of the effects of population control programs," in H. B. Parry (ed.), *Population and Its Problems*, Oxford: Oxford University Press, 1974 and *Studies in Family Planning*, 5 (1), January 1974.

[4] Development status is classified as high, middle, or low on the basis of three major socioeconomic indicators which are generally considered to be related to motivation for a small family: per capita gross domestic product as an indicator of general standard of living; infant mortality as an indicator of health and general mortality conditions; and female enrollment in formal schooling as an indicator of the level of both popular education and the status of women.

[5] Family planning programs are classified as strong, moderate, or weak based upon their coverage of the country's population, the continuity and duration of effort, the vigor with which the program is actually pursued, etc.

334

tary efforts ought to be components of all international development assistance. Thus population programs are seen to justify the investment of a proportion of the resources available for development, though their requirements tend to be small relative to other development needs. While some critics argue that population programs today are claiming a disproportionate share of such resources, the available data indicate otherwise. Of the $6.15 billion available for official development assistance from 12 developed countries in 1971, only two percent was expended on population activities. Similarly, the 1972–1976 plan of the World Bank calls for about one percent of its available funds to be expended on population programs. Hence the present allocation of development funds to population activities is very small indeed, and even a substantial increase in such allocations would not alter the status of population activities as minor claimants upon international development resources.

VI

The consensus opinion outlined here represents an unlikely amalgam of major elements of at least the following analytically separable positions: Population-Programs-Plus-Development; Accommodationist; Pro-natalist; Holistic Development; Social Justice; Provision of Services; and Human Rights.

It is particularly notable that the consensus position explicitly accepts many of the major propositions of those who argue strongly against separate population programs, but concludes on the basis of the best available evidence that vigorous population programs are nonetheless a necessary component of enlightened development efforts. Thus the consensus seeks to integrate the critical evaluations of current population programs with the principal arguments favoring population programs as part of development efforts. If the consensus position thereby advances the discussion about population issues in both scientific and political terms, it may represent a happy example of a true Hegelian synthesis.

The consensus position asserts that there is no one population policy appropriate for all countries or even for all developing countries. In such a setting it is of central importance that each government examine its own country's situation in an objective manner and adopt population policies which are consistent with that analysis. This is equally true for developed countries as

335

for developing countries. In this regard it is notable that in recent years explicit policies on population have been most common in the developing countries. Most of the large developing countries have adopted official policies to reduce population growth rates, though the degree of commitment and implementation of these policies varies from high to nil. In developed countries population policies have been less explicitly demographic and are seen as part of general social policy. While concern has been expressed in some developed countries about excessive population growth (particularly in the United States, Great Britain, and the Netherlands), the generally very low fertility levels of developed countries has sometimes led to concern about too little population growth. Some have adopted policies intended to encourage fertility, though none of these policies has been notably successful in the long term. (Ironically the one possible exception is that of the pro-natalist policies of Romania, the site of the World Population Conference.) Most developed countries still are characterized by limitations on the availability of some effective means of fertility control, both pre-conception and post-conception. Such facts make awkward the posture of developed countries urging fertility reduction upon developing countries. Nonetheless, it remains true that fertility in developed countries is everywhere low and generally declining, and the issue of population has been taken seriously enough in 14 developed countries to bring about the establishment of official commissions to study and advise on population policies.[6]

Hence it may be seen that consideration of population policies is increasingly the province of governments, both in developing and developed countries. In all such deliberations, the emphasis must be on the objective and informed nature of the discussion. Crisis-mongering and doom-saying have no place in such a process; but neither do apathy, self-deception, or suspicion. While there may be no universally applicable population policies, a summary of the several points raised in this paper suggests that there are a number of universal propositions which are appropriate in the development of population policies tailored to each specific situation:

Current population growth as such is not necessarily a prob-

[6] These are, in alphabetical order: Argentina, Australia, Bulgaria, Canada, Czechoslovakia, France, Greece, Great Britain, Hungary, Israel, Japan, Netherlands, Romania, and the United States.

336

lem. It becomes a problem to the extent that it is in conflict with human values. Such conflicts arise if population growth is too rapid to be effectively provided for, or to the extent that growth in a particular situation represents additional population for which resources for a decent and productive life are not available. In some countries it is evident that additional population will be very difficult to accommodate (though such increases are inevitable due to the momentum of population growth). In other countries resources are adequate to provide for substantial further growth, but very rapid growth rates pose serious problems of short- and medium-term accommodation. Such countries would be better served by more moderate growth rates over a longer period.

Great caution must be exercised in accepting (explicitly or implicitly) the European experience as a model for policies on either economic development or fertility reduction in developing countries. Both economic growth and population growth have been far more rapid in the developing countries than in Europe. In the case of economic development there is increasing concern that the capital-intensive European model may be inappropriate for population-rich but capital-poor countries. Similarly, the long lags between economic development and fertility reduction which characterized much of the European experience may be unacceptably long for currently developing countries, especially given their much higher rates of population increase. This is particularly true in view of the sharply reduced opportunities for international migration as a "release valve" for excessive population growth. Hence total reliance upon so-called "natural" fertility declines following economic and social development may be as unwise for developing countries as would be a total reliance upon "laissez-faire" economic growth patterns. In both areas there is a central role for governments in guiding the process toward ends they view as desirable.

The effects of population policies are characterized by exceptionally long lag-times. This is particularly true in the case of the momentum for further growth of countries which have experienced very rapid growth in recent years. No matter what happens to fertility trends in such countries, all will grow very substantially over the coming decades. The momentum for a population increase on the order of 75 to 125 percent from 1970 levels is *already* built into the age structure of most developing

countries. Even if fertility in these countries were to decline in a few years to the "replacement" levels of the rich countries (obviously a near impossibility), growth of such magnitudes would still occur before equilibrium was reëstablished. This means that whatever population policy or program is adopted, all developing countries must plan to accommodate very substantial population increases with adequate food, employment, education, and housing. It also indicates that what may appear to be short-term delays in the onset of fertility decline today will have important multiplier effects in the decades ahead. Finally it demonstrates that, barring catastrophe, countries which could benefit from substantial further growth are virtually assured of it, even if they begin strenuous population programs at once.

Population programs are a necessary but not sufficient component of an enlightened strategy for economic and social development. The accumulated evidence of over two decades of such programs clearly demonstrates that they can have significant effects on fertility if they are effectively implemented. In the first place it is self-evident that no fertility declines can take place in the absence of the means of fertility control; the provision of the most effective fertility control methods through a population program should result in greater realization of motivations to reduce fertility which arise from sources outside the program itself. In addition, the presence of an effective and visible program can itself serve to increase the motivation to reduce fertility. This is not to say that fertility will not decline in the absence of an effective program. Folk methods of contraception which have moderate effectiveness (such as withdrawal) and illegal abortion are available to highly motivated people of all strata, and modern methods are available through private sources to most of the elite. Nonetheless, it is abundantly clear that enlightened population programs can serve both to encourage such motivations and to maximize their realization, while being fully consistent with basic human rights recognized by all international bodies.

A phenomenon such as continuing rapid population growth, with its long-term momentum and widespread ramifications, requires farsighted statesmanship of uncommon proportion. The need to reject the simplistic "either/or" in favor of vigorous efforts on both the development and population fronts is strongly supported by the best available evidence. Policy-makers may ignore such empirical realities only at their nations' peril.

338

SEMINAR ON LAW AND POPULATION:

LECTURE BY PROF. BERGMAN

The purpose of the seminar is to explore the impact of population change on various sorts of political systems reciprocally to examine how these systems react to population change with public policy responses. In most political systems, public policies are expressed in laws of one form or another. All systems have their distinctive means of creating laws and these means are the political processes which political scientists sometimes characterize as the "black box." From your courses in political science, you are familiar with this thing called the "black box," as a converter that translates the demands and needs of a society into public policy outputs which are usually pieces of legislation, decrees, pronouncements, or other official actions that are designed to have some impact and are enforceable by the public authority.

Our principal focus today is on this conversion process as it operates in the field of population policy. We have been hearing much about the problems created by rapid population growth and the remedies that might ameliorate both cause and effect. In some of your countries, rapid population growth is more of a problem than in others. But even in countries where rapid population growth does not create problems of physical survival, it does create less draconian problems with which governments have to deal. Right here, for example, a large movement of population into the suburbs which is partially due to a growing population creates problems of land use, transportation from suburbs to city, recreation space, housing, and other requirements that governments are responsible for providing. The mechanism by which some of these requirements, or demands created by rapid population growth are translated into law or other forms of public policy is a political process. Our purpose is to examine the process as a political phenomena and to seek some useful tools and concepts for so doing.

As you think of your own countries or your own states and cities and reflect on the government institutions and the political dynamics that transpire within them, consider for a moment how you would best look for explanations to the relationships we are examining. As you consider the likely objects for this sort of inquiry, and the methods for conducting it, you may well conclude that the techniques for doing political analysis are examining other sorts of social scientific and hard scientific phenomena. This is because politics is more an art form than a science.

The understanding of policy making as a political process and certainly the attempt to influence it, requires the identification of relevant political ingredients, or we can call them political variables and their examination in relationship to one another. The accompanying paper on political analysis of population policy choices attempts to provide this perspective by stating the problem of policy analysis in the population area by proposing a methodology that would focus on its political essence.

In the field of population policy we have been exposed to many policy options, a number of which are nothing less than ideal solutions. To illustrate the political dimension, let us consider a policy option involving energetic birth control programs with substantial government support, representing direct government intervention, which are useful and indeed critical to the development process of many countries. Demographers can show us the numbers, and can project the numbers that result from failing to intervene. Economists can specify the costs of failing to intervene, including the opportunity costs and what societies will be forced to forego by the failure of government to intervene. All of this analysis is very reasonable and rational. But it is the political leaders in these countries who ultimately decide whether to intervene, how and at what point in time. And in making these decisions the leaders have to consider essentially political factors, a major one of which is their own political viability.

Figure I in the article identifies some of the political ingredients involved in population policy choices. They are organized in three categories: the actors in the process; the procedures the actors use in making their choices; and the resources the actors seek to maximize in making policy choices about population issues.

Cycling around these categories are other sorts of influences that are also important: for example, a list of factors that might be subsumed under the concept of political culture. This concept refers to the cultural variables in a society, including tradition, religion and norms that have been passed down through the ages. These factors impact on the choices, on the persons doing the choosing, and on the sort of the choices they can make. Illustrative of how cultural influences play a role is the attitudes in some Catholic Latin American countries on issues of rapid population growth. Even if the economic planners and demographers, say in Brazil, communicate to political leaders the consequences of failing to take energetic actions in suppresssing rapid population growth, the political leadership of Brazil might not be able to respond to this rationally, because of the overriding cultural factor, which in this case is orthodox religious doctrine.

You can think of similar examples in some of your own countries. The political leader is not always capable of responding rationally in making his choice. It is these "irrationalities" that we seek to identify in the political analysis of policy choices.

What is the value of this type of analysis? There is a theoretical value because this type of analysis enlarges our understanding of policy-making in various political systems by teaching us that policy-making is not a derivative purely of what the computer spews out in the way of optimal policy choices. It is a process that is influenced largely by non-rational factors. Secondly, a political analysis has an applied value, which probably is of principal interest to many of you, because I assume you are all training here to be applied political scientists, or professional policy-makers. On the basis of political analysis we can communicate better with key decision-makers in terms they understand, which are political terms. For example, if we can calculate a political cost-benefit sheet in a policy area, such as the population policy area, we might be able to convince a political leader who otherwise might be resisting a desirable policy choice because of a

misreading of political realities. We might show him that after all it is not going to cost him so dearly politically to make the desirable choice, and as a result we open up a channel of communication which might be more effective than some of the rational or scientific channels that our colleagues in demography, public health, and economics, have employed.

In contemplating population issues in your own countries you can think about some of the obvious choices that should be made, among which are some that might be long overdue. Why aren't they made? Why haven't they been made? Perhaps if you search for the reasons, you might find that the principal deterrents to these choices have been political deterrents, including political deterrents that leaders have perceived incorrectly.

I have been talking in some abstraction here, but I wanted to create a framework in which we might utilize raw material from your own countries. For example, let us contemplate some of the ramifications of the recent Edelin decision here in Boston, in terms of what the executive authorities in some of the American states are going to be prepared to do in providing abortion services to needy females. Now this decision may have a chilling effect on their inclination to do so. As you know, in the US there has been an active debate on how states can extend the abortion benefits that affluent people enjoy to people who are not affluent, and how this can be done through the social security system. These decisions involve political calculations, among others, by state legislators. As an example, in this state Representative John Ames, who has been active in population matters in the Massachusetts state legislature, teamed up with another legislator in introducing a bill that will require couples registering for marriage licenses to receive a packet of contraceptive counselling information. This could be a politically dangerous initiative for Representative Ames and his colleague to do, given the Edelin decision and the emotions it has created, and given the prevailing attitudes in Massachusetts surrounding this matter. But Representative Ames was quoted as saying that, by providing people with knowledge that the technology exists to avert birth and thus to prevent unwanted pregnancies, the demand for abortion would decrease and the problem would be mitigated.

I recall Representative Ames discussing some of the problems that Massachusetts legislators have in dealing with population issues because of widespread public hostility toward fertility control and family planning programs. He suggested that the less emotion-charged issue of land use was a vehicle for exporting the population policy discourse in Massachusetts. The discussion would proceed as follows: Communities are getting too crowded; conservation lands are being overrun by subdivision; and transportation is getting bad. Thus, by focusing attention on unwanted population in certain places, we might encourage thinking about unwanted offspring among couples. He said in this way we can back into the discussion of family planning.

Perhaps this approach has succeeded as a result of which political leaders in Massachusetts feel somewhat more secure, as evidenced by the Ames-Delahunt proposal for family planning information legislation. The

introduction of this measure represents the calculation of political costs and benefits. It is not that Ames is afraid to state a position on the issue, but rather that Ames as a responsible political leader must be thinking about how effective he can be within the established political process.

Will this rather benign piece of legislation be completely pushed out of the political process; will it get lost someplace in the legislature? Or does it have a viable chance of becoming law? The fact that Ames introduced it indicates his judgment that it has a chance.

Now, I would like to conclude by making an observation on three cases that I used in the accompanying article, the cases of Costa Rica, Mexico and the United States. The common element in all three, as I reported, was that the population policy choices were made on the basis of political calculations that were not related to population issues at all, but were related to strictly other political factors. In the case of Costa Rica the major influence in that policy choice had nothing to do with creating family planning programs; it had more to do with maximizing the advantage of adversary political parties. In the case of Mexico, the stage was set for making the population policy choice not by sudden recognition that rapid population growth was a major deterrent to Mexican development, but rather because the regime felt politically secure after being in office for two years. And in the case of the US on the national level, the erosion of federal government support to the national family planning program had nothing to do with the merits of this program, but rather to a concept of new federalism, which was a favorite political concept of the incumbent administration. By assigning priority to shifting major responsibility for social services to the American states, the issue of family planning and how best to do it in the US was completely submerged.

These examples illustrate another value that we can derive from doing this sort of political analysis. We can find the choices affecting the policy area are influenced predominantly by factors that have nothing to do with the substance of the policy choices.

Now I would like to turn to another problem in population policy-making as a means of stimulating your thinking about the role of political influences. The problem is again US-based and essentially is this: What should the US Government response be to global population growth? In the accompanying paper you read about a US response to domestic problems. American population policy also deals with the domestic problems of other countries as a result of our interdependencies with other countries. Thus, we also are concerned about how we should allocate American financial resources to intervention in global population growth. Here we have a live policy problem to which the application of political analysis is highly relevant.

Though formed in a US perspective, you can consider the problem from each of your national perspectives. Excessive rates of population growth in underdeveloped countries aggravate conditions that frustrate the achievement of American foreign policy objectives. Accordingly, rapid population growth represents the terminal of another axis in the complicated web of linkages that involve US interests with conditions prevailing in the most populous and less developed countries in the world. These are the countries that both are unable adequately to feed, house, clothe, educate, and employ the majority of their populations, and to accommodate their increasing concentration in urban centers. At the same time these countries suffer fragile

governmental structures, which lack the capacity to provide adequate management for their internal and external affairs.

Excessive population growth in these societies intersects US foreign policy goals in three interrelated areas:

A. Political:

Chronic conditions of human deprivation among the majority of a population, accentuated by rapid population growth, contribute to the vulnerability of incumbent regimes with respect to their internal stability and their external commitments. Regimes unable to accommodate the needs and demands of the majority of their people are subject to collapse, and replacement by regimes whose behavior may not conform to a pattern of international relationships consistent with American foreign policy objectives. In addition, reliability of incumbent regimes pressured by rapid population growth is questionable for the maintenance of bilateral political and economic commitments with the United States, and multilateral undertakings with international structures.

B. Economic:

Now the second area is economic and here again we are looking from a US vantage point. But again, any of you can turn it around and look at it from the vantage point of your own countries.

Conditions of deprivations in underdeveloped countries coupled with the inability of the incumbent regimes to ameliorate them create a continuing requirement for external economic assistance, which at periodic intervals is escalated by natural catastrophes such as flood and famine. This chronic international welfare burden is subject to response by any countries so inclined, on the most favorable terms and conditions they may obtain.

Since the end of World War II the United States has responded to the welfare burden with major programs of foreign economic assistance on terms designed to further American foreign policy objectives. In this enterprise we increasingly have been confronted with competition by the Soviet Union, which usually sets conditions for its foreign economic assistance inconsistent with American foreign policy objectives. Two increasingly significant competitors in manipulating the international welfare burden, whose role cannot yet be adequately assessed, are the Chinese People's Republic and the major OPEC oil producing nations.

Occasionally the competition has created demands on American economic resources that have increased and distorted reasonable levels of American assistance. And whether under conditions of competition or not, allocations of American resources for foreign economic assistance compete with domestic needs. Thus, whatever the conditions, competitive or not, or the particular spread of competition, foreign economic assistance comprises a significant demand on the American national budget.

C. Humanitarian:

Whatever the political or economic considerations involved, conditions of human deprivation elsewhere in the world evoke a compassionate response among sectors of the American public who are aware of the conditions. It could be said that concern about the welfare of others is a fixture in the American political ethos. Though always capable of being evoked in the abstract, the expression of this compassion can be deterred by conditions such as the recognition of competing needs at home, anxieties about involvements abroad, and hostilities engendered by the behavior of needy countries.

Nevertheless, the humanitarian instinct provides a direct link to conditions of deprivation in other countries. This linkage has been effectively exploited by the sectors of American society most informed and concerned about events outside the United States. These are characteristically the higher status groups who enjoy greater access to the foreign policymaking apparatus of the American Government.

These political, economic, and humanitarian areas thus provide the environment in which rapid population growth in underdeveloped countries is linked to American foreign policy objectives.

Let us speculate in more concrete terms about the possible linkage of population growth to US interests. Consider Mexico, with a very high growth rate similar to that of other Latin American countries. Rapid growth rates in Mexico, coupled with adverse conditions of income distribution, a continuing failure of the system to distribute the economic growth, could create conditions in which the incumbent regime would be toppled. This would create a major problem for the US, right on our border. In this connection, we might recall the American reaction to developments in Cuba, which is an adjoining country. In this context, you can appreciate the anxieties that would affect American policy-makers in this particular issue. Changes adverse to American interests would be reflected in the deteriorating political, social and economic conditions that are aggravated by persistent pressure of continuing high growth rates, and the quality of American vulnerability would be determined by the particular form of deterioration.

This scenario in which developments by rapid population growth plays a role can increase American vulnerability close to home. There are possibilities further away. Consider, from the American vantage point, the economic collapse of a country like Bangladesh. If the consequence of this collapse was the transformation of Bangladesh into a Soviet client state, American interests would suffer in the short run. For one thing, the availability of East Bengali ports would increase Soviet capacity for maintaining a larger strategic force in the Indian Ocean at a lower cost, and the American response to this condition would be costly in both strategic and financial terms.

The impact of rapid population growth seldom is discussed in these geo-political-strategic terms. But I think that it is necessary to recognize this reality and thereby recognize the vulnerability of the US or other countries to conditions that are aggravated directly by rapid population growth.

Let us move on to consider how these concerns--these ingredients for policy-making which involve American interdependence with conditions in other countries, evoke particular interests and interest groups in American political system. It is reasonable to say that, like foreign aid, the vehicle employed to deal with it, the issue of rapid population growth in underdeveloped countries has not achieved an effective constituency in American politics. The limited constituency supporting American activities in this field has evolved around several motivations.

Those of you who have studied American politics know that interest groups are the engines ofAmerican politics, the engines that make the other parts of the system function. The first motivation that creates an interest group here is humanitarian and it expresses a conviction that it is a moral obligation to employ American resources for the relief of human distress elsewhere in the world. The United States should share its wealth and skills to improve the welfare of other peoples. Beyond the moral obligation, improving the lot of deprived peoples and nations will create a climate more conducive to international prosperity and tranquility, conditions that are in the interest of the United States, as well as the world at large.

(The humanitarian approach is expressed by individuals and groups with an international orientation and an active interest in the condition of American foreign policy, usually in conjunction with one of the other rationales.) In this connection I think of something called "the Eastern foreign policy establishment," but it is fair to say that American compassion can be evoked beyond the Eastern seaboard.

The second motivation that has created interests and interest groupings in the population field as an economic one. Rapid population growth increases the international welfare burden and erodes the value of resources allocated to cope with it. Over the past generation, American foreign aid has had minimal or no effect in underdeveloped countries experiencing rapid population growth. Transfers of resources to those countries, designed for economic and social investments, are dissipated in immediate consumption requirements created by rapid population growth. A turnaround in population growth will contribute to the elimination of such distortions in the use of foreign aid. Ultimately, if population growth is turned around, the international welfare burden will decrease to the point where American foreign aid can be phased out. And to the extent foreign aid continues, its value will markedly increase in the long term development programs of underdeveloped countries.

This rationale is frequently employed by officials in the executive and legislative branches, and their public supporters, as the principal justification for aid authorizations and appropriations for population activities. If you read testimony before the House and Senate Committees to justify population foreign aid, this argument emerges clearly.

Thirdly, there is a professional and scientific interest which has created another interest group in this mix. This interest might be characterized as follows: the complexities of rapid population growth and the development and deployment of remedial formulas and instruments require extensive research, study and training. Teaching and research institutions have a major contribution to make in exploring the area and devising means for solving the problems it has created. Without a systematic, scientific approach to the problems of rapid population growth, effective solutions cannot be devised. Principal responsibility for this systematic effort resides in the scientific and intellectual community of America.

This position is expressed by members of the American intellectual and scientific community, who have developed interests, scientific skills, and understanding in problems associated with population change. These specialists and scientists are located in relevant university departments and research centers, in the federal government, principally the National Institutes of Health, and in the foundations such as Ford, Rockefeller, and the Population Council.

There is a fourth interest group position, which we do not hear too often, but we suspect that it exists and certainly it is a position that should be identified in the policy-making process. It says something like this: Rapid population growth occurs in non-white societies, and its continuation represents a threat to values inherent in western civilization as we know it today. Non-white populations are less desirable because they are less capable and less productive, and thus chronically contribute to the welfare burden, both nationally and internationally.

This view, for obvious reasons, is never publicly expressed, and thus is difficult to capture empirically. However, the position has acquired enough informal attribution to warrant its mention. The anxieties underlying the position are expressed among the American public with reference to specific domestic issues such as education, welfare, and personal and community security. Thus, their projection to nondomestic issues is not a surprising phenomenon. Though not attributed to any organized group, this rationale is said to motivate some key members of the Congress responsible for foreign aid authorizations and appropriations, and some of the private citizens who have been associated with activities to curb rapid population growth.

We have identified four major categories of interests that have created the interest groups that play a role in the framing of American population policy. You will recognize from the earlier discussion that in these interests and groups we are dealing with political factors and are concerned with how they translate their interests effectively into public policy.by using the prevailing political process.

We have suggested an interest group coalition in the US concerned with the problem, made up of universities, foundations, private associations and elements in the government. I call it the American Population Coalition. Perhaps it does not deserve a formal characterization, but it is an identifiable structure whose components engage in policy-making.

Let us quickly summarize the substance of what we are talking about—the dimensions of the population problem insofar as the US can influence them. What should the US Government response be to global population growth?

In framing US policy and proposing the related allocations of resources and activities, the critical opening question is: What do we know about the means for reducing rapid population growth in underdeveloped countries? And, if the objective is attainable without major outside intervention, what can the United States do about facilitating its achievement?

The major ingredients of the existing knowledge base--what we know and do not know--for making the related policy choices can be summarized as follows:

1. Rapid population growth in underdeveloped countries is caused by high rates of natural increase, e.g., high fertility rates. Existing fertility rates are traditional, and in the past, were offset by high death rates, a linkage which maintained stationary populations. The success of death control measures has upset this population equilibrium, and thus rendered traditional fertility rates excessive. In the societies where this equation prevails, population growth rates will be reduced only as a result of significant declines in fertility rates. Because of a deceleration function involved in the impact of fertility reduction on population growth rates, a population will continue to grow, though at decreasing rates for some 40-70 years following the point at which fertility rates have declined to the replacement level.

2. Fertility reduction is achieved by the will of the individuals concerned to plan and control their fertility, coupled with the availability of the means that enable them to do so. Though traditional means of fertility control have functioned in the past, and still do in some societies, they are no longer adequate, either for the maintenance of a stationary population, or the reduction of excessive population growth. Accordingly, modern contraceptive technology is a necessary, though not sufficient means for fertility control. The employment of modern contraceptive technology, and its impact on fertility, are determined by the motivations that cause people to use it. Thus, the availability of contraceptive technology does not necessarily guarantee its use. In this case, supply does not automatically create demand.

3. The human fertility function is not completely understood. Contrasted with other areas of human understanding, our knowledge about human fertility can be characterized as underdeveloped. The state of the art in existing contraceptive technology is reflected in a 30% average failure rate among willing users in the United States.

Lee: Does this include the rhythm method?

Bergman: Yes, it goes through the range, that's the rhythm method which was the least reliable to the pill which was the most reliable.

Kellogg: But that is not fair.

Bergman: It is fair, because what Norman Ryder found was there was about 30% failure rate on the rhythm whereas about 1% on the pill, so it averages out over a long term.

Because of significantly greater deficiencies in local health, distribution and follow-up systems, inadequate technologies create even higher failure rates among users in underdeveloped countries. Moreover, the same local deficiencies limit the availability and use, and thus the potential impact, of existing technologies among populations in underdeveloped countries.

4. Significant declines in fertility rates are associated with the improved distribution of income among poorer sectors of a population, e.g., the lower 40% of the income scale. This relationship has been observed in countries whose fertility rates and population growth rates have declined noticeably over the past decade, including Costa Rica, Hong Kong, South Korea, Singapore, and Taiwan. Sustained high rates of economic growth and rising per capita incomes in the absence of an improved distribution of the increments are not associated with declines in fertility and population growth rates. This phenomenon is illustrated by the cases of Mexico, Brazil and the Philippines.

Lee: I wasn't clear about this 40%?

Bergman: Where the distribution of income has improved among the lower 40%, there is an association between family planning programs and declining rates of fertility. In places where this phenomenon has not happened there is not an association.

Question: How much of improvement is due to income distribution, because all of the countries you mentioned are also practicing family planning?

Bergman: There are other countries which have energetic family planning programs, but have not enjoyed an improved distribution of income, and where there has not been a decline in fertility. The Philippines, for example, is a case in point.

Question: How about the success of the program?

Bergman: The success of the program is usually measured in fertility decline.

Student: Well, Berelson has an article and he uses some criteria...and it's rather than the outcome of the program, more like the input into the program.

Bergman: What you are putting your finger on is a methodological problem, which is how we evaluate the impact of family planning programs. The people who have been doing this tell us they have not yet found a satisfactory methodology for evaluation. So all we can suggest is that there are certain linkages, certain relationships. I know these points are argued. Berelson, in the article you mentioned, argues them and says this linkage between income distribution and fertility isn't necessarily the answer. Others have made the argument more forcefully. I grant it is an arguable point, but in the absence of a methodology where we can get a satisfactory answer, I throw this one out, as others have, for purpose of discussion and argumentation.

But I think whatever the quality of the program, generally we observe declines of fertility whether there has been better distribution of income. Maybe that can account for whether there have been better programs. So this is one of our major problems; to try to sort these things out.

I just said the independent impact on fertility of organized programs in developing countries has not been established, principally because of methodological problems and segregating the relevant variables. There have been conflicting claims and explanations such as we have been discussing. One position holds that organized programs are the most significant cause of fertility decline. Another maintains that they have no independent impact on fertility. Now that's the substance we have to deal with in making these policy choices. I think this disagreement we just had indicates that there is even no agreement on the scientific base, which makes the problem all the more complicated.

Let us conclude by describing the policy instruments we have to deal with these matters. In creating policy, the policy instruments available to the US are principally its foreign aid programs. Another policy instrument which has emerged more prominently in the recent past has been the UN system. As a result of American initiative, the United Nations system has been called upon to assume an increasing role in the deployment and management of resources for the limitation of population growth. The American initiative is based on the untested premise that activities developed and managed through the U.N. system are more tolerable than those created on a bilateral basis. It is important that this presumption about the quality of multilateral acceptability never has been systematically evaluated, because it appears to have evolved into a form of conventional wisdom that has influenced the allocation of increasing levels of American foreign aid to the U.N. system. To provide a more rational basis for making judgments about the most effective utilization of American foreign aid resources, in the population field as well as others, the assumption about the U.N. system, in terms of its capacity and acceptability, should be thoroughly evaluated.

Lee: I was most interested in what you just said that there is an untested assumption that the United Nations aid programs in population matters are more effective or efficient than bilateral programs. This in itself, I think, shows that you have considerable misgivings about the UN system as a channel for aid in population matters. Could you further elaborate on this and what are some of your misgivings?

Bergman: Number one, I raise it in this context as a policy instrument that we should consider in solving this policy problem which is the distribution of American aid to ameliorate rapid population growth. The UN system is available; it's there, it's been exercised. The question is to what extent should we be reliant on it? Now I suppose the principal cause of my misgiving is that indeed I haven't seen a systematic comparative evaluation of the potential effectiveness and the potential acceptability of aid for family planning channeled through the UN system, as contrasted to the American bilateral system. I have never seen anything on that and yet in the current year the US foreign aid program is allocating about $20 million to UN Fund for Population Activities. The question is how do we maximize the value of our investment, either through the UN system, or allocating it through our bilateral system. If I were a policy-maker I wouldn't know how to answer the question because we never have had a systematic evaluation. That is the reason

for my misgiving. It is not a value judgment on the UN capabilities.

Kellogg: I was in the State Department back in the 1940s when the Point Four Program was just starting. The question raised then, as now, was the extent to which the U.S. should channel its assistance through the UN agencies. The best answer seems to be that it depends on the recipient country and on the sensitivity of the assistance. On one hand, if the country is suspicious of the US and if the assistance is a sensitive subject, like population or inflation of the currency, then UN channels work better. On the other hand, if the country has no suspicions or problems with the US, and the subject is straight-forward, like agricultural aid, then it may be more efficient to handle it bilaterally.

Bergman: Well, I think you stated it very well, what the rationale is for this inclination to allocate to the UN. But I'm questioning that: I'm saying that perhaps in certain cases we perceive a resistance to bilateral aid that isn't there. For example, I wonder whether any regime that accepts population aid through the UN is not aware that a good share of this aid is US originated.

This presumption that you were working on at the beginning of foreign aid program and I, too, was involved in foreign aid, really never has been tested, and that's what troubles me, especially in a situation where foreign aid budget is declining, not in population alone, but in all fields. Under these conditions we have to be more concerned about cost efficiency at the minimum.

Student: What is very popular about the UN is that they limit themselves so much in timing, rather than action itself. If they say we're giving you this fund for one year no matter at what stage you're in, even if you have one month to finish it, they cut it off, right in the middle, which is not the case with Ford or AID programs.

Bergman: You're saying that's why they are not so popular.

Student: Yes, they are not popular for research funding.

Student: I can see the importance of your political cost-benefit analysis, but it seems to me that for some countries you have to focus maybe one stage earlier at national problem perception level. I was thinking of those countries which don't think they have a population problem; they think they don't have enough people.

Bergman: I think your point is well taken. There was a time when many influential leaders were not aware of the interrelationship. Leaders being ignorant or not knowing what to do is no longer a characteristic of the population field.

In Mexico, at least, it was an organized health system that reached the limited amount of the population, but there was no family planning component. On the other hand, the Mexican regime was very much aware of the impact of rapid population growth on their economic growth. There were economists in the Bank of Mexico, the Planning Commission and so forth, who were working with demographic data all the time and making them available to the government. The leadership was aware of these linkages. They did not

bite the bullet until they felt politically secure and able to do so. Now I think that's a case where they suppressed the decision for political reasons until they felt secure in making it. There may be other cases where leaders or regimes are just out of it like our leaders appear to be on the American economy.

Student: I find your analysis very interesting, because I just read an article by a woman on the status of women in Ghana. She just made the point by looking at the Nkrumah regime, where Nkrumah was trying to impose a new deal, changing the marriage-divorce-inheritance law, and was faced with political opposition from a group of women, and so during this particular time he was unable to change that particular law, whereas later on in 1971 this law was changed. But because the timing was wrong and the political pressure was on him, he was politically insecure at that time and so legal reform was postponed.

Bergman: That's interesting. You can find cases like that if you look for them in this policy area as well as in other areas, where the regime rationally recognizes something and has the will to do something, but for political reasons feels it is too costly to move.

Student: In all these discussions we come back to what are we doing about female education, female emancipation. I can never press the point strongly enough that all these laws would be changed automatically if these countries would give sufficient attention to female education, opportunities for employment. I would like to see that the men in this group would be in a minority. I criticize Dr. Bergman that although he produced a man from Sudan, he should have produced a woman from Sudan.

Bergman: We would have been delighted to. We would have given her first preference.

Student: More and more women should be given an opportunity; because of what you're saying, Dr. Lee, the woman goes there and bangs on the table. Now imagine if there were 20, 50 or 100 of them, then the law would have teeth. And the public policy would become law and the law would become public policy. This is a question I would like to ask Dr. Bergman, and ask for his personal opinion if there is a difference in his opinion between law and public policy.

Bergman: Well, I don't think that anybody is going to argue with you about the need to improve the status of women, and not just to talk about it, but to do it effectively. It's very interesting to me just in observing the group of women that are here today. I think that about 20 years ago, maybe 15 or 10 years ago, you wouldn't have seen as high a female representation at the Fletcher School as we see right here. And moreover, seeing females from Moslem countries, for example, from Turkey and Iran, is quite revolutionary. So, although things aren't what they should be respecting the position of women, we have to be conscious of the progress that has been made.

In answer to your question the distinction between public policy and law I tried to do that earlier. Public policy, I think, is a more general concept. Public policy is what governments do and what sticks. Public policies are enforceable instruments. Law is one of the vehicles for expressing public policy. Law is passed by legislatures; decreed by rulers; in some societies still the word of the ruler without being written down has the same impact that law has. It's authoritative; it can be enforced. The broader area of policy subsumes law, decree, statements of a ruler and any other enforcement instruments that can make individuals do something they want to do, or don't want to do.

Lee: I would go one step further: In order for policy to be implemented into action, you have to go through the medium of law, including budgetary law. Every time you adopt a budget to determine the various priorities among competing claims, that's law already.

Bergman: But in some societies like primitive societies, written law as we know it is totally irrelevant. Law is something an authoritative figure might express by word of mouth.

Lee: But that's law. Law should also be defined to include customary law.

Student: I find the question of rational decision very interesting to try to relate it to Kuwait, where we have a very unique situation. We are under-populated, 75% of labor force is non-Kuwaiti, and they are trying to have more population. The planning board suggested that we should bring back all the Arab brain drain. But this policy is rejected, because of the political risk implications. The Kuwaitis are scared and they want more Bedouin population.

Bergman: That's an interesting phenomena. In other words, if the brains that have been drained overseas were brought back they wouldn't be Kuwaiti.

Student: They would be Kuwaiti. They want to nationalize the Arabs. But like in Saudi Arabia, they want to keep the balance between urban and Bedouin population.

Bergman: Is there a Bedouin population in Kuwait?

Lee: I see our time is up. I want to thank you very much for a most enlightening lecture. The fact that Dr. Bergman is very objective can be seen from the fact that he's one of the very few political scientists who claim that there is no such thing as political science. Coming from Harvard, you can understand this, because at Harvard there is no Department of Political Science, only a Department of Government. Thank you very much.

Discussion Draft

Revised 8/27/74

READING MATERIAL

THE POLITICAL ANALYSIS

OF

POPULATION POLICY CHOICES

Elihu Bergman
May 1974

For publication in: R. Kenneth Godwin (ed.), The Political Determinants of Population Policy in Developing Countries. (Lexington: D.C. Heath, 1975)

293

It is axiomatic that political calculations play the dominant role in the public policy choices of political leaders. The process of choosing among public policy options, whatever the quality of the political system in which it happens, is a political phenomenon because it involves decisions on the allocation of benefits within the particular society. Such decisions, on how advantages are distributed, are political decisions.

In arriving at these decisions, the first political calculation to be reckoned is whether there is any meaningful political calculation involved in making the choice. Under certain circumstances, for example, a decision on the installation of a traffic light, the issuance of a new set of postage stamps, or the establishment of an extra public holiday do not involve a distribution of advantages or deprivations. There may be some benefit in each issue for those who care, and no deprivation for those who are not concerned. There are the rare instances where there are only winners; no losers. In these situations the political calculation involved in the particular decision is minimal, if not irrelevant. And accordingly, the political leader can enjoy the infrequent luxury of choosing in accordance with some ethical standard, a standard of esthetics, a personal preference, or just plain whimsy. But most of the time he does not enjoy this freedom of choice.

There is a political calculation to be reckoned in most public policy choices because most of them involve a distribution of rewards and deprivations,

and thus affect the political status, or health, of those doing the choosing. Consider, for example, the types of choices which create both winners and losers, such as taxation policy, the utilization of public lands, the extent of health coverage, price controls, social security, the cancellation of a public holiday, and a host of others. Choices in any of these areas create winners and losers, and those who are aware they have won or lost are prepared to allocate credit or blame, depending on how they feel they made out, to the decisionmakers they view as responsible for making the particular choice. And so as the decision-maker allocates benefits and costs in the choices he makes, he in turn is allocated the same qualities in a sort of feedback process by those affected by his choice, or at least who think they are. This feedback process -- some would call it public accountability in systems where public accountability is relevant -- is a sobering reality for political leaders who wish to maintain their leadership role, as most do. For the capital they build up as a result of the process determines in large measure whether they are reelected, where elections are relevant, or reselected where other techniques for conferring leadership are employed, or however leadership is determined, whether they remain in power. Thus in making choices, political leaders are likely to be most preoccupied about what the choice does to [illegible] and the condition of their political leadership.

Under the circumstances, it is surprising that public policy literature has not ventured into the systematic exploration of this linkage. There is an abundance

of suggestion and prescription of the most reasonable choices to be made under given sets of conditions in the full range of substantive policy areas, e.g. monetary/fiscal affairs; foreign affairs; population; health; education; defense; etc. But little of this literature speculates, even in epilogue version, on the likely impact of these choices on the political fortunes of the leaders likely involved in making the choices under varying sets of circumstances. These specifications of policy alternatives frequently stop short of identifying the key political actors involved in choosing among the alternatives, and they fail to speculate on the political benefits and costs to the actors that are associated with the alternative choices. Perhaps this gap explains why political leaders are less interested in, and thus fail to profit from, this literature than they otherwise might be.

Another area of the public policy literature, principally the output of political science, has yielded an increasingly sophisticated variety of analyses of the structural characteristics of policymaking processes within regime types, in discrete policy areas, at various levels of the political system, and often involving comparisons of several experiences within each.[1] This work deals with the ingredients of policymaking processes -- resources; political institutions and behavior; decisionmaking systems; and the like -- how they are associated with one another; what they yield or are likely to yield in the way of policy outputs and why; and the impact, or likely impact, of the yield on the parent political system. But similar to the substantive, or prescriptive, literature, this structural literature at its present stage of development, dealing as it does with partial or total systems, tells

the individual political leader little about what the result of the big dynamic does to him. And so he likewise is inclined to show little interest in this body of knowledge about public policymaking.

That the existing bodies and styles of public policy literature are of marginal interest to the key actor in public policymaking -- the political leader -- suggests the value of adding a dimension which would expand the utility of public policy analysis, both for better explanations of political processes and as guides to political behavior. This addition would involve the construction of a political balance sheet whose bottom line might reveal, or at least suggest, the political consequences of particular policy choices to those making them. Such a balance sheet, among other things, would identify the existing and prospective policy alternatives in a given area, the actors dealing and likely to deal with the alternatives, and the political benefits and costs associated with each. Thus there could be some systematic basis on which to specify the political consequences of alternate courses of action to the actors involved in making the choices.

As for its possible influence on policy choices, this type of yield may very well have none because political leaders normally do not consult studies of their decisionmaking behavior produced by political scientists. But perhaps they might discover the utility of studies addressed to their principal concern, which is political survival, and to the extent they do, such studies could strike a responsive chord on their attention span. In some cases, a balance sheet of this sort would confirm the resistance to an otherwise

/desirable policy choice which is based on a political gut reaction by the decision-maker. On the other hand, the bottom line could surprise a key political actor by effectively challenging the conventional political wisdom underlying his gut reaction, and thus facilitate a wiser and more responsive policy choice. But in either case, there would be some grounds for assessing what is politically realistic, grounds that are important to the political leader, and whose existence might make him more receptive to what policy analysts and advocates have to say.

In the sensitive and relatively uncharted area of population policy, the political analysis of population policy choices would be particularly useful. Beyond its scholarly value, and any utility it might have for political leaders, this analytical dimension would be valuable for external donors of resources who aspire to influence internal population policies. By identifying more systematically what is politically realistic, the results of this brand of analysis would enable the donors to allocate their scarce resources more realistically and effectively.

The critical role of political calculations in influencing population policy choices is illustrated by experiences in several countries.

Costa Rica

In early 1967 the recently elected President Trejos established a Central Population Office in the government to function as a focal point for the development and deployment of publicly sponsored family planning services.

This action symbolized a government commitment to the reduction of population growth rates and fertility rates that were among the highest in Latin America. The establishment of this government unit was subject to concurrence by the Costa Rican Congress, in accordance with a procedure that is comparable to executive branch reorganization proposals in the United States government. Thus the President proposes a reorganization plan which is subject to veto by the Congress within a specified time period. If the Congress does not veto the reorganization plan, it comes into effect.

The 1966 elections in Costa Rica produced a division of government functions between the two major political parties in which the candidate of UNIFICACION won the Presidency, while the LIBERACION Party gained control of the Congress by a thin margin of one vote. Thus the grounds were produced for continuing sharp political competition between the two parties through the ongoing conduct of public affairs. As in all such situations, this competition would inevitably surface in its most articulate form when the action of one branch of government was subject to the concurrence of the other.

The population issue provided a first and a classic case where this partisan competition could come into play. Whatever the substantive merits of the issue, there were political points to be scored by each of the parties in taking a partisan approach. Considering the traditional Latin American attitudes on government intervention in the population area, it was ironic in the Costa Rican case that the presidency, representing the more conservative political coalition took the initiative in laying the groundwork for direct

government intervention in meeting the problem of population growth. The party that controlled the legislature, LIBERACION, reflecting a [illegible] less traditional outlook, was the more likely political group to assume the initiative, and at the least, to be supportive of actions that might effectively address Costa Rica's high growth and fertility problem. But the scoring of political points took precedence over national welfare objectives, and LIBERACION latched on to the population issue as one of the means of recouping some of the political support that had been eroded in the 1966 elections. Accordingly, the LIBERACION majority in Congress determined to manipulate the President's reorganization plan, an action which if successful, would have caused a major setback to a promising fertility control strategy in a country that was ready for it, and where, as subsequent events have proved, it was likely to achieve significant results. But in the LIBERACION political calculation, the expectation of immediate political gain outweighed a national welfare objective, which traditionally had been a keystone of the LIBERACION program.

This topsy-turvy political situation, cycling around a population issue, produced a bizarre political alliance, in which a progressive political force and a traditional church hierarchy were joined, at least temporarily, in a common cause. In a choice of timing that hardly can be regarded as coincidental, the church hierarchy launched an energetic public campaign, designed to discredit the Costa Rican Demographic Association, an effective local affiliate of Planned Parenthood and through it, the concept of family planning

and the related Presidential initiative. Though there was no evidence to indicate a systematic coordination of activities between LIBERACION and the hierarchy, it is reasonable to assume that there was some collusion between the two groups.

Ultimately the conflict was resolved, and Trejos' plans for a national program were secured as a result of a comic opera scenario in which the two leaders of LIBERACION, former president Figueres and Congress majority leader Volio were coopted into participating in an International Planned Parenthood Meeting in Santiago in the late spring of 1967. The details of this cooptation are interesting in themselves, but that will have to be the subject of a long footnote.[2] In any event, the proposal to create a population office in the Costa Rican government survived. A coordinated national family planning program was deployed, and the fertility rate in Costa Rica over the last several years reflects the success of this venture.

Mexico[3]

Anti-North American rhetoric remains a traditional ingredient of Mexican politics. Although the rhetoric is acquiring an increasingly symbolic value, the symbolism nevertheless must be played out as an adjunct to any major Mexican political event, including the peculiarly Mexican version of a national presidential election campaign. Accordingly, it was incumbent on the chosen successor to the presidency in 1969 to select a suitable format which he could employ most effectively in responding to the traditional

rhetorical requirements, and thus Luis Echeverría elevated fertility control to a major position in the panorama of issues for his presidential campaign. Fertility control was chosen as the North American target for the year.

Echeverría and his associates might have elected other options for their chosen North American target. One such issue might have been North American investment in Mexico, and the resulting influence of United States multinational corporations on the allocation of resources for Mexican economic and social development. These economic relationships increasingly had been the subject of continuing dialogue in Mexican commercial, governmental, and intellectual circles, a discussion routinely reflected in the Mexican media. But discussion of United States investment in the rhetorical terms necessary to achieve the traditional political impact would have entailed a serious risk for the ruling Mexican party, a risk not justified by the likely political returns. A critical discussion of the consequences of United States investment in the context of a Mexican presidential election campaign could have scared off American investors and resulted in a curtailment of United States investment, a condition which had the potential for dislocations and slow downs in the syndrome of Mexican economic growth.

Therefore, political prudence suggested a less threatening vehicle, in terms of North American reaction and its possible consequences in Mexico, for purposes of complying with the established scenario for the presidential campaign. For this purpose, the issues of fertility control and family planning comprised the best possible choice for Echeverría. Even more than

investment from the North, fertility limitation programs were perceived by knowledgable Mexicans as distinctively North American products. Thus, by using family planning as his target, Echeverría would be striking out at something clearly and visibly labelled "Made in the USA". And as a result of lingering traditional skepticism on the subject of family planning the target would be better illuminated and thus more effective with Mexican audiences. The issue clearly as any symbolized an anti-U.S. position, yet it was the least likely of all available issues to incur significant political or economic costs. It was reasonable to assume that U.S. investors were not particularly interested in what Echeverría had to say about population and family planning. The topic thus was a perfect one for a Mexican presidential candidate and certainly Echeverría displayed political skill in selecting it.

Accordingly, Echeverría cleverly exploited the population issue during his campaign and in the first year or so in his incumbency in office. Apparently, the issue worked better than he had expected in achieving political results which is the probable explanation of why he did not drop it after having been elected to office. The rhetoric, however, had its effect in temporarily discouraging both action and research programs dealing with fertility limitation in Mexico. The Mexican population community took cover during the first year of the Echeverría administration.

Against this background, it came as a surprise to some when in the spring of 1972 the President announced a nationwide family planning program, which would systematically be deployed through the organized Mexican

health services, which among them cover about 40 per cent of the Mexican population. The decision appeared to be sudden, and to represent a major flip-flop in Echeverría's position on fertility and population limitation. But the more likely explanation of these seemingly dramatic decisions is that they evolved systematically from a deliberate process of political decision-making within the Mexican regime.

It is unlikely that President Echeverría, both as candidate and incumbent, was unaware of the consequence for Mexican society of continuing rapid population growth, and that he was ideologically opposed to doing something about it. He enjoyed the reputation of being a pragmatic political leader, free from traditional or ideological hangups, and susceptible to counsel from technocrats who actually were providing him counsel on a full range of national issues, including Mexico's population problem. It is likely that he had been convinced of the need to deal with the population growth problem and was determined to initiate effective government action at an opportune time. But in the unique arena of Mexican national politics, with its distinctive procedures for accession to political power and survival in power, the choice of timing is critical for a newly elected President. During the first year of his incumbency, the Mexican President must secure his position by neutralizing the residual opposition to his candidacy that remains within the dominant political party (PRI). Before embarking on his program, whatever it might be, he must secure his political flanks. This is accomplished simply by removing opposition figures from positions of power and placing

his own men in them. Depending on the quality of scar tissue left over from the competition for the presidential nomination, this process can take as long as a year or two. During this time span, the new president avoids policy initiatives, particularly those that might either symbolically or really be controversial, in order to deny the opposition opportunities to delay or frustrate his process of consolidating power. The population issue was initially such an obstacle, and thus best left alone until the new regime was secure. Echeverría's task of internal consolidation most likely took longer than comparable efforts of his immediate predecessors because he had displayed inclinations for energetic social and economic policy initiatives that represented significant departures from traditions of the past.

By early 1972, Echeverría had consolidated his political position to the extent where he felt secure in embarking on some of the new policy initiatives that comprised his national program. Thus, the decision to create a national family planning program emerged systematically as a stepping stone in a well planned sequence of events whose timing was politically determined.

United States

Two actions in early 1970 suggested a significant commitment at the federal level to the development and implementation of public policies designed to deal with the causes and consequences of population change in the United States. These actions were: (1) the appointment by the President of a Commission on Population Growth and the American Future, to explore the

365

short and long term ramifications of population change in American society; and (2) the enactment by the Congress of the Family Planning Services and Population Research Act of 1970, which as its major objective was designed to provide access to family planning services to a population of approximately 5 million American females who did not enjoy this access, principally for economic reasons.

Three years later, by the spring of 1973, the federal commitment in the population policy field had substantially eroded, largely for reasons unrelated to the substantive merits of the objectives that had been established three years earlier. The Population Commission, embracing a fairly broad representation of American citizenry and chaired by John D. Rockefeller III, conducted an exhaustive inquiry into the implications of population change in American society, and what could be done to influence and accomodate these changes in the best interests of a better American society. In an ambitious and serious program spanning two years, the Commission sought out a wide range of expert analysis of social and economic issues, convened a nation-wide series of public hearings, and conducted deliberations in which all this material was considered. The result was a report issued in early 1972, which addressed itself in broad prospective to the impact of population change in American society, and made some rather specific recommendations on how these changes should be dealt with. Appended to the Commission's recommendations were six volumes of research reports prepared by assorted specialists and experts. The expectation was that the Commission's product would provide

both a forum and a motivation for ongoing discourse at the federal level aimed at developing public policies responsive to the special conditions created by population change in American society.

Contrary to the expectations both of the Commission and those interested in its potential contribution, the report was greeted with a hostile Presidential broadside, and then for all practical purposes, assigned to an obscure filing cabinet in a remote corner of the Executive Offices. This unexpected disposition of the report, in all likelihood, was due to a political calculation made on behalf of the principal to whom it was addressed, a result of which, it was determined that the report was not as useful for the launching of a discourse on improving American society as it was for a pad from which to launch an exercise in partisan politics. The preliminaries of a national election campaign were well underway, and as a result both of positions he was taking, and positions taken by some of his partisans, the figure who was rapidly emerging as the Democratic front-runner provided an increasingly tempting target. Thus, a flexible positon on abortion was increasingly and successfully employed by his antagonists to symbolize the cluster of issues on which McGovern had allegedly assumed a position out of step with some traditional American sentiments.

In this context the Commission Report arrived on the President's desk at an opportune time. Among its other recommendations, it contained some cautious references to volatile issues, including expanding opportunities for access to abortion, the availability of contraceptives for teenagers, and the

provision of sex education in schools. In responding to the Report, the President publicly focused on two of these issues: abortion and contraceptives for teenagers. He condemned the Commission's recommendations in these areas, and thus in effect repudiated the Commission Report. Obviously designed to create a political impact, the President's response to the Commission was skillfully marketed to the media and indeed enjoyed prominent news coverage throughout the nation. At the same time, in a related move, the President wrote to Archbishop Cook of New York supporting his position on the abortion issue. In tandem, these were effective political ploys designed to buttress presidential support among segments of the electorate who had not traditionally supported the Republican candidate. In this effort, the Commission report provided a convenient vehicle, and unfortunately at the federal level the Report was destined to serve no further purpose, constructive or otherwise. Carol Foreman's summary of the work of the Citizens Commission on Population Growth and the American Future describes in strained and discrete terms the burial of the Report.[4]

The Population Services Act authorized levels of funding for population services and research over a period of three years (FY's 1971-73). Although the announced purpose of the legislation was to meet nationwide requirements for publicly subsidized family planning services, neither the authorized levels of funding nor those actually appropriated during the ensuing three years were adequate to meet the need, the level of which was estimated by Jaffe and Associates, and the financial requirements for which were established by

the Department of HEW.

The most convincing evidence for the failure of the Family Planning Act to obtain its objective is reflected in a resurvey of the demand for subsidized services by Jaffe and Associates published by Family Planning Perspectives last summer.[6] This survey reveals that there has been no reduction of the population-in-need over the past three years. Indeed, the latest survey discloses a substantially increased population-in-need, by adding lower middle class and teenage population groups to the poverty group which comprised the basis for the initial study. Accordingly, the population-in-need of family planning services increased from 5 to 10 million women.

The Family Planning Services Act expired last year, and efforts to secure its renewal were mounted by a handful of interested legislators supported by a somewhat less powerful coalition of public interest groups than had existed when the legislation first was enacted in 1970. I have speculated elsewhere about the reasons for this diminution of interest and support for a national family planning commitment.[7] I suggested that incentives including higher birth rates and a yearning for constructive causes that were associated with the high crest of public interest in population matters in the late sixties were no longer present in the early seventies. And, as for the congressional partners in the coalition that produced the family planning legislation, some of the more energetic sponsors such as Tydings, Scheuer, and Bush no longer were in the Congress, and the other legislators involved in health matters were involved in a continuing and enervating battle with the Administration to prevent the

impoundment of funds appropriated for health programs that were less marginal in their scheme of things. It is not surprising that family planning is a marginal item in the congressional perspective on health matters because whereas congressmen regularly and visibly die from cancer and coronary afflictions, no congressman has been known to perish as a result of contraceptive failure, or if not perish, admit to the affliction. It is these physical manifestations of health needs intimately perceived by congressmen that tend to influence their sense of priorities. Accordingly, unlike the conditions that prevailed in 1970, when the Family Planning Services Act was passed, the absence of conviction in the Executive Branch for a categorical approach to family planning was no longer compensated for by a strong commitment in the Congress, buttressed by articulate public support.

The Executive Branch position on family planning services was determined not only by a desire to conform to rigid budgetary ceilings on health priorities. An equally important motivation for the deliberate erosion of discrete family planning activities originated in the ideology of the incumbent Administration about the distribution of government functions between the federal and state levels. To the extent that it achieved any articulation, the concept of New Federalism envisioned a maximum redistribution of public functions to the states. The area of public welfare was one where this concept could be introduced through a diminution of the federal role and expansion of the state role in establishing standards for the provision of welfare services. Accordingly, as one of the building blocks in this functional redistribution, the Executive

Branch sought to abandon the categorical approach to family planning, and as a substitute sought to discharge the residual federal obligation in the family planning field through the welfare system. The vehicle for accomplishing this objective was the Social Security Act, some of whose amendments enabled the states to offer family planning services to welfare recipients, under conditions of eligibility that the individual states established, and within the eligibility limitation, on the basis of matching funds the states were prepared to put up to obtain federal funds for provision of the services. Thus the ball on family planning services was tossed to the states, most of whom lacked a commitment, the necessary infrastructure and the required resources to respond to the need for the services.[8] Accordingly, for political reasons unrelated to the demand for publicly subsidized family planning services, the Administration had adopted a new version of the legitimate federal role in this area of population policy.

All of these cases - Costa Rica, Mexico, and the United States - have in common the employment of the population policymaking process to achieve objectives that have little to do with the substance of population policy. In each case the policy choices were made without regard to the substantive merits of the available population policy alternatives. The choices were not made to obtain a distribution of the related economic or social advantages, but rather to secure a distribution of political advantages. Thus the choices that were made aimed at securing advantages in party competition, the consolidation of power within a regime, and the application of particular ideological preferences in the administration of public services. The population policymaking process in each country, and the particular issues involved, provided a convenient vehicle through which to pursue discrete political advantages. If the population policy area was not available for this pursuit, another policy area doubtlessly would have been employed in its stead. For it is apparent in each of the cases that a resolution of the political engagement was more important to the actors involved in making the choice than the creation of policy substance. This type of behavior is characteristic of the policymaking process in all areas and in all systems, where policymaking serves as a playing field for competitive political events, the goal of which is the maximization of political advantage. Accordingly, for the understanding of how policy is made, and to influence its creation, if this be the objective, it is critical to identify the political stakes, and insofar as possible, sort out the likely political dynamics in any policymaking process.

The challenge with which we might usefully grapple is how most effectively to map out the political dynamics that are associated with the policy-making process in the area of population change. As I suggested in earlier sections of this paper, the efforts of political scientists in performing this job of cartography have been inadequate. Their work in public policy analysis has provided us with increasingly elegant methodologies, and an array of categories in which comparisons among policy outputs can be made. But the residue of these impressive analytical feats has not contributed significantly to an understanding of the political essence of the policymaking process.

Accordingly, I will presume to propose a conceptual framework combining approaches to public policy analysis that have been developed by some participants in this meeting. The application of this conceptual framework would enable us systematically to seek, identify, and sort out the more significant political ingredients in policymaking processes including those relevant to population change. The yield of this type of analysis would enable us to project with greater skill and accuracy the conditions under which specific population policy

choices are likely to be made, and the influences that are likely to propel or deter the selection of available policy alternatives.

Warren Ilchman vividly and realistically depicts politics as a transactional process involving an ongoing trading relationship among actors whose central objective is the maximization of their respective political goals.[9] These relationships unfold in a marketplace, or perhaps more realistically a variety of marketplaces, in which the actors trade resources, and in so doing attempt to maximize their gains and minimize their losses.

Like the real world of lower Manhattan, where there are special markets for various types of securities, commodities, and precious metals, trading in the world of politics proceeds at a number of markets, each of which specializes in a distinctive product, and in which the trading is conducted according to a style peculiar to the individual market. Lowi demonstrates how this concept might operate in the world of politics by suggesting that distinctive categories of public policy objectives are associated with distinctive styles of political behavior, each involving different collections of institutions and actors.[10] Ken Godwin applies the Lowi schemata to population policymaking, to demonstrate that distinctive population policy objectives are pursued in different sorts of arenas involving interactions of distinctive political resources and institutions, depending on the particular stakes involved, and suggesting thereby that some policy objectives are more attainable than others.[11] The political arenas that Lowi identifies and Godwin employs represent the marketplaces in which Ilchman's political economic behavior would unfold.

Bachrach and Baratz developed a concept of policymaking in which values and goals are included or excluded from the policymaking process as a result of the distribution of power among those interested in the particular policy substance.[12] Later, Bachrach and I applied this concept to population policymaking in the United States.[13] Our major interest was in the quality of access to the marketplace in which population policy was transacted, and the consequences to the policy outputs resulting from limitations on access.

Woven together, these three complimentary approaches to policy analysis provide a perspective in which we might map out some of the more important ingredients in population policymaking. The analytical matrix would focus on a bargaining process proceeding in several marketplaces, each dealing with a distinctive type of population policy objective, in which sets of actors compete to maximize their respective political gains. By identifying the traders, political resources, and trading procedures employed in each of the markets, we would establish the political stakes for the competing traders.

It remains to suggest a procedure by which this analytical framework would be applied to real policy situations. Such a procedure necessarily would focus on the political bargaining that transpires among the principal participants in the sequence of events that together comprise a policymaking process. It was suggested earlier that the maximization of their political resources is the major determinant of the choices made by participants in this sequence. Accordingly, in addition to identifying the principal actors, it is necessary to identify the political stakes that are likely to be involved in

the calculations of their political self-interest, and that thereby set the conditions for the bargaining in which they engage. Visualized in this context, political stakes are those qualities that maintain and increase, but certainly do not reduce, participants' capacities to influence subsequent choice making with equal or greater impact, and with opportunities for increasing their participation in making choices over a wider range of policies. Depending on the political environment in which these choices occur, these political stakes are established by ingredients such as responses to the demands of constituencies, whether voters or other selection mechanisms, adherence to the requirements of political party affiliation, tradeoffs with political associates, conformance to ideological orthodoxies, and the variety of other factors that set the conditions for gains and losses of political capital by individual participants in the political dynamics of the relevant political entity.

Needless to say, the identification and valuation of these political stakes, with respect to the actors to whom they are relevant, is a formidable analytical enterprise, particularly in political systems whose dynamics are less exposed to public view than in the open system in which we live. The enterprise involves a microcosmic approach, and the data it yields likely will suffer from imprecision. Responses of political leaders in matters affecting their political well-being, and this would be precisely the target of our inquiry, frequently does not reflect the clarity of less personalized data, such as budgetary and expenditure information, that often is employed in a macrocosmic analysis of policy choices. However raw though it may be,

and however difficult to obtain, this quality of data has at least the potential of the macrocosmic data in enlarging our understanding of policymaking dynamics.

The articulation of political stakes would involve the identification of a base from which those who make the choices are likely to calculate their political costs and benefits. The information with which to construct this base would be derived first from a familiarity with the political system in which the choice is being made, whether it is a city, state, federal government, or other relevant unit. Where possible this information, derived from the published sources that usually create a degree of familiarity with the system, would be supplemented by interviews with the choicemakers themselves, plus knowledgeables such as staff members, associates, political allies, adversaries, political researchers, and journalists. Clearly, this second stage, or significant parts of it, is difficult to accomplish in systems where access to the relevant individuals is limited. Some of these obstacles could be surmounted by collaborative participation of indigenous researchers. In any event the degree of access to data sources, principally individuals involved in the choice-making stream and those knowledgeable about them and associated with them, in itself would reveal something about the political stakes that are likely to influence choicemaking because of what they disclose about the nature of the political system in which the choices are made.

The ultimate choice among alternative policy options is preceded by a number of steps in the policymaking process of the particular political

system in which it occurs. And the analytical approach suggested here could be applied at each step in the sequence. The first step could be a decision about whether to place the issue on the policymaking agenda. For example, until 1972 the creation of a nationwide fertility control program in Mexico was deliberately excluded from the national policy agenda. The decision to exclude and finally to include this issue on the agenda of Mexican politics was influenced by systematic calculations of political costs and benefits, the values of which were determined by the particular dynamics of the Mexican system. Similarly in the United States, a presidential statement on the expansion of the family planning opportunity, and a legislative initiative to provide the necessary authorization, were deferred until those who made the related decisions calculated that the political system would tolerate the inclusion of these policy initiatives on the national agenda

Following the choices to include an issue on the policy agenda, there is a series of decisions and choices on the format in which the issue will be considered. In Mexico the particular tolerances of the system determined that family planning should be packaged as "responsible parenthood." In socialist countries, ideological imperatives determine that fertility limitation activities are packaged as programs designed to elevate maternal and child welfare. In Massachusetts a political leader observed that efforts on the state level to expand family planning services would be doomed to failure if they were labelled "family planning services," and accordingly prospects for authorization of such policies are favorable only if they are packaged in an

alternate format such as "population distribution" or "land use."[14]

A subsequent decision in the policymaking sequence involves a determination of the political arena where the issue is most likely to enjoy favorable treatment. Some policy initiatives are best handled at the executive level, others in the legislature, and in the legislature there is always the question of which committee would be most responsive and expeditious in its treatment of the policy initiative.[15]

Finally, there are decisions on the political alliances required to propel the policy initiative through the selected political processes. Here there are choices among various configurations of institutional and individual allies, whose ultimate selection is evaluated in terms both of their potential contribution toward a successful outcome of the policy enterprise, and by the potential of the enterprise for maximization of political benefits and reduction of political costs among parties to the alliance.

Through the entire sequence, strategies and tactics are selected, bargaining transpires, choices are made, all with the objective of maximizing political gains and minimizing political losses. Although it always is tempting to speculate on where in the process the critical choice is made, for purposes of political analysis it is sufficient to lay out the sequence, identify its stages, and to the extent possible, reckon the likely calculations that transpire at each stage.

It would be illusory to claim that the analytical procedure suggested here would yield definitive political explanations of the policy choices under

consideration. But however imperfect in terms of its definitive quality, and this imperfection is endemic to any realistic brand of political analysis, the procedure does focus on microcosmic ingredients that too often have been neglected in seeking explanations of policymaking outcomes. At the least, the yield of this approach would provide a platform and a perspective from which the analysis of this significant dimension of policymaking could be pursued further, and hopefully with greater rigor and system.

Out of all this, we should be able to ascertain with some degree of reality, a balance sheet which reflects political benefits and costs that are associated with alternative population policy choices. But at a minimum, by playing this analytical game we would have identified the players, the resources, the procedures, and the boundaries that comprise each of the marketplaces. This knowledge in itself would better equip us to speculate on what the particular marketplace might yield in the way of population policy, and incidentally the conditions under which external inputs are likely to influence policy choices.

Footnote One to "Political Analysis of Population Policy Choices"

1. This body of literature, among other attributes, can be credited with rescuing public policy analysis from the obscurity it suffered while American political science was engaged in the intellectual campaigns of the behavioral revolution. The new breed of analysts took the position that questions about what the political system does, and why, are at least equal in importance to those that ask what the political system is, and why.

For its principal units of analysis this enterprise has focused on American states and metropolitan units, and has proceeded to sort out the respective influence of political factors (party competition, voter participation, etc.) and environmental factors (indices of social and economic development) on policy output. Though no definitive theory has been developed, these efforts have yielded a rich variety of conceptual approaches and analytical methods, that invite utilization at the national level and in comparative studies.

The objectives, concepts, and methods of the policy analysis approach in political science are lucidly presented by one of its major contributors, Thomas R. Dye, in his book: Understanding Public Policy, Englewood Cliffs: Prentice Hall, 1972.

NOTES

1. (footnote to be inserted)

2. The local American Embassy had invited Figueres to attend the IPPF meeting on its account, but backed off when the population controversy passed a threshold beyond which official U.S. government was deemed unwise. But the Embassy did not consider it imprudent for a private U.S. organization to pick up the tab, and requested the Ford Foundation to do so. The issue was raised with a Foundation official who happened to be visiting San Jose in connection with Foundation interests in Costa Rica. The official, who also happened to be something of a political scientist, approached the problem with the objective of identifying the Costa Rican political leader whose attendance at the Santiago meeting would likely be most effective in defusing LIBERACION opposition to the population office. After systematic field research, it turned out that the man to travel was Fernando Volio, LIBERACION majority leader in the Congress, and reputedly a Costa Rican replica of a one-time majority leader in another legislative body, named Lyndon Johnson. In terms of its impact on the political outcome in San Jose, the value of Figueres' attendance was assessed as marginal. However Figueres always retains symbolic value in Costa Rican politics. Accordingly, the Ford official recommended that both leaders, and their wives, be invited to the IPPF meeting. Both accepted the invitation, and attended. Whether their presence had any impact on the outcome in Costa Rica can not be definitively established. But those involved in the transaction like to think it did.

3. Terry McCoy provides a detailed political analysis of the Mexican population policy flip-flop as a chapter in his forthcoming book: Terry L. McCoy (ed.) The Dynamics of Population Policy in Latin America, Cambridge: Ballinger Publishing Co., 1974. [The observations that appear in this paper are my own - E.B.]

4. Report of the Citizens' Committee on Population and the American Future, October 26, 1973. (Unpublished)

5. The original CFPPD analysis was published as: Need for Subsidized Family Planning Services: United States, Each State and County. A Report produced by the Center for Family Planning Program Development, Planned Parenthood-World Population, 1969.

   The official HEW proposal, which reflected a substantial reduction in the estimates of financial requirements developed by a group of consultants who were called in to do the estimating, is published as: Report of the Secretary of Health, Education, and Welfare Submitting Five Year Plan for Family Planning Services and Population Research Programs, October 12, 1971.

A comparison of HEW recommendations, authorizations, and actual appropriations is reflected in Figure II of this paper.

6. Joy G. Dryfoos, "A Formula for the 1970s: Estimating Need for Subsidized Family Planning Services in the United States," Family Planning Perspectives, 5, 3, Summer 1973, pp. 161-179.

7. Elihu Bergman, "American Population Policymaking: A Shift To the States," in Bergman et. al. (ed.) Population Policymaking in the American States: Issues and Processes, Lexington: D.C. Heath & Co., 1974.

8. David Weinberg, "State Administration and Financing of Family Planning Services," Family Planning Perspectives, 4, 2, April 1972, pp. 32-41.

9. Warren F. Ilchman and Norman T. Uphoff, The Political Economy of Change, Berkeley: The University of California Press, 1971. (See especially definition on pp. 26-27.)

10. Theodore J. Lowi, The End of Liberalism: Ideology, Policy, and the Crisis of Public Authority, New York: W.W. Norton, 1969.

11. Kenneth Godwin, "Population Policies Available to the State of Oregon," A Working Paper prepared for the Rockefeller sponsored project "Man and His Activities as they Relate to Environmental Quality," August 1973.

12. Peter Bachrach and Morton Baratz, Power and Poverty: Theory and Practice, New York: Oxford University Press, 1970.

13. Peter Bachrach and Elihu Bergman, Power and Choice: The Formulation of American Population Policy, Lexington: D.C. Heath, 1973.

14. John S. Ames, "The Politics of Population Policy: Lessons for the Population Pros," in Bergman, et al. (ed.), Population Policymaking in the American States: Issues and Processes, Lexington, D.C. Heath & Co., 1974. (Note 7)

15. Kenneth Godwin, Op. Cit.

FIGURE I

THE POLITICAL INGREDIENTS OF POPULATION POLICY CHOICES

ARTICIPANTS →	PROCEDURES (For Choicemaking) →	RESOURCES
Political Leaders	Election	Influence
Other Leaders	Appointment	Power
Bureaucrats	Selection	Prestige
Mass Publics	Allocation	Financing
Judiciaries	Legislation	Offices
Legislatures	Decree	Obligations
Executives	Decision	
Associations		
Parties		
Institutions		

MARKET PLACES

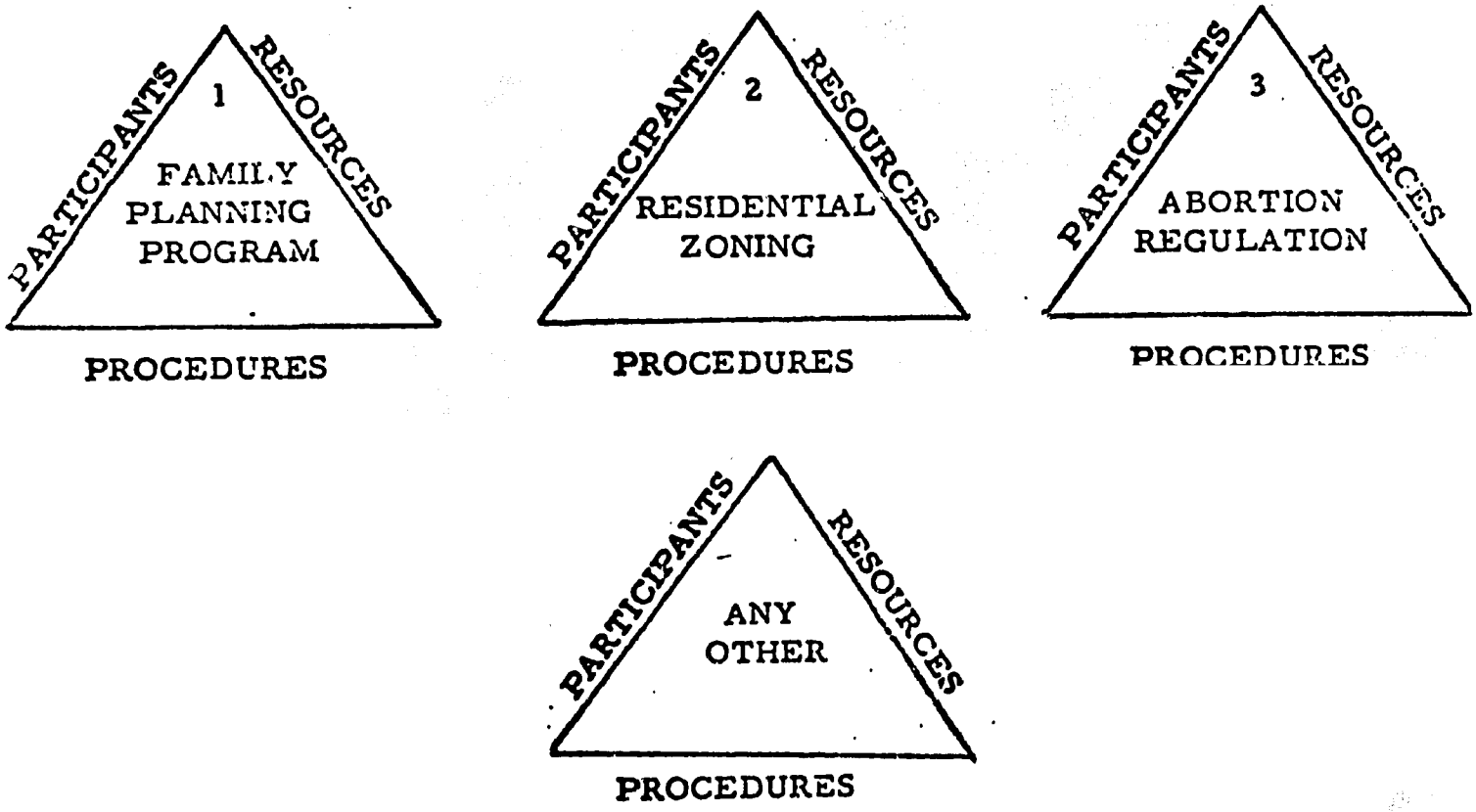


FIGURE II

THE FEDERAL COMMITMENT TO FAMILY PLANNING

FISCAL YEARS 1971-73

		FY 1971	FY 1972	FY 1973	TOTALS
EARCH	Authorized	30	50	65	145.0
	Appropriated	28	38	38	104.0
MILY LANNING RVICE	Authorized	40	75	110	225.0
	Appropriated	6	61.5	79.5	147.0
RAINING	Authorized	2	3	4	9.0
	Appropriated	2	3	3	8.0
FORMATION EDUCATIONAL ATERIALS	Authorized	0.75	1.0	1.25	3.0
	Appropriated	.5	0.9	0.6	2.0

		FY 1971	FY 1972	FY 1973	TOTALS
ESEARCH	HEW Proposal	28	37.7	75	140.7
	PL 91-572 Authorization	30	50	65	145.0
	Appropriation	28	38	38	104.0
FAMILY PLANNING SERVICES	HEW Proposal	86	134	190	410.0
	PL 91-572 Authorization	40	75	110	225.0
	Appropriation	6	61.5	79.5	147.0

(Figures derived as follows: (1) Authorizations from PL 91-752;
(2) Appropriations from compilation of Washington Office of Planned Parenthood/World Population;
(3) HEW Proposal from the Report of the Secretary of Health, Education, and Welfare Submitting Five-Year Plan For Family Planning Services and Popu-