A Mario
con mi fuerte
abrazo
Vicente

THE UNDERDEVELOPMENT OF HEALTH OR THE HEALTH OF UNDERDEVELOPMENT
An Analysis of the Distribution of Human Health Resources in Latin America

by

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"Oh love, oh my love,
tell me
are we poor because we do not have riches
or
is it that we don't have riches because we are poor?"

(translated from an old Colombian folk song)

Assuming that a first step in analyzing the present maldistribution of human resources in the health sector of a country and a continent is to understand the nature of that condition and the reasons for it, I will try in this paper to focus on the causes of that maldistribution in our Americas, placing special emphasis on that part south of Rio Grande - the Latin American continent - that is usually referred to as the underdeveloped America. [1] At the same time, because the underdevelopment of poor nations is closely related to the development of the rich ones, I will also touch, although very briefly, upon the present maldistribution of human resources in the health sector of North America.[2]

In addition, because, and as I will try to show, the distribution of human health resources follows and parallels the distribution of most of the resources in underdeveloped countries, I will analyze the distribution of resources in the health sector within the context of the parameters that determine underdevelopment and explain that distribution. In other words, I will examine the tree, the distribution of human health resources, in the context of the forest, underdevelopment. Indeed, the thesis I will try to develop in this paper is that the present maldistribution of human health resources is brought about by the same determinants that cause the underdevelopment of Latin America.

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[1] I am aware, of course, of the great diversity among the Latin American economies. However, I believe all the Latin American economies and countries (with the exception of Cuba) exhibit certain patterns of economic, social and political structures and behaviors that, in the context of the distribution of resources, are more similar than dissimilar. I feel that these similarities justify the consideration of these different countries as a group in this paper.

[2] The term "underdeveloped countries" will be used interchangeably in this paper with such terms as poor countries or nations and developing countries. At the same time, I am aware of the lack of a precise term that would define not only the state of poverty of the majority of our human race, but also the process that determines it. For an interesting discussion on this very point, see G. Myrdal, "Diplomacy by Terminology," Appendix 1, in his anthology Asian Drama, Vol. II, Pantheon, 1968, p. 1839.

In so doing, I will try to close a gap in the ever increasing bibliography on health and health services in developing countries which is rich in description, but scarce in analysis. Indeed, in looking back on this large body of literature, we can see quite a number of scholarly and very elegant descriptive studies and reference works on the health and health services of developing countries. Yet, what most of these publications lack, as Ruderman pointed out when he reviewed one of them, is an analytical explanation of why underdevelopment of health and health services came about in the first place.[1] I would postulate that this omission is not an accidental one. Indeed, had they analyzed and begun to explain the underdevelopment of health and health services, those scholars and researchers might have come to the conclusion, uncomfortable as it may be, that the main cause of the underdevelopment of health was the state of health or lack of it, of the political, social and economic structures that determine the underdevelopment in the societies studied. Avoidance of this analysis led these scholars to consider the maldistribution of health resources in a vacuum, as if its analysis could be explained separately and independently from the analysis - admittedly sometimes embarassing, and always sensitive - of those structures which determine that distribution to begin with.

Let me give an example. In the 1960's, a very thorough, elegant, and complete study - one of the most complete surveys that has ever been carried out, either in developed or developing countries - was carried out on the production and distribution of human health resources in Colombia.[2] One finding made in this study was that by social classes and by regions, the distribution of human health resources in that country was highly askew. Another fact brought out by

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[1] A.P. Ruderman, Book Review of Health and the Developing World by J. Bryant, International Journal of Health Services, Vol. 1, No. 3, 1971, p. 293.

[2] Social Science and Health Planning: Culture, Disease and Health Services in Colombia, special issue of The Milbank Memorial Fund Quarterly, Vol. XLVI, No. 2, Part 2, 1968.

this and other surveys was the highly askew distribution of wealth and income in Colombia, with 5 percent of the population owning 52 percent of the wealth.[1] It would have seemed logical to explore the possible correlation, and even causality, that might exist between the highly skewed distribution of wealth, income and political power in that society and the highly skewed distribution of human health resources in the country. Yet, in a seminar arranged to discuss the meaning and conclusions of that health manpower study, and attended by prestigious scholars and researchers, not only was there no attempt to relate the distribution of wealth and human health resources, but the highly skewed distribution of wealth was not even mentioned, let alone discussed by these scholars. Oblivious and inattentive to the parameters within which this maldistribution of human health resources took place, their conclusions were empirically invalid and ineffective policy-wise. The Manpower Study of Colombia came to join the long list of elegant but unused sets of academic studies.

The attitude detectable in this study reflects what Birnbaum has called recently the tranquilizing effect of social research (and I would include a large percentage of health services research) in the 1960's.[2] Indeed, social research in this period was characterized by the dominance of the empiricist, i.e., the expert on the trees who fails to see the forest. It was the time, you may remember, when Daniel Bell wrote his "End of Ideology," an end which, as Blackburn indicates, was not so much the end but the victory of the ideology of empiricism and pragmatism.[3,4]

This empiricism led the major part of studies on health services development and planning to emphasize the method, the method as the "unideological," "value-

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[1] S. Kuznets, "Quantitative Aspects of the Economic Growth of Nations," Economic Development and Cultural Change, January, 1963.

[2] N. Birnbaum, Toward a Critical Sociology, Oxford University Press, 1971.

[3] R. Blackburn (ed.), Ideology in Social Science, Fontana, 1972.

[4] For a critique of empiricism and pragmatism, see C.W. Mills, Sociology and Pragmatism: The Higher Learning in America, Oxford University Press, 1966.

free" instrument for distributing resources. Thus, the emphasis within the analysis, study, and application of the planning of the distribution of human health resources was on the methodological aspects, without analyzing and/or questioning (but rather taking as "given") the social, economic and political structures that determined and conditioned that underdevelopment. Cost-benefit, cost-effectiveness, PPBS, and the all-encompassing health planning CENDES method, were actually products of the "apologist" ideology that sustained those structures responsible for the maldistribution of resources.[1] A significant exception to this situation in Latin America was Cuba, which was exploring an alternative road to the one prevalent in Latin America for breaking with underdevelopment.

As for the rationale and explanation for underdevelopment, it was considered that the condition of Latin America was determined by the scarcity of resources. In this respect, the main assumption underlying the analysis of development has been that development is the transformation of one mode or type - the underdeveloped - to the other - the developed. In the analysis of development, the general features of the developed countries are abstracted as an ideal type and compared or contrasted with the equally typical features of the poor societies. Development comes about, in this view, by the replacement of the features of the latter with those of the former. As a consequence of this interpretation, the model the underdeveloped countries are expected to follow contains all the features of the developed ones. Parsons,[2] Hoselitz,[3] and others have elaborated this model,[4] and recently Kahn and Weiner have popularized it.[5] Due to the great influence -

[1]For a critique of the CENDES method and its limited application in Latin America, see A. Barkhuus and R. Vargas, Socio-Economic Planning in Latin America, Pan American Health Organization, 1971 (mimeograph).

[2]T. Parsons, Structure and Process in Modern Societies, The Free Press, 1960.

[3]B.F. Hoselitz, Sociological Factors in Economic Development, The Free Press, 1960.

[4]For a thorough and critical review of the U.S. sociology of development, see A.G. Frank, "Sociology of Development and Underdevelopment of Sociology," in J.D. Cockcroft (ed.), Dependence and Underdevelopment, Doubleday, 1972, p. 321.

[5]H. Kahn and A.J. Weiner, The Year 2000, Daedalus, 1971.

and even control of ideas - that these sociologists and popularizers have enjoyed, their analyses have affected most writings on health services in underdeveloped countries. For instance, in a large number of references, most of the indicators of health services in underdeveloped countries (such as bed/population ratios) are compared with indicators from the developed ones, often accepting the premise that indicators of developed countries can be used as models or targets for the underdeveloped ones.[1]

A further elaboration of this approach can be seen in the stages of growth theory, popularized by Rostow's Stages of Economic Growth. According to Rostow, development is the process whereby a country changes its characteristics in five stages. The writer assumes the stages to be universal and to apply to all countries.

Because of the great influence that the Rostowian interpretation of development has enjoyed, it is worth examining it in some detail.

> It is possible to identify all societies, in their economic dimensions, as lying within five categories: the traditional society, the preconditions for take-off, the take-off, the drive to maturity, and the age of high mass-consumption. First, the traditional society. A traditional society is one whose structure is developed within limited production functions, based on pre-Newtonian science and technology, and on pre-Newtonian attitudes towards the physical world . . . . The second stage of growth embraces societies in the process of transition; that is, the period when the preconditions for take-off are developed; for it takes time to transform a traditional society in the ways necessary for it to exploit the fruits of modern science to fend off diminishing returns, and thus to enjoy the blessings and choices opened up by the march of compound interest . . . . the stage of preconditions arise(s) not endogenously but from some external intrusion by more advanced societies . . . . We come now to the great watershed in the life of modern societies: the third stage in this sequence, the take-off. The take-off is the interval when the old blocks and resistances to steady growth are finally overcome. The forces making for economic progress, which yielded limited bursts and enclaves of modern activity, expand and come to dominate the society.

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[1] A representative reference using this analysis is B. Russett et al., Comparado de Indicadores Socials y Politicos, Euramerica, S.A., Espana, 1968. For an excellent critique of this approach see H. Mussaff et al., The 1975-85 National Health Plan of the U.A.R., U.A.R. Ministry of Public Health, 1972 (mimeograph).

> Growth becomes its normal condition. Compound interest becomes built, as it were, into its habits and institutional structure. . . . (The) take-off is defined as requiring all three of the following related conditions: (1) a rise in the rate of productive investment from, say, 5 percent or less to over 10 percent of national income (or net national product (NNP)); (2) the development of one or more substantial manufacturing sectors, with a high rate of growth; (3) the existence or quick emergence of a political, social and institutional framework which exploits the impulses to expansion. . . .[1]

In the Rostow interpretative model, the major factor in development is contained in his third or take-off stage, and this is characterized by a rapid rate of investment and growth.

Rostow visualizes two major agents of change, determinants of the process of development. The first agent of change identified is the diffusion of values (entrepreneurial values) from the developed societies or metropolises to the underdeveloped societies, initially to the national capitals of the underdeveloped societies, then to their provincial capitals and finally to the peripheral hinterlands. Development is thus perceived as a phenomenon of acculturation and diffusion of institutional and organizational values, together with the transmissions of skills, knowledge and technology, from the developed to the developing countries.

The second agent of change is the diffusion of capital. According to Rostow and the previously mentioned authors, the underdeveloped countries are poor because they lack investment capital and therefore cannot develop and escape from their poverty. As a consequence of this assumption, they believe it essential for the development of the poor countries that the richer, developed countries diffuse capital to the underdeveloped ones, thereby stimulating their economic development. Thus, foreign capital, according to the Rostowian interpretation, creates a "market, entrepreneurial economy" in the form of an "enclave," similar to the one

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[1] W.W. Rostow, The Stages of Economic Growth, Cambridge University Press, 1962, pp. 4, 7, 39.

in the developed or metropolis society, which evolves first in the poor nation's capital, and from there expands its positive and economically stimulating influence to the rest of the country.

This interpretation leads the authors to the conclusion that development takes place in, is stimulated by, and is channeled through an "enclave" of the developed, metropolitan economy within each of the underdeveloped countries. Indeed, they consider that there are dual economies in the underdeveloped countries; one, the "enclave," urban-based, well developed market economy, with technical, entrepreneurial, and cultural values diffused from the developed metropolis; and the other, "the marginal economy" that includes those rural-based sectors of the population, sometimes its majority, that have not been incorporated into the "entrepreneurial market economy."

Because of the great influence of the Rostowian school of thought in the sociology of underdevelopment, inside as well as outside the health sector, the three characteristics of the Rostowian theory, (1) the need for cultural and technological diffusion, (2) the scarcity of national capital and (3) the dual economies - all appear in most of the literature dealing with distribution of general resources, and also human health resources, in developing countries.[1]

Indeed, the cultural diffusion argument is reflected, in health services literature, in the heavy emphasis placed on the necessity of training different types of personnel in underdeveloped countries following the curriculum and educational resources prevalent in the developed countries. The second Rostowian argument, on the scarcity of capital, is presented with different interpretations but usually appears under the rubric "that poor countries cannot afford to provide whole health care to the whole population" or also under the argument that poor

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[1]The most comprehensive, empirical study of the "stages theory" of social (including health services) and economic development is Russett's, op. cit.

countries can "only afford social security for a few sectors, and mainly the industrial urban based sector, because investment capital determines the overall important growth of the take-off stage." The concept of dual economies and societies is reflected in the existence of an unequal distribution of health resources between the cities and the rural hinterlands, with Western "hospital based" medicine in the cities and the indigenous and "less developed" form of medicine in the rural areas. This dualism is considered to have come about, first, because of the lack of diffusion of Western, developed medicine to the rural areas (argument 1 of the Rostowian interpretation) and, second, because of the lack of resources and investment capital in those areas (argument 2).

Rostow's "stages of growth" theory is the most accepted theory for explaining development and analyzing the distribution of resources, both within and outside the health sector. Its popularity in the corridors of power and academic circles in developed countries (and in the leading circles in developing countries) is attributable partially to its rationalization and justification of the present relationship between the developed and the developing nations, presenting the developed countries as "models" to be emulated by poor countries and showing underdevelopment to be due to an assumed scarcity of resources in underdeveloped areas and not to economic structures and the pattern of economic relationships between poor and rich countries. The "fault" of underdevelopment is therefore left squarely on the shoulders of the poorer nations.

The fallacy of some of the theories of underdevelopment currently popular inside and outside the health sector

André Gunder Frank,[1] Paul Baran [2] and Keith Griffin,[3] however, have all shown

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[1] A.G. Frank, Lumpenbourgeoisie + Lumpendevelopment: Dependence, Class, and Politics in Latin America, Monthly Review Press, 1973.

[2] P. Baran, The Longer View: Essays Towards a Critique of Political Economy, Monthly Review Press, 1969.

[3] K. Griffin, Underdevelopment in Spanish America, The MIT Press, 1969.

the Rostowian model and its derivatives to be empirically invalid when confronted with reality, and to be theoretically inadequate when called upon to explain the process of development and its concurrent distribution of resources. This inadequacy explains why such theories are ineffective policy-wise for promoting development.

Let us analyze each of the three basic postulates of the Rostowian theory and check them against the empirical evidence available to us from sources outside the health sector, as well as from data gathered within the health services.

First, regarding the supposed lack of diffusion of cultural values, available evidence shows that, quite contrary to the Rostowian assumption, there is a very large diffusion - so much so that some may even refer to it as dominance - of cultural values abstracted from or generated from developed to developing societies. As several authors have pointed out, the media (television and the press) in Latin America is on the whole very heavily influenced by the values of North America. As Frank notes, in Mexico the Spanish version of the Reader's Digest, for instance, has a higher circulation than the entire circulations of Mexico's eight largest magazines put together.[1] And, according a recent UNESCO report, seventy percent of the TV programs shown in Latin America originate in the United States.[2]

Another important element of cultural diffusion is institutional education. The system of primary, secondary and university education, patterned after the systems in developed countries, is usually alien to the needs of poor countries. A recent UNESCO report states, for instance, that while most inhabitants of underdeveloped nations live in agricultural, rural sectors where there is a need for a collective sense of solidarity, most of the values expounded in primary and sec-

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[1] A.G. Frank, Latin America, Monthly Review Press, 1969, p. 29.

[2] New York Times, June 14, 1973, p. 4.

ondary schools are urban, and are, as in most Western, developed societies, individually, entrepreneurially and urban oriented.[1] Cultural diffusion also takes place at the university level. As Cesar Garcia[2] has shown, most medical curriculums in Latin America have been patterned on German, French-Spanish, and more recently American models, and these are models that, as McKeown has indicated, reflect an engineering approach to the understanding the body and its disease and tend to ignore the understanding of the socio-economic environment that brought about the diseases.[3] The emphasis on hospital-based, technologically-oriented medicine and especially individual, acute-episodic care, typical of the medical education of Western, developed societies, is replicated in the developing societies. Rural, ambulatory, social and continuous care is underrepresented if not nonexistent, in the curriculums of medical institutions in developing societies. When the rural type of medical care is taught, student exposure is apt to be more symbolic than real.[4]

Thus, quite contrary to the Rostowian claim, we can show that there is a very heavy diffusion of cultural values from developed to developing countries. Moreover, it can be postulated, again contrary to Rostow's assumption, that this cultural diffusion - defined by Candau, the late Director-General of W.H.O., as "cultural imperialism" - is, as I will try to show later on, more harmful than beneficial to the process of development.

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[1]Cited in G. Myrdal, The Challenge of World Poverty, Pantheon, 1970.

[2]For an excellent, comprehensive review of medical education in Latin America, see C. Garcia, La Educacion Medica en la America Latina, PAHO, 1973.

[3]T. McKeown, "A Historical Appraisal of the Medical Task," in G. McLachlan and T. McKeown, Medical History and Medical Care, Oxford University Press, 1971.

[4]V. Navarro, Report of a Visit to Cali, Department of Medical Care and Hospitals, School of Hygiene and Public Health, The Johns Hopkins University, 1970 (mimeograph).

Complementing this observable cultural diffusion is technological diffusion.[1] According to the United Nations Economic Committee for Latin America (ECLA), most of the technology of Latin America has been imported from the developed areas, and primarily from North America.[2] And, as Illich has indicated, this technology, which is foreign to the parameters of underdevelopment, can harm more than benefit the process of development.[3] The labor-saving technology of developed society actually contributes to the creation of unemployment in the underdeveloped countries.[4] Moreover, the investment needed for this technology diverts vital investment from less glamorous, but more efficient and much more needed projects. Not long ago I estimated, for example, that with the annual operating expenditures of the three open heart surgery units in use today in Bogota, a city with a population of over 2 million, a quarter of the children living there could receive a half liter of milk each day for one year. I should underline here that the main public health problems in the city of Bogota are not heart conditions but gastroenteritis, infectious diseases and malnutrition.[5] Furthermore, if indeed the experience of developed countries applies to developing ones, it is highly probable that, considering the high density of units for such a small catchment area, the care provided by these units is not really needed.

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[1] It is worth emphasizing here that I believe false the dichotomy commonly drawn between cultural diffusion and technological diffusion. Indeed, technology is a value-laden (and not value free) process in which cultural values are assumed and subsumed.

[2] Eighty percent of Latin American equipment is imported. A. Fucaraccio, "Birth Control and the Argument of Saving and Investment," International Journal of Health Services, Vol. 3, No. 2, 1973, p. 133.

[3] I. Illich, "Outwitting the 'Developed' Nations," in R.H. Elling, National Health Care, Atherton Press, 1971.

[4] For an analysis of the harmful effects of Western technology on the economies of Latin America, see Technology and Development for Whom? Bulletin of the Scientists and Engineers for Social and Political Action, July, 1973.

[5] V. Navarro, Report of a Visit to the Planning Office of the Colombian Government, Department of Medical Care and Hospitals, School of Hygiene and Public Health, The Johns Hopkins University, 1970 (mimeograph).

Once again, to refute Rostow's theory, it can be postulated that there is too much, rather than too little, cultural and technological diffusion from the developed to the developing countries.

The myth of the scarcity of resources

As for the second Rostowian assumption, on the lack of capital and the need for more capital investment by developed nations in the developing countries, several authors have shown that the Rostowian model is inaccurate as an explicative model of underdevelopment. Indeed, Fucaraccio,[1] and others,[2] have shown that there is no scarcity of capital in Latin America, but rather an underuse and misuse of capital. Fucaraccio points out that Colombia and Argentina, for instance, invest 20 percent and 23 percent of their domestic gross national products, respectively, which compares quite favorably to the lower percentages of 16 percent and 18 percent invested by the U.S.A. and France in their respective domestic economies.[3] But for an analysis of the ramifications of a country's investment process the nature and control of investment is more important than the size of investment.

As for the nature of these investments, a large proportion is financed from domestic savings. This leads to the question of which people are saving. To answer this question, it is necessary to examine the levels of income distribution in Latin America, where

> (a) a large part of income is concentrated in a minority of the population . . . which generates the savings subsequently converted into capital goods; and (b) at least 50 per cent of the population not only do not have the ability to save but lack sufficient income even to satisfy their most basic needs which are estimated at about $190 per annum per capita.[4]

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[1] A. Fucaraccio, op. cit., p. 133.

[2] Socio-Economic Progress in Latin America, International Development Bank, Eighth Annual Report, 1968.

[3] A. Fucaraccio, op. cit., p. 137.

[4] A. Fucaraccio, op. cit., p. 138.

This distribution of income and corresponding use of savings determines the structure of investments, production, and consumption, where

> the construction sector accounts for between 40 and 50 per cent of gross domestic investment, depending on the year and the country concerned. A considerable part of such construction represents residential units which do little to solve the low-income housing shortage in Latin America and in no way help to increase productive capacity. The remainder comprises construction related to productive capacity and to public works. Equipment accounts for between 50 and 60 per cent of investment, of which half is for transportation and the remainder machinery and spare parts.
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> This distribution of investment suggests that Latin America could increase its rate of growth and assume a less vulnerable position if it were to change its pattern of investment accordingly. However, since the pattern of investment is conditioned by the pattern of savings, which in turn is conditioned by income distribution, a substantial modification in the pattern of investment could mean breaking the rules under which the system operates, insofar as it may conflict with the criteria of profitability.
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> Also, there is a quite marked underutilization of capital, the factor allegedly in scarce supply. According to an ILPES-CELADE study, between 1960 and 1963, only 58.2 per cent of industrial productive capacity was utilized. This situation, which tends to perpetuate itself, is attributed to distribution and levels of income and to causes of a technologic nature.[1]

Furthermore, the emergence of the highly controlled economy in the international economic sphere has resulted in strong links between domestic and foreign capital, and this has constituted a relationship that has meant an external decapitalization, where private investment has meant

> and now means, that the sums taken out of our (Latin American) countries are several times higher than the amounts invested. Our potential capital is being reduced. The profits on investment grow and multiply, not in our countries but abroad. So-called aid, with all the well-known restrictions attached to it, means markets and further

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[1] A. Fucaraccio, op. cit., p. 142.

> development for the developed countries, but it does not compensate for the sums which leave Latin America as payment for external indebtedness or as profits produced by direct private investment. In a word, we know that Latin America gives more than it receives.[1]

Contrary to Rostow's thesis, the diffusion of capital does not go from developed to developing countries, but rather, from developing to developed.[2] As Frank has noted, the largest part of the capital

> which the developed countries own in the underdeveloped ones was never sent from the former to the latter at all but was, on the contrary, acquired by the developed countries in the now underdeveloped ones.[3]

Here, again, reflecting what occurs in other sectors of the economy, there is a pattern of diffusion and flow of human health resources from Latin America to North America that represents a savings for the North American economy. Indeed, it has been estimated that the overall saving for the U.S.A. as a result of the flow of physicians from developing countries is equivalent to the yearly output of the fifteen U.S. medical schools graduating the largest number of physicians.[4] Since 60 percent of this inflow during 1960-69 came from Latin America, we could assume that the inflow of Latin American physicians during this period was equivalent to nine medical schools, with an estimated annual direct and indirect savings in those years of $300 million - a superior amount to the annual "aid" in medical care and hospitals that went from the U.S.A. to Latin America in the same

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[1] Declaration of the Foreign Ministries of Latin America (with the exception of Cuba's), Villa del Mar, Chile, 1969.

[2] In 1969, the same year the Foreign Ministries meeting took place, U.S. companies took out of Latin America roughly $1 billion more in profits than they invested there. Newsweek, June 23, 1969.

[3] A.G. Frank, Latin America, p. 50.

[4] The great dependency of U.S. medicine upon these imported human resources is shown by the fact that, in 1968, 30 percent of hospital resident physicians were from abroad. U.S. House of Representatives, 90th Congress, 23rd Report of the Committee on Government Operations, House Report 1215, March 28, 1968.

time period, estimated to be $50 million.[1,2] It is worth underlining that this medical "aid" is mainly focused on teaching hospitals, perpetuating the pattern of production that benefits the consumption of the donor country and the lumpen-bourgeoisie[3] of the recipient country.

The causes of underdevelopment of human resources inside and outside the health sector

The main reason for underdevelopment in Latin America, as a recent United Nations report states, is the nature, subject and control of economic and social investment leading to a pattern of production and consumption aimed at optimizing the benefits of the foreign and national controllers of that capital, and not at stimulating the equitable distribution of resources in the particular Latin American nations.

The report emphasizes that these patterns of investment

> determine a structure of production in the modern sector which is mainly characterized by the production of consumer goods, particularly consumer durables of a luxury type. Even the relatively small scale production of capital goods is designed to reinforce production machinery that is geared to consumption, to the detriment of a possible expansion of the capital goods sector which might boost the development of the rest of the economy and ensure its ultimate capacity for self-sustained development.[4]

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[1] Annual Report to the U.S. Congress by the Foreign Assistance Program on health and education programs, 1971. The figures for "health programs" cover only personal health services and do not include population programs.

[2] The flow of human health resources out of Latin America represents a very large decapitalization of these resources for some Latin American countries. For instance, in the Dominican Republic (where one half of that nation's newborn children die before reaching the age of five), out of 200 newly graduated physicians in 1962, 80 left for the United States. Quoted by M. Basin in Science, Technology and the People of Latin America, unpublished, 1972.

[3] By lumpen-bourgeoisie is meant those domestic social groups in underdeveloped societies that control most of the wealth of their society and who, at the same time, have identical interests to those of foreign industry and commerce. A.G. Frank, Lumpenbourgeoisie, p. 5.

[4] United Nations Economic Council for Latin America, Economic Survey of Latin America, 1968, Part I, Some Aspects of the Latin American Economy Towards the End of the 1960's, p. 71.

Also, in another United Nations report it is said that

> the establishment or expansion of a sector of consumer durables or luxury goods, such as automobiles, television sets, or refrigerators--the base of mass consumption in developed countries--tends to depend upon the expansion and broadening of credit and loan facilities. In substance, savings and cash assets of various types, including foreign loans, are absorbed by these activities and diverted from a hypothetical, direct role in the formation of productive capital.[1]

These patterns of production and consumption repeat themselves throughout the primary, secondary and tertiary sectors of the economy, with the tertiary sector, including health services and education, supporting the secondary and primary sectors.

Furthermore, within the tertiary sector (as with the other two sectors), the public sector is, on the whole, aimed at strengthening the private sector.

Indeed, parallel to what occurs in the overall economy, the same social groups that determine the patterns of production and consumption in the primary and secondary sectors also shape patterns of production and consumption in the health sector. And it can be posited that these are patterns that do not benefit the majority of the population. In addition, as in other economic sectors, the public sector exists to take care of and strengthen (some may say so as to avoid its collapse) the private sector. Last, but not least, the overall cause of the lack of health services coverage of the whole population is not the scarcity of capital and resources in the health sector, but the maldistribution and maluse of those resources.

The fallacy of underdevelopment

In summary, the cause of underdevelopment and its consequent maldistribution

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[1] United Nations Economic Council for Latin America, Mobilization of Internal Resources, 1970, p. 64.

of resources is not (1) the scarcity of the proper "values" and technology in poor countries, (2) scarcity of capital, and (3) the insufficient diffusion of capital, values and technology from developed society to the underdeveloped country's enclave and from the enclave to the rural areas, but quite the opposite. The cause of underdevelopment in poor nations is precisely the existence of Rostow's "conditions for development" in these countries. That is, (1) too much cultural and technological dependency and (2) the underuse and poor use of existing capital by certain national and international groups who have control of those resources. Moreover, factors (1) and (2) determine factor (3), the "dual economies" with the advanced, urban-based entrepreneurial market sector and the underdeveloped, rural-based, "non-market" marginal sector. The so-called "marginal" and "market" sectors of the economy, in fact, are intrinsically linked, so one cannot explain one sector without explicating the other. The development of the "market" model is determined by the underdevelopment of the "marginal" form. Indeed, the wealth of the enclave is based on the surplus generated by the "marginal" rural sector. And contrary to Rostow's assumption, it is the intrusion of the values of the developed countries along with their technology and "entrepreneurial, market, international" capital into the poor societies, that creates the source of underdevelopment. As Frank has shown, the regions that are most underdeveloped and that seem today the most feudal

> are the ones which had the closest ties to the metropolis in the past. They are the regions which were the greatest exporters of primary products to and the biggest sources of capital for the world metropolis and were abandoned by the metropolis when for one reason or another business fell off. This hypothesis also contradicts the generally held thesis that the source of a region's underdevelopment is its isolation and its pre-capitalist institutions.[1]

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[1]A.G. Frank, Latin America, p. 8.

Frank further explains that this is illustrated by

> the former super-satellite development and present ultra-underdevelopment of the once sugar-exporting West Indies, Northeastern Brazil, the ex-mining districts of Minas Gerais in Brazil, highland Peru, and Bolivia, and the central Mexican states of Guanajuato, Zacatecas, and others whose names were made world famous centuries ago by their silver. There surely are no major regions in Latin America which are today more cursed by underdevelopment and poverty; yet all of these regions, like Bengal in India, once provided the life blood of mercantile and industrial capitalist development in the metropolis. These regions' participation in the development of the world capitalist system gave them, already in their golden age, the typical structure of underdevelopment of a capitalist export economy. When the market for their sugar or the wealth of their mines disappeared and the metropolis abandoned them to their own devices, the already existing economic, political, and social structure of these regions prohibited autonomous generation of economic development and left them no alternative but to turn in upon themselves and to degenerate into the ultra-underdevelopment we find there today.[1]

Despite the claims of the Rostowian theories of underdevelopment popular in the United States, the main cause of underdevelopment is control of the economy by a small percentage of the population, Frank's lumpen-bourgeoisie, which has strong connections with international capital and close affinity to the values, tastes and forms of consumption typical in the developed countries. It is this group which establishes and determines the pattern of production and consumption in underdeveloped societies, and which moulds a pattern of production and consumption that is not conducive to, nor is it aimed at, the overall development of those societies.

An example of the power of the lumpen-bourgeoisie can be seen in the automobile industry. Raul Prebisch has commented:

> What happened in the automobile industry was instructive. Not only did several countries attempt to do the same thing, but there was also an extraordinary proliferation of uneconomic plants in one country. In addition to Argentina and Brazil, countries which at present have real

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[1] Ibid.

> production, there are four other countries--Colombia, Mexico, Chile, and Venezuela--which maintain assembly plants and are preparing to begin production. The total Latin American market for passenger vehicles--estimated at little more than 300,000 units annually--has to be divided among nearly 40 present and potential manufacturers, while each of the principal European manufacturers delivers 250,000 to 500,000 units to the market annually.[1]

It has been estimated that the annual value of automobile production in Argentina in the middle-1960's could in five years double the country's road network and

> that a much more complete system of public transportation could be provided if only a part of this same amount were invested in buses and trucks instead of in private cars for the affluent minority.[2]

Also, that

> costs of both "foreign" and national investment in an industry like the automobile industry lead to greater underdevelopment. They result in underutilization of national resources, improper use of resources which might have been more adequately employed in promoting self-sustaining economic development, deepening inequalities in the distribution of national income, and the creation by these industries of vested economic, social, and political interests which are committed to continuing policies of underdevelopment. All this has an unfavorable effect on other existing industries and on the national economy as a whole.[3]

In summary, and as ECLA notes

> the establishment or expansion of a sector of consumer durables or luxury goods, such as automobiles, television sets, or refrigerators--the base of mass consumption in developed countries--tends to depend upon the expansion and broadening of credit and loan facilities. In substance, sav-

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[1] R. Prebisch, Latin American Integration (in Spanish), Fondo de Cultura Economica, 1969, p. 143.

[2] M. Pena et al., "Industrialization and the National Bourgeoisie," (in Spanish), Fichas, 1965, p. 33.

[3] A.G. Frank, Lumpenbourgeoisie, p. 111.

ings and cash assets of various types, including foreign loans, are absorbed by those activities and diverted from a hypothetical, direct role in the formation of productive capital.[1]

Thus, the consumption patterns of the lumpen-bourgeoisie and the middle class,[2] stimulated by a "value system" aimed at producing a consumer society with Western, middle-class standards of living (which would come about in the last stage of the Rostowian process of development), divert capital from potential investment.

The majority of the population, however, which is not of lumpen-bourgeoisie and middle class level, does not fully participate in the consumer society.[3] In a similar manner to that observed by Marcuse in developed societies, the majority of the population is made to aspire "more", where "more" is always unattainable.[4]

This pattern of consumption, meant to benefit a limited percentage of the population, can also be seen in the distribution of health resources. Accordingly, the distribution of health resources follows an inverse relationship to the need for them. This maldistribution, by type of care, by regions, by social class and by the type of financing, is determined by those same parameters that define the evident socio-economic underdevelopment, which I examined in the preceding sections.

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[1] UN-ECLA, Mobilization of Internal Resources, p. 64.

[2] In this paper the middle class is grouped with the lumpen-bourgeoisie because the author, in agreement with an increasing number of social critics, believes that, economically, it functions as a dependent group to the lumpen-bourgeoisie. In this respect, a UN-ECLA report states that "the middle class in Latin America . . . improved their social status by coming to terms with the oligarchy." (UN-ECLA 826:79). Indeed, throughout the underdeveloped countries, as Kolko has also shown for the U.S. (G. Kolko, Wealth and Power In America, Praeger, 1968), when the income of the middle class rises, it increases at the expense of the large masses of poor and near poor, not at the expense of the lumpen-bourgeoisie. A. Pinto, "Concentration of Technical Progress and Its Consequences for the Latin American Development" (in Spanish), in The Trimester Economico, Vol. 32, 1965, p. 125.

[3] According to James Petras, the middle class makes up only between 15% and 20% of the Latin American population. J. Petras, Politics and Social Structure in Latin America, Monthly Review Press, 1970.

[4] H. Marcuse, "Repressive Tolerance" in A Critique of Pure Tolerance by R.P. Wolff, B. Moore and H. Marcuse, Beacon Press, 1965.

The prevalent patterns of consumption: Imbalance by type of care

The use made by the population of Colombia of the available health services, according to the 1965-66 health manpower survey previously mentioned, was such that for a period of two weeks, out of each group of 1,000 people, 387 of whom were defined as sick, 63 were under the care of an ambulatory physician and 2 under hospital care.[1] Comparing this distribution of need and utilization of health services, very likely similar in most Latin American countries, with the actual consumption of resources as measured by expenditures in several countries, shown in Table 1, we see that the pattern of public consumption of the Colombian health peso is such that the two hospital patients consume approximately 30% of the health peso in the public sector and the 63 ambulatory patients about 70% (with all types of curative services taking up around 91.2% of the peso). In comparison, environmental services only consume 8% of the Colombian health peso in that sector.[2] When the private consumption is added to the public one, the percentage of overall consumption for environmental services is even lower, being between 4.4% and 6%. The situation is similar in other Latin American countries.

(Insert Table 1)

If we look at the type of morbidity prevalent in the surveyed population (i.e, infectious diseases and malnutrition) and at the comparative effectiveness of the different health activities for combating this morbidity, it would seem that environmental health services and preventive personal health services should be given far higher priority than curative services, and particularly the hospital services. In spite of this, the production of human resources, through the medical education imported from developed societies, serves to perpetuate this hospital-oriented,

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[1] C. Garcia, op. cit., p. 143.

[2] This percentage includes operating and capital expenditures. J. Margozzini, An Analysis of Cost and Expenditures in Latin America for the Period 1965-1970, The Johns Hopkins University, 1973 (in process).

curative medicine approach which only strengthens the maldistribution of resources according to type of care by replicating the consumption of health resources prevalent in developed societies.[1] This priority is reflected in the rapidly increasing reliance on the hospital as the unit of the health services system with the goals and objectives of health plans defined by bed/population and physician/population ratios, in the same manner they are used in developed countries.

The orientation toward a hospital-based, curative medicine pattern of consumption seen in developed societies is replicated, through the medical education and the structure of health services, in underdeveloped countries, because the means of production and consumption in the health sector are controlled by the lumpenbourgeoisie, which desires the same type of care (with the "latest" in medical care) given to the people in developed lands.[2] Due to the emigration of physicians from developing to developed societies described earlier, this pattern of production of human resources also benefits consumers in the metropolis.

This pattern of consumption is characterized by the broadening of choice for the few, and the narrowing of choice for the many. Actually, as the prestigious Chilean economist, Jorge de Ahumada, has indicated, each dollar spent in Latin America on highly specialized hospital services costs a hundred lives. Had each dollar been spent on providing safe drinking water and in supplying food to the population, a hundred lives could have been saved.[3] However hyperbolic Ahumada's

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[1] O. Anderson, Health Care: Can There Be Equity?, Wiley and Sons, 1973.

[2] It is worth noting, similarly, that the patterns of production and consumption in the metropolis or developed societies also are not aimed at meeting the needs of the majority of the population. As Bettelheim indicates, the pattern of economic and social production and consumption of developing countries, and the consequent economic and social dependency, concerns only the bourgeoisie and does not benefit the majority of the population in either. C. Bettelheim, Reply to A. Emmanuel, Appendix II in A. Emmanuel, Unequal Exchange, Monthly Review Press, 1972.

[3] Quoted by I. Illich, op. cit., p. 266.

statement may sound, it nevertheless provides a devastating critique of the pattern of investment in most developing countries.

Regional imbalance

The important political and economic influence the city based lumpen-bourgeoisie has on the distribution of resources also means that most of the human health resources are centered on the poor country's "enclave" of the market foreign-oriented economy. Thus, although most of the economic production is in the non-enclave areas, the agricultural and extractive sectors, the consumption of services, including human health resources, is urban and is primarily in the underdeveloped country's capital.

Table 2 compares the distribution of human health resources by community size in different countries and shows that those resources are concentrated not in the small communities, where most of the people live, but in the large cities and primarily in the capital.

(Insert Table 2)

The lumpen-bourgeoisie influences the distribution of resources by: (1) stressing the "market model" in the distribution of resources, in the same way that it expounds a "liberal ideology" at the economic level. Resources are thus distributed according to consuming, not producing power.[1] This consumer power, as indicated before, is urban-based; (2) influence on the means of production, i.e., urban-based medical education;[2] (3) control of the social content and nature of

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[1] For an excellent analysis of the parameters that define the market model, see M. Godelier, Rationality and Irrationality in Economics, N.L.B., 1972.

[2] As Elliot Friedson has stated, "A profession attains and maintains its position by virtue of the protection and patronage of some elite segment of society which has been persuaded that there is some special value in its work." E. Friedson, Professional Dominance: The Social Structure of Medical Care, Atherton Books, 1970, p. 52.

the medical profession, due to the unavailability and inaccessibility to the majority of the population of university education;[1] and (4) control of the highly centralized, urban-based State organs, whereby the public sector, controlled by the different branches of the State,[2] is basically meant to support the private and social security sectors.

The consequences of the enclave theory in the health sector

Private and social security sectors take care of considerable parts of the urban-based lumpen-bourgeoisie and middle classes, with the public sector taking care of the majority of the population, either the lumpen-proletariat in the urban areas or the peasantry in the rural areas, which together constitute 70% of the Latin American population.[3] This distribution of resources seems to reflect the dual economy theory of Rostow. Indeed, you will recall, within the Rostowian theory, that the third or take-off stage was Rostow's stage for the change from a primitive or traditional society to a consumer-oriented society. This take-off takes place through investment (primarily in the industrial sector) in the underdeveloped countries. In this process of development the country moves toward the features of the developed countries, predicting for the developing countries a future similar to that of the wealthy ones. Within this interpretation, the industrial sector is the dynamic factor in the Latin American economy. As Roemer says,

> the economic development of a country depends upon industrialization. Even the improvement of agriculture depends largely on the production of farm machinery, transport, fertilizer, and other items requiring in-

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[1] See C. Garcia, op. cit., p. 200.

[2] The State includes the following institutions, the government, the administration, the military and police, the judicial branch and the parliamentary assemblies, all of whose interrelationships determine the form of the state system. R. Miliband, The State in Capitalist Society: An Analysis of the System of Power, Weidenfeld and Nicolson, 1970.

[3] J. Petras, op. cit.

> dustrial processes. Thus, it is reasonable for a developing country to give priority in health resource allocation to its industrial workers. A skilled industrial worker represents a social investment; that is, the attainment of the skill ordinarily requires long training and experience.[1]

As a result of this human investment theory, the investment of resources should be based on the industrial sector. Roemer continues:

> Thus, it seems to me that in countries of all types--industrialized and developing, capitalist and socialist--the social insurance mechanism is virtually an inevitable stage in the political and economic process of attaining effective distribution of personal health services to a total population. In the course of this evolution there may well be temporary inequities, favoring certain social groups as compared with others, but this is in the very nature of social progress. It is realistically not a great price to pay for the advantages of stability, planning, the achievement of a higher priority for health, and all the other advantages of the social insurance approach discussed earlier.[2]

This interpretation, however, does not correspond to the dynamics of the development currently observable in Latin America. Actually, as UN-ECLA has shown, the industrial sector is not a dynamic factor in the Latin American economy.[3] As indicated before (and also as pointed out by ECLA, Frank, and very many others), the pattern of investments in this sector is aimed at sustaining the consumer goods industry rather than establishing a force for economic development. The control of that investment by the lumpen-bourgeoisie and its foreign counterparts optimizes the pattern of investments that diverts capital from actual development purposes. Also, and as Frank notes, the same productive processes and structures which pro-

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[1] M. Roemer, "Social Security for Medical Care: Is It Justified in Developing Countries?" in International Journal of Health Services, Vol. 1, No. 4, 1971, p. 354.

[2] Ibid., p. 360.

[3] "Industry has ceased to be a driving force in the Latin American economy; instead, it has simply become one of the number of sectors with no special power to galvanize the others." UN-ECLA, Industrial Development in Latin America, 830: 10.

mote underdevelopment also produce high incomes for the Latin American bourgeoisie.[1] The industrial sector then is controlled by and functions for the lumpen-bourgeoisie and its foreign counterparts, not for the benefit of the development of the whole of the individual country. Furthermore, even though this sector served as a stimulant for development in North America and Europe, it is not a dynamic sector in Latin America because, unlike those two continents, the Latin American continent lacks a great internal demand that can sustain its industrial sector. The difference between Latin America and those other areas is that in North America and in Europe industrialization did not precede, but followed, profound structural changes and reforms, primarily in agriculture, which determined an internal demand that sustained the process of industrialization. As Feder (a consultant to UN-ECLA and UN-FAO) has pointed out, the main obstacle to industrialization and development in Latin America is the system of land ownership and the lack of meaningful land reform.[2]

Because of its lack of dynamism, the industrial sector has remained stagnant, and it employed the same percentage of the labor force (14%) from 1950 to 1969. In addition, and reflecting this stagnation, social security coverage for the middle sectors - professionals, white and blue collars - has remained rather constant in the last decade, and has exhibited very slow, if any, expansion. Table 3 shows the percentage of population covered by social security in various countries, in different time periods.

(Insert Table 3)

Actually, all the increase in Latin American social security coverage has concerned

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[1] A.G. Frank, Lumpenbourgeoisie, p. 119.

[2] E. Feder, The Rape of the Peasantry: Latin America's Landholding System, Anchor Books, 1971.

the services sector (primarily the group comprising government employees), which has been the fastest growing sector in Latin America. In 1969, 43% of the labor force was in services.[1]

It is therefore highly questionable whether, as long as the pattern of control in those sectors remains the same, the industrial (and services) sectors can be the dynamic multiplier it has been assumed to be. Because of the small percentage of the population involved, the expenditures per capita in the social security sector and within social security in the health services, are proportionately very high indeed. Table 4 shows the expenditures per capita in the three sectors in different countries, underlining the social priorities in those societies.

(Insert Table 4)

Private and social security cover not more than 25% of the population while consuming over 60% of all health expenditures, while 70% of the population consumes under 40% of all expenditures.[2] Since 80% of all expenditures goes on human resources, one could postulate that the majority of human resources follow an equal maldistribution pattern.

This distribution of resources in the health sector parallels the distribution of other resources in the tertiary and secondary sectors of the economy. Thus, social security covers a small group, the "aristocratic" portion of the labor force, and this is a group that, although not the most dynamic in the overall development, is needed to sustain the industries and services of the consumer-oriented lumpen-bourgeoisie and their foreign counterparts.[3]

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[1] A.G. Frank, Lumpenbourgeoisie, p. 52.

[2] J. Margozzini, op. cit.,

[3] Not unlike the social security mechanism in developed societies, they have been used to try to integrate (and some may say coopt) sectors of the labor force into the "market-urban based" economy. To see an expanded analysis of this point, see G.V. Rimlinger, Welfare Policy and Industrialization in Europe, America, and Russia, Wiley and Sons, 1971.

Conclusion

The highly skewed distribution of human health resources in Latin America is a symptom of the maldistribution of resources in the different sectors of the economy, a maldistribution that, as postulated in this article, is due to the economic and cultural dependency of Latin American countries and to the control of the distribution of economic and social resources (including health resources) in those countries by a national lumpen-bourgeoisie with links with foreign counterparts.

If the analyses reflected in this paper are accurate, the implications for Latin America would be quite substantial. It can be postulated that it would be unhistorical to expect that changes towards equity can occur in the present distribution of resources, within and outside the health sector, without changing the economic and cultural dependency and the control by the defined social classes on the mechanism of control and distribution of those resources.

Indeed, in Latin America today, it would be inaccurate to expect a more equitable distribution of human health resources within a highly inequitable distribution of all resources, because of the highly skewed distribution of the mechanism of economic and political control. As Maurice King[1] and I, myself,[2] have both indicated, Cuba shows that in the world of underdevelopment an egalitarian society is required in order to achieve an equitable distribution of human health resources. To achieve it, the two parameters of underdevelopment (1) economic and cultural dependency and (2) economic and political control by the lumpen-bourgeoisie and its foreign counterparts, have to be redefined and discontinued.

Again, if my analysis of the underdevelopment of human health resources is accurate, it would seem that the political institutionalized channels currently

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[1] M. King, Reply to A.P. Ruderman's Review of J. Bryant's Health and the Developing World, in International Journal of Health Services, Vol. 1, No. 4, 1971, p. 416.

[2] V. Navarro, "Health Services in Cuba: An Initial Appraisal" in New England Journal of Medicine, Vol. 287, 1972, pp. 954-959.

controlled by these groups are not adequate nor sufficient to stimulate the redistribution of resources (inside and outside the health sector) in Latin America.[1]

It is apparent that the institutionalization of the distribution of power and control in the mechanism of distribution of resources, inside as well as outside the health sector, is a profound (some may say insurmountable) obstacle to the equitable distribution of human health resources. How insurmountable that obstacle may be will determine the pattern of distribution of human health resources in the coming decades in most of the Americas. A stimulus and cause for the dissolution of this obstacle will certainly be the increasing awareness of the disfranchised majorities of alternative patterns for the distribution of those resources.

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[1] As Gunnar Myrdal has said, "In the Latin American situation gross violence is . . . exerted all the time, mostly against poor people to keep them suppressed. The whole economic and social order . . . must rightly be seen as 'institutionalized violence'". (G. Myrdal, The Challenge of World Poverty, pp. 483-484) Also, as Barrington Moore has pointed out, "The way nearly all history has been written imposes an overwhelming bias against revolutionary violence. . . . the use of force by the oppressed against their former masters has been the object of nearly universal condemnation. Meanwhile the day-to-day repression of 'normal' society hovers dimly in the background of most history books." (B. Moore, Jr., Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World, Beacon Press, 1966, p. 505.)

TABLE 1

ESTIMATED HEALTH EXPENDITURES OF THE PUBLIC SECTOR IN MEDICAL CARE AND WATER AND SEWERAGE SUPPLY[1,4] BY CAPITA AND BY PERCENTAGES OF TOTAL HEALTH EXPENDITURES

		Medical Care[3]		Water and Sewerage		Total	
Country	Year	Per Capita Expenditures (U.S. $)[2]	Percent[2]	Per Capita Expenditures (U.S. $)[2]	Percent[2]	Per Capita Expenditures (U.S. $)[2]	Percent[2]
Colombia	1970	8.5	91.2	0.82	8.8	9.32	100.0
Nicaragua	1969	14.6	94.4	0.86	5.6	15.46	100.0
Peru	1969	10.6	94.2	0.65	5.8	11.25	100.0
Salvador	1970	6.1	94.4	0.36	5.6	6.46	100.0
Venezuela	1970	38.6	95.6	1.79	4.4	40.39	100.0

[1]Source: J. Margozzini, An Analysis of Cost Expenditures in Latin America for the Period 1965-1970, The Johns Hopkins University, 1973 (in process).

[2]PAHO: Annual Report of the Director, 1971. From the total amount invested between January 1961 - December 1970 an annual mean of investments has been obtained and, from this, per capita expenditures have been calculated.

[3]Data on distribution of expenditures in Medical Care between primary, secondary and tertiary care are available only for Chile (Ministry of Health: Study of Human Resources) and are partially available for Peru (T. Hall, Study of Human Resources). Extracted from these sources are the following data on medical services expenditures: Chile (1968) - ambulatory services 13.4%; dental 17.9%; laboratory 4.3%; hospitalization 9.4%; and pharamceutical expenditures 55%. In Peru (1964) 29% went on pharmaceutical costs.

[4]If instead of considering only expenditures of public sector on medical care we consider estimations of total expenditures in medical care (public sector + private sector), the percentages of expenditures in Water and Sewerage would be as follows: Colombia 4.4-6.0%; Peru 1.5-4.7%; El Salvador 0.2=2.1%; and Venezuela 4.0=23%.

TABLE 2

DISTRIBUTION OF POPULATION AND NUMBER OF PHYSICIANS PER 10,000 INHABITANTS IN SOME LATIN AMERICAN COUNTRIES[1,2]

			Localities 20,000 Population		Localities 20,000-99,999 Population		Localities More Than 100,000[5]	
	Year[3]	Physicians Per 10,000	Physicians Per 10,000	% of Population	Physicians Per 10,000	% of Population	Physicians Per 10,000	% of Population
Colombia	1970(64)	5.4	.78	63.9	2.10	9.5	15.1	26.6
Nicaragua	1971(69)	4.5	1.37	72.6	11.2	8.6	13.8	18.8
Peru[4]	1969(61)	5.2	(1.6)	76.0	(1.6)	16.8	14.5	7.2
El Salvador	1969	2.3	2.64	81.1	6.2	5.1	11.1	13.3

[1]Source: J. Margozzini, An Analysis of Cost Expenditures in Latin America for the Period 1965-1970, The Johns Hopkins University, 1973 (in process).

[2]Data taken from PAHO: Quadrennial Projections, 1971.

[3]Figures between parentheses refer to the census years in which the listed population distributions were determined.

[4]Data for Peru: The figures for physicians per 10,000 people concern localities with less than 100,000 inhabitants.

[5]Includes national capitals. Bogota (1967): 13.7 physicians per 10,000 people; Managua (1971): 13.8 physicians per 10,000 people. In 1969, El Salvador had only two cities over 100,000 inhabitants, the capital, San Salvador, being one of these.

TABLE 3

PERCENTAGE OF POPULATION IN SOCIAL SECURITY

	1966	1968	1970
Colombia	6.21	6.22	6.21
Peru	8.90	8.90	9.00
Salvador	4.80	4.90	4.90

Source: Inter-America Institute of Social Security, Mexico, 1973.

TABLE 4

ESTIMATED PER CAPITA EXPENDITURES IN DIFFERENT SOCIAL GROUPS OF SELECTED LATIN AMERICAN COUNTRIES[1, 2]

		Government		Social Security		Private	
	Year	% Population	Per Capita Expenditures (U.S. $)	% Population	Per Capita Expenditures (U.S. $)	% Population	Per Capita Expenditures (U.S. $)
Chile[3]	1968	78.6	22.80	--	--	10.8	± 100
Colombia[4]	1970	85.0	9.14	6.0	27.27	9.0	≥(100)
Peru[5]	1969	73.3	8.14	8.8	52.76	12.0	≥(100)
Salvador[6]	1970	84.2	5.23	4.8	35.51	11.0	≥(100)
Venezuela[7]	1970	72.3	40.76	20.0	36.36	7.7	≥(100)

[1]Source: J. Margozzini, An Analysis of Cost Expenditures in Latin America for the Period 1965-1970, The Johns Hopkins University, 1973 (in process).

[2]Studies of private expenditures have only been carried out in Chile. We have estimated that the per capita expenditures in the other Latin American countries are at least equal to the Chilean figures due to the fact that every country has a greater percentage of beds in the private sector. For Peru (T. Hall, Health Manpower in Peru, The Johns Hopkins Press, Baltimore, U.S.A., 1971) in 1964 the public sector accounted for 76% of the total health expenditures. If we assume that in 1969, 24% of the expenditures were still in the private sector, this would give a per capita expenditure in $88.37 U.S. for the beneficiaries of the private sector.

[3]Chilean Ministry of Public Health, Study of Human Resources, Ministry of Public Health, 1970. Chile has had a national health service since 1952 with 75% of the country's outpatient visits and 91% of the hospitalizations. As beneficiaries of the national health service we have considered the 78.6% who appeared to belong to the group of per capita income below .59 SV (vital salary). We have assumed that the 10.8% of individuals belonging to the group of per capita income above 1.0 SV are the beneficiaries of the private sector.

[4]Quadrennial Projections: Colombia, 1971, Pan American Health Organization, 1971. Social security includes: Instituto Colombiano de Seguros Sociales and Caza Nacional de Provision. According to the study on "Health Manpower and Medical Education in Colombia: Preliminary Findings," the per capita expenditures for general population between 1961 and 1965 were between 6-10 times lower than the per capita expenditures of the "Special population," which included social security for workers and employees and health services of the military forces.

[5]PAHO: Quadrennial Projections: Peru, 1971. This document shows that in Peru 22% of the total population lacks any type of health service. We have included this 22% in the 73.3% of government. Social security includes both the system for the workers and the system for the employees.

[6]PAHO: Quadrennial Projections: El Salvador, 1971. Social security refers to the group of the Instituto Salvadoreno de Seguridad Social.

[7]PAHO: Quadrennial Projections: Venezuela, 1971. Social security refers to Instituto Venezolano de Seguros Sociales.

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