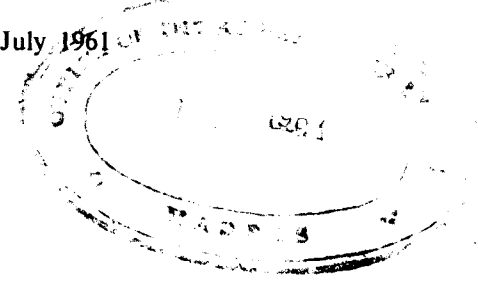


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Vol. 5. No. 2. July 1961



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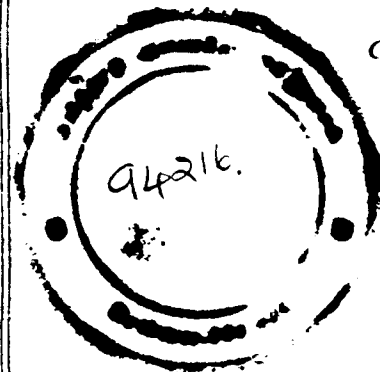
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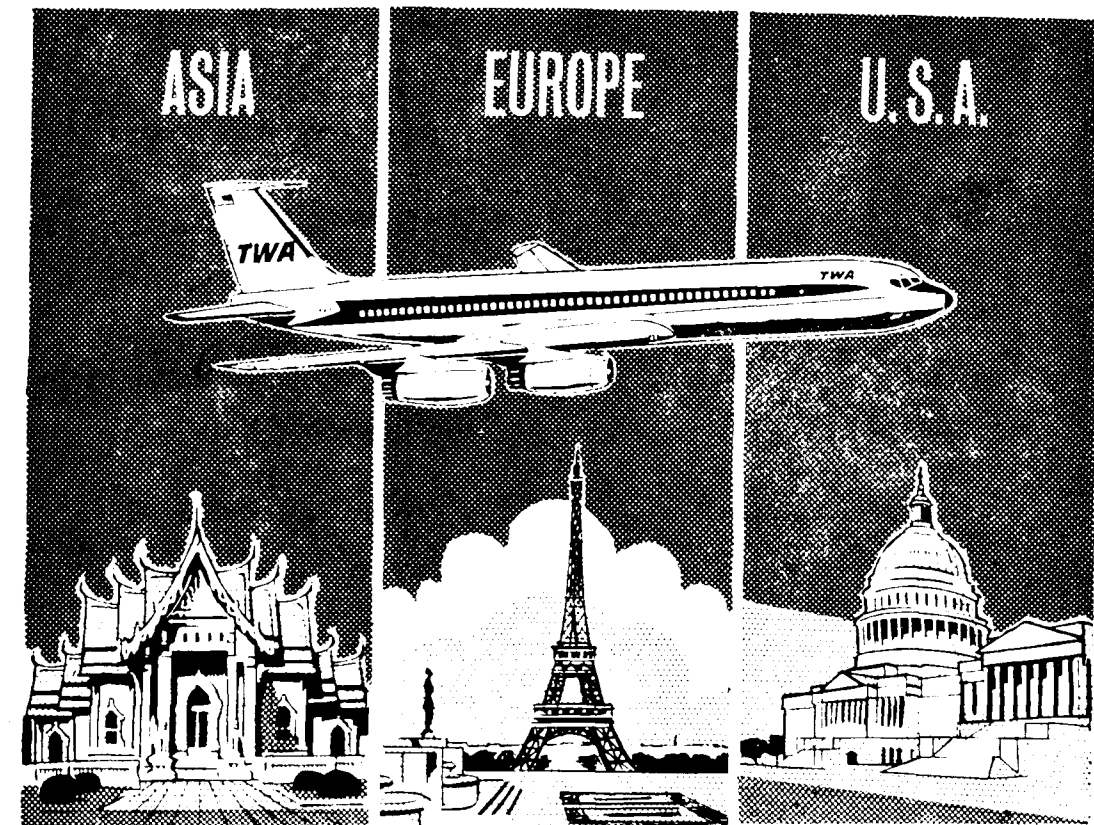


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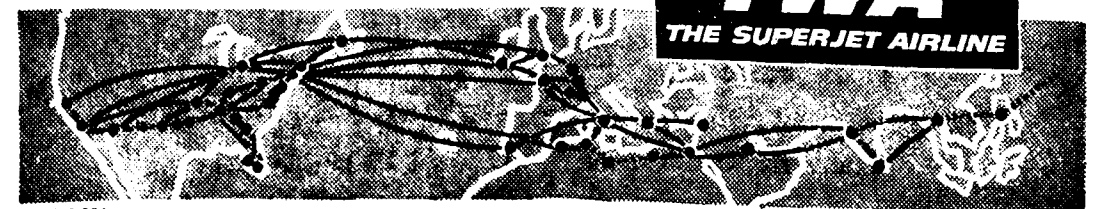
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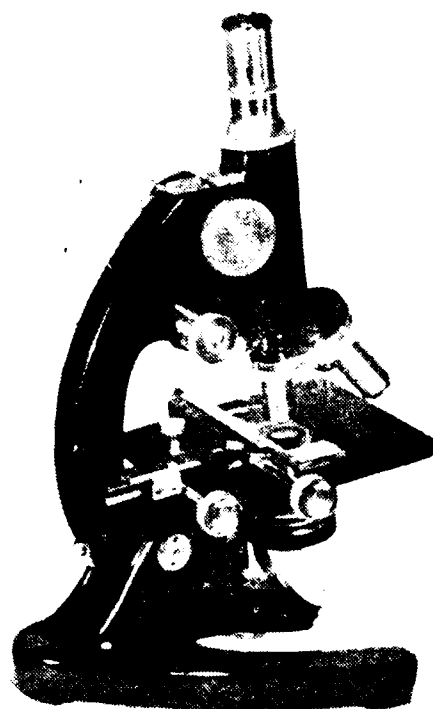
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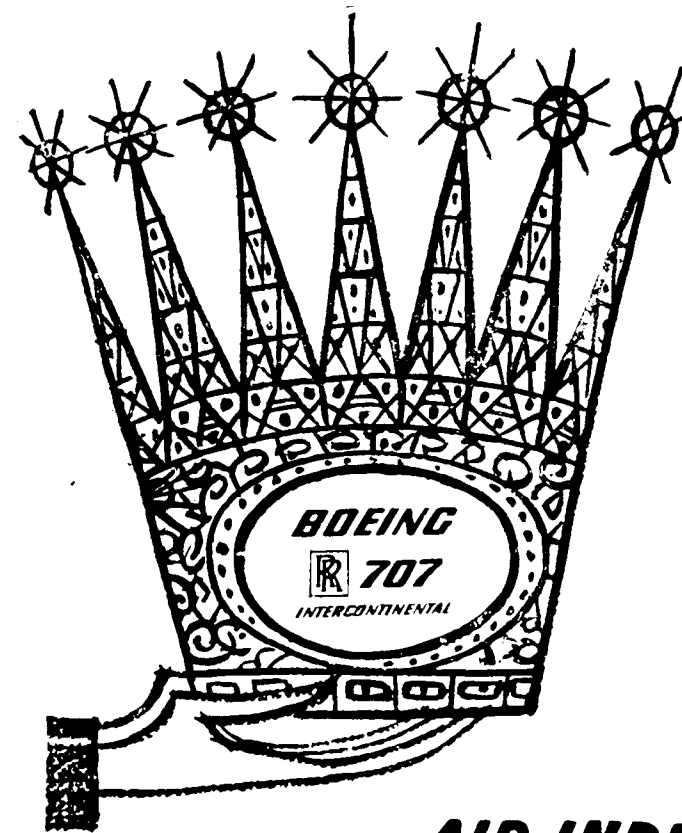
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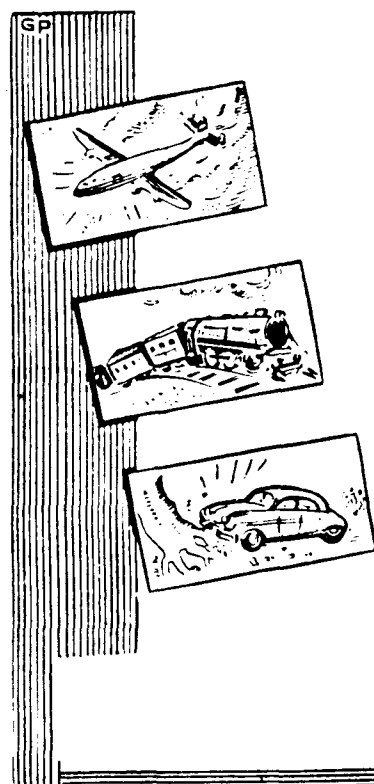
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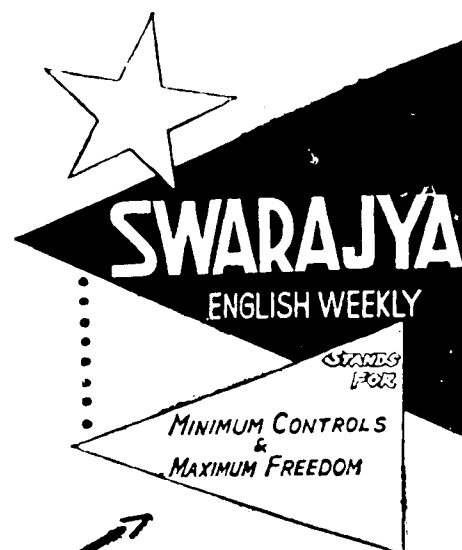
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making an impression on a larger class of readers." There were seven editions of the *Essay*, the last of which was published posthumously in 1872.

BACKGROUND TO THE THEORY

As his critics have often pointed out, Malthus's ideas were not wholly original with him. According to the author of the *Essay* himself, before he wrote the first edition he had read the works of only four writers on population — David Hume, Adam Smith, Robert Wallace, and Richard Price; and of these only Wallace is really relevant to Malthus's specific theory. For Hume and Smith, population was a relatively subordinate subject, and Price was convinced that England's depopulation was proceeding apace. But in his later study, Malthus found a much longer list of men who had anticipated him. As Bonar pointed out, the *Essay* was original in the same sense that Adam Smith's *Wealth of Nations* was: "In both cases the author got most of his phrases, and even many of his thoughts, from his predecessors; but he treated them as his predecessors were unable to do; he saw them in their connection, perspective, and wide bearings."² By putting these ideas that other men had expressed into a larger framework and examining in detail the interrelation of population growth with economic and political development, Malthus did more than any of his predecessors or all of them together. He wrote a book that, whether as guide or as target, all have had to recognize as the beginning of modern population theory. And while in certain respects the *Essay* was derivative, in more important ways it opposed to strong schools of thought, mercantilism and revolutionary utopianism.

Mercantilism is, as Heckscher put it, "a phase in the history of economic policy,"³ a transition between the medieval and the modern periods. The universalist elements of the Middle Ages, the Church and the Empire, had lost their ability to hold society together, and their place was taken by highly centralized national states. There was a close interaction of political and

economic institutions. Very often state officials planned, initiated, developed, and regulated economic enterprises;⁴ and the trading companies they formed had powers so broad that within their territories they were equivalent to sovereign states.⁵ According to a prime tenet of mercantilist theory, any nation could benefit only at the cost of others. The prime end of both political and economic policy was to prepare for war, which came frequently. A wise state produced goods cheaply — that is to say, with the lowest feasible wages — and exported them in exchange for the maximum amount of gold.

And just as it hoarded bullion, so also the state hoarded people, and for the same reason, to increase its economic, political and military power. During this period "an almost fanatical desire to increase population prevailed in all countries."⁶ France under Colbert in particular attempted to stimulate fertility and to proscribe emigration.⁷ The asylum that Huguenots and Jews found in England and Holland was not merely a reflection of the greater tolerance in these Protestant countries, but also of a competition for foreign workers particularly skilled craftsmen. The main emphasis in mercantilist demography, however, was on quantity, not quality. "As far as the mass of the working population was concerned, they were counted rather than

⁴ When the French East India Company was about to be formed, for example, Colbert had Louis XIV write a letter to various financiers: "to the effect that he did not doubt their willingness to take so favourable an opportunity of placing themselves at the service of God, himself, and the community by subscribing shares" (*ibid.*, 1, 346).

⁵ "The companies had the right to administer newly discovered or appropriated territories, set up law-courts there, make local laws, grant titles, build fortresses, mobilize troops, wage war and conclude peace with non-Christian prince and nations, ruthlessly crush whatever threatened their privileges and arrest and deport any body trading in their territory without permission, in certain cases even the right to have coinage struck for local currency. . . . [Disobedience was described] as an offence against 'God and company'" (*ibid.*, 1, 451).

⁶ *Ibid.*, 2, 158.

⁷ For a detailed account, see D. V. Glass *Population Policies and Movements in Europe* (Oxford: Clarendon, 1940), pp. 92 ff.

² Bonar, *op. cit.*, p. 32.

³ Eli F. Heckscher, *Mercantilism* (London: Allen & Unwin, 1934), 1, 19.

weighed."⁸ Their function was to produce for the greater power of the state, and to this end no child was too young to begin working.

Whereas from the beginning of the 19th century onwards, after tentative beginnings, stronger and stronger measures were taken to limit child labour by law, under mercantilism the power of the state was exerted in precisely the opposite direction. . . . In a decree of 1668 affecting the lacemaking industry in Auxerre, . . . [Colbert] commanded . . . that all the inhabitants of the town should send their children into this industry at the age of six, on pain of a penalty of 30 sous per child.⁹

Wages should be at subsistence but never higher. A worker, in the words of Sir William Petty, should be able only to "live, labor, and generate," and "if you double wages, then he works but half so much as he could, or otherwise would."¹⁰

In spite of the axiom that a large population is good and a larger one better, mercantilist writers continually noted the "overcrowding" evidenced by a high incidence of vagrancy and crime. Anxious about both the insufficiency of people and their unemployment, they never reconciled these two positions. "At the most they believed that other countries must, for this reason, be careful about increases in their population."¹¹ The way to solve overcrowding in the mercantilist framework was to ship the surplus to colonies, where they could aggrandize the state's power in another quarter of the globe. And here the same cycle was started again, with renewed efforts to increase the overseas populations as rapidly as possible. Whole boatloads of women, usually corraled from houses of correction but sometimes also young country girls, were sent to the French colonies, where soldiers who refused to marry them were punished. In the innumerable letters back and forth, these females were quite clearly

seen simply as breeders. "In the same breath mention is made of shiploads of women, mares, and sheep, the methods of propagating human beings and cattle being regarded as roughly on the same plane."¹²

During the 18th century, a new conception of humanity gradually evolved, particularly in the writings of the French political philosophers. With respect to demographic theory and policy, however, there was neither a clear line of development nor a clean break with mercantilism.¹³ Barnave was exceptional in his view that growth in numbers does not always benefit society. For Mirabeau, or for Brissot de Warville, a large population was symptomatic of a nation's happiness, but the state should foster it only indirectly by increasing the people's well-being. Saint-Just, later one of the instigators of the Jacobin terror, adhered more closely to mercantilist ideas. In his view, misery could never be the effect of overpopulation, but only of social institutions. One can depend on nature "never to have more children than teats," but to keep the balance in the other direction nature needs the state's assistance. Saint-Just's ideas on marriage law, inspired by Rousseau, were "surprisingly harsh" in Fage's estimation. Not only should marriage be encouraged by state loans, but a couple still childless after seven years ought to be forcibly separated.

The Revolutionary Assembly, like the earlier philosophers, was in the main pronatalist. As defined in the new constitution itself, "No one can be a good citizen who is not a good son, a good father, a good brother, a good husband."¹⁴ Membership in the Conseil des Anciens was constitutionally restricted to married persons. A national celebration to honor Husbands and Wives provoked a deluge of sentimental panegyrics. The principal instrument used by the republican government to stimulate population growth was the same as Colbert's, differential taxation; single persons

⁸ Heckscher, *op. cit.*, 2, 44.

⁹ *Ibid.*, 2, 155.

¹⁰ Quoted in Eduard Heimann *History of Economic Doctrines: An Introduction to Economic Theory* (New York: Oxford University Press, 1945), p. 36.

¹¹ Heckscher, *op. cit.*, 2, 163.

¹² *Ibid.*, 2, 300.

¹³ The following discussion is based on Anita Fage, "La révolution française et la population," *Population*, 8:2 (April-June, 1953), 311-338.

¹⁴ Quoted in Marcel Reinhard, "La révolution française et le problème de la population," *Population*, 1:3 (July-September, 1946), 419-427.

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Malthusian Theory: A Commentary and Critique*

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After some decades of relative eclipse, Malthus's name has again become the standard opening to almost every analysis of population trends. As during his lifetime so still today, his views are typically distorted and misjudged, both by supporters and detractors, in both popular and scholarly presentations. It is unfortunately appropriate even in a professional sociological journal to restate his theory, put it against its intellectual and political background, and relate it to the present day—and to do this without repeating the recurrent myths and errors.

Thomas Robert Malthus was born in 1766, one of eight children of a country gentleman. He was educated privately and at Jesus College, Cambridge, where he read widely English and French literature and ancient history, and won prizes, in Latin and English declamation. At the age of 22 he took orders and for a period became a curate. His main interest, however, lay in political economy. In 1804, the year of his marriage, he was appointed professor of history and political economy in the newly founded East India College in Hertford. This was the first professorship in the latter discipline established in Britain, and he filled the post with distinction until his death in 1834.¹

Malthus was one of the founders of 19th century economics. He was a good

* The substance of this article will appear as a chapter of my forthcoming book, *Population*, to be published by Macmillan in 1961.

¹ John Maynard Keynes has written a delightful biographical sketch of Malthus, included in his *Essays in Biography* (New York: Harcourt Brace, 1951). For a more detailed account, see James Bonar, *Malthus and his Work* (New York: Macmillan, 1924). G. F. McCleary, *The Malthusian Population Theory* (London: Faber & Faber, 1953) is an excellent analysis of Malthus's work, with a few chapters devoted to the man and his life.

personal friend of David Ricardo, and their detailed discussions of many points of social policy and economic analysis have been preserved in a voluminous correspondence. Ricardo incorporated Malthus's principle of population virtually intact into economic theory and, indeed, carried it even farther than the author himself. In one important respect Malthus stood outside the main line of development of classical theory. In the 1930's, when Keynes started a new trend in economics by emphasizing effective demand, he based this concept in part on insights of Malthus's that had been neglected for more than a century.

Malthus's most important work, however, the one for which he is most honored and maligned, is his *Essay on the Principle of Population*. It was first published anonymously in 1798, when the author was 32 years old. This first edition was written with an aggressive confidence, a dashing style that passed over exceptions, anomalies, minor points, and swept on to the main conclusion with youthful confidence. It brought the author immediate fame and notoriety, but if he had been content to let his work rest with this version, his name would not be known today to every literate person. Malthus spent a good portion of the rest of his life collecting data on the relation between population and environment in various cultures, bringing his theory in accord with these facts and adjusting it to criticism. Since most countries of the Western world were just beginning to compile reliable demographic statistics, this empirical orientation required an extraordinary effort. The second edition of the *Essay*, published after five years of travel and study, was four times as long as the first. The style is much soberer; "I was willing," Malthus wrote in the preface, "to sacrifice all pretensions to merit of composition to the chance of

30 years old and over paid 25 per cent more taxes. A campaign against celibates was reflected both in legislation and in crackpot ideas of fanatics — for example, that all celibates be required to wear clothing of a specific color, so that they might not escape the just ridicule of the people; or the petition to the Convention that celibacy be made a capital offense.¹⁵

The population policy under Napoleon represented a compromise. Pronatalist decrees continued; in 1813, though the need for soldiers was great, married men were exempted from military service. Under the Civil Code, marriage remained a civil contract, divorce was possible, though difficult. The authority of the father was strengthened, both over his children and over his wife. As under the Republic, primogeniture was supplanted by a law requiring each owner of property to divide the bulk of it equally among all his children; and at one time some analysts believed that this clause had effected a decline in French fertility, particularly among the peasants, for whom a numerous progeny would mean a rapid subdivision of the farm into uneconomic plots. Actually, however, even before the Revolution equal division of property had been the usual practice except among the nobility, so that the decline in family size cannot be ascribed to the law, and certainly not to its purpose.¹⁶

In the context of a discussion of Malthus, two revolutionary ideologues are especially relevant, Condorcet and Godwin. The first edition of Malthus's *Essay*, as its very title indicated, was intended to reply to "the speculations of Mr. Godwin, M. Condorcet, and other writers."

Marie-Jean-Antoine-Nicolas Caritat, Marquis de Condorcet, was an ardent revolutionary, a prominent member of the moderate Girondin faction. In 1793, after the more radical Jacobins gained full control,

Condorcet was tried in absentia and sentenced to death. He remained in Paris, hiding in a students' boarding house, and over the next six months, while the tumbrils were rolling by almost under his windows, he wrote his famous *Esquisse d'un tableau historique des progrès de l'esprit humain*, a history of human progress from its earliest beginnings to its imminent culmination in human perfection. According to Condorcet, all inequalities of wealth, of education, of opportunity, of sex, would soon disappear. Animosity between nations and races would be no more. All persons would speak the same language. The earth would be bountiful without stint. All diseases would be conquered, and if man did not become immortal, the span of his life would have no assignable upper limit. The question of whether production would always suffice to satisfy the people's wants could not be answered, for the problem would not have to be faced for ages to come, by which time man would have acquired new types of now still unimagined knowledge. In the rational age to come, men would recognize their obligation to those not yet born and to the general well-being both of their society and of all humanity, and "not to the puerile idea of filling the earth with useless and unhappy beings." At that time, a limit could be set to the population other than by premature death of a portion of those born. "Thus we find in Condorcet the entire genesis of the Malthusian population law, but in France these ideas remained unnoticed."¹⁷

In the same year in which Condorcet went into hiding, a book published across the channel, William Godwin's *Enquiry Concerning Political Justice*, looked forward to the early establishment of another perfect society, in which half hour's work a day would amply supply the wants of all.

There will be no war, no crimes, no administration of justice, as it is called, and no government. Besides this, there will be neither disease, anguish, melancholy, nor resentment. Every man will seek, with ineffable ardour, the good of all.¹⁸

¹⁷ Fage, *op. cit.* See also McCleary, *op. cit.*, pp. 86-88.

¹⁸ Quoted in *ibid.*, p. 17.

¹⁵ Fage, *op. cit.*, Glass, *op. cit.*, p. 146.

¹⁶ J. G. C. Blacker, "Social Ambitions of the Bourgeoisie in 18th Century France, and their Relation to Family Limitation," *Population Studies*, 11:1 (July, 1957), 46-63. For an excellent discussion of French fertility generally, see Joseph J. Spengler, *France Faces Depopulation* (Durham, N. C.: Duke University Press, 1938).

Malthus has often been characterized as a reactionary for his rejection of these effusions of Condorcet and Godwin, but in that case there are few indeed who do not deserve the epithet.

THE PRINCIPLE OF POPULATION

"In an inquiry concerning the improvement of society," Malthus begins the final edition of the *Essay*, the natural procedure is to investigate past impediments to "the progress of mankind towards happiness" and the probability that these would be totally or partially removed in the future.¹⁹ He does not pretend to be able to discuss so large a subject in its entirety, but "one great cause" is "the constant tendency in all animated life to increase beyond the nourishment prepared for it."

Population, "when unchecked," doubles once every generation. Among plants and "irrational animals," the potential increase is actual, and its "superabundant effects are repressed afterwards by want of room or nourishment." The matter is "more complicated" in the human species, for man, a rational being, can consider the effects of his potential fertility and curb his natural instinct. With man, there are two types of controls of population growth, which Malthus terms the preventive and positive checks. "In no state that we have yet known, has the power of population been left to exert itself with perfect freedom."

The principal preventive check is "moral restraint," or the postponement of marriage with no extramarital sexual gratification. Other types of preventive checks he terms "vice," namely, "promiscuous intercourse, unnatural passions, violations of the marriage bed, and improper arts to conceal the consequences of irregular connections" — or, in modern terminology, promiscuity, homosexuality, and birth control applied either within or outside marriage.

Positive checks include "wars, excesses, and many others which it would be in our power to avoid"; but in a country already

fairly densely populated (Malthus used Great Britain as an example, and specifically excluded the America of his day), lack of food is the decisive factor. If the average produce from the land were doubled over one generation, or about 25 years, this would be "a greater increase than could with reason be expected." A second doubling in the following 25 years "would be contrary to all our knowledge of the properties of land." That is to say, the "tendency" or "power" of every species, including the human one, is to increase at a geometric rate, while under the most favourable circumstances usually to be found, its subsistence increases at an arithmetic rate. Thus, "the human species would increase as the numbers, 1, 2, 4, 8, 16, 32, 64, 128, 256; and the subsistence as 1, 2, 3, 4, 5, 6, 7, 8, 9. In two centuries the population would be to the means of subsistence as 256 to 9; in three centuries as 4,096 to 13, and in two thousand years the difference would be almost incalculable." Lack of food, then, is the principal ultimate check to population growth, but "never the immediate check, except in cases of actual famine."

Apart from migration, the population growth of any area depends on the preventive and positive checks taken together — or, in modern terminology, on practices affecting fertility and those affecting mortality. Moreover —

The preventive and the positive checks must vary inversely to each other; that is, in countries either naturally unhealthy, or subject to a great mortality, from whatever cause it may arise, the preventive check will prevail very little. In those countries, on the contrary, which are naturally healthy, and where the preventive check is found to prevail with considerable force, the positive check will prevail very little, or the mortality be very small.

Or, as we would say today, fertility and mortality, apart from transitional periods, are generally either both high or both low.

Population tends to oscillate around the number possible with its means of subsistence. If a country with a population of 11 million, say, has food adequate for this number, then in most cases the population would increase sooner than the subsistence,

¹⁹ This quotation and the following all come from T. R. Malthus, *An Essay on the Principle of Population* (7th ed.; London: Reeves and Turner, 1872), book 1, chaps. 1 and 2.

which eventually would have to be divided among perhaps 11.5 million. Because of the consequent distress among the poor, more would put off getting married (the high negative correlation between the price of wheat and the marriage rate that Malthus noted has been repeatedly confirmed in subsequent studies). With a fall in the wage rate, farmers would be encouraged to hire more hands to "turn up fresh soil and to manure and improve more completely what is already in tillage," until the food supply was again on a par with the population — and the cycle began again. In primitive societies, where there is no market system, the same kind of oscillation takes place more directly. "When population has increased nearly to the utmost limits of the food, all the preventive and the positive checks will naturally operate with increased force . . . till the population is sunk below the level of the food; and then the return to comparative plenty will again produce an increase, and, after a certain period, its further progress will again be checked by the same causes."

The tension between population and subsistence, which Malthus saw as the major cause of misery and vice, could also have a beneficial effect. A man who postpones marriage until he is able to take care of his family is driven by his sexual urge to work hard. Malthus was therefore opposed to contraceptives, for their use permits sexual gratification free, as it were, and does not generate the same drive to work as would either a chaste postponement of marriage or children to care for. If a misunderstanding of Malthus's meaning was possible in the first edition, this should have been removed by a very specific denunciation of birth control that he made in the appendix to the 1817 edition, answering one James Grahame:

I should always particularly reprobate any artificial and unnatural modes of checking population, both on account of their immorality and their tendency to remove a necessary stimulus to industry. If it were possible for each married couple to limit by a wish the number of their children, there is certainly reason to fear that the indolence of the human race would be very greatly increased, and that neither the population of

individual countries nor of the whole earth would ever reach its natural and proper extent. But the restraints which I have recommended are quite of a different character. They are not only pointed out by reason and sanctioned by religion, but tend in the most marked manner to stimulate industry.²⁰

A considerable difference in average family size was already discernible among social classes in Malthus's day, and the lower fertility of the upper classes was effected, at least in large part, by the postponement of marriage that he considered desirable. If prudence is practiced among the upper classes, "the obvious mode" of extending this practice to the lower classes is "to infuse into them a portion of that knowledge and foresight which so much facilitates the attainment of this object in the educated part of the community."²¹ The way to do this, Malthus continued, would be to set up a universal educational system, as had been proposed by Adam Smith. Educating the mass would afford everyone the possibility of improving his situation, and this was, in Malthus's view, a strong counter force to the principle of population. "The desire of bettering our condition, and the fear of making it worse, has been constantly in action and has been constantly directing people into the right road."²²

Once the people have been educated to regard prudential restraint as both feasible and good, this mode of checking the growth of population can be spread through society by raising the standard of living. This argument, which is merely suggested in the last chapters of the *Essay*, Malthus developed more fully in his *Principles of Political Economy*.²³ The lowest level to which wages can fall, in his theory as in the classical school generally, is the cost of bringing another generation of laborers into the world at a subsistence level. Malthus believed, however, that wages can be raised from this minimum by an increase in "the

²⁰ Malthus, *op. cit.*, p. 512.

²¹ *Ibid.*, p. 437.

²² *Ibid.*, p. 477.

²³ New York: Kelley, 1951. See also Joseph J. Spengler, "Malthus's Total Population Theory: A Restatement and Reappraisal," *Canadian Journal of Economics and Political Science*, 11:1 (February, 1945), 83-110; 11:2 (May, 1945), 234-264.

amount of those necessities and conveniences without which (the workers) would not consent to keep up their numbers to the required point." Since Malthus has been so often associated with a contrary theory, if not actually designated as the advocate of the vice and misery he discussed,²⁴ it may be well to amplify this quotation with a passage from Sidney and Beatrice Webb, who probably had a juster appreciation of his social philosophy than any other socialist writer.

No argument could be founded on the "principle of population" against Trade Union efforts to improve the conditions of sanitation and safety, or to protect the Normal Day. And the economists quickly found reason to doubt whether there was any greater cogency in the argument with regard to wages . . . From the Malthusian point of view, the presumption was, as regards the artisans and factory operatives, always in favour of a rise in wages. For (as Malthus had written in the *Principles*) "in the vast majority of instances, before a rise of wages can be counteracted by the increased number of laborers it may be supposed to be the means of bringing into the market, time is afforded for the formation of . . . new and improved tastes and habits . . . After the laborers have once acquired these tastes, population will advance in a slower ratio, as compared with capital, than formerly." . . . The ordinary middle-class view that the "principle of population" rendered nugatory all attempts to raise wages, otherwise than in the slow course of generations, was, in fact, based on sheer ignorance, not only of the facts of working-class life, but even of the opinions of the very economists from whom it was supposed to be derived.²⁵

CRITICISM AND ANALYSIS

It is standard that important books are more often cited than read, but in the whole development of the social sciences, there has probably never been anyone attacked and defended with so little regard for what

he had written as Malthus. The errors and misrepresentation have been so general and so persistent that an account of his theory cannot be considered complete until some attention has been paid them. Accounts in responsible works are sometimes mistaken even on matters of simple, easily ascertainable facts — where Malthus was educated, what his profession was,²⁶ how many editions there were of the *Essay*,²⁷ whether or not he was married,²⁸ and so on. Those most interested in Malthus, whether to praise or to damn him, have often started out with a misconception so fundamental that it enveloped the whole man. The "Malthusian" (later "Neo-Malthusian") Leagues sometimes took several generations to discover that the person whose name they used had been opposed in principle to the birth control they advocated. And the opponents of Malthus have often propagated the myth that he was a reactionary, that "the *Essay on Population* chimed with a growing tendency to repress—discussion, association, political organization were becoming less free, as the wars became more exacting and more intense."²⁹ A widely used text denounces Malthus as "an apologist for feudalism on a capitalist and utilitarian basis" — feudalism in England of 1800! Malthus we are told, was "probably thinking in terms of a permanent social structure having the qualities of the transitional phase of the eighteenth century."³⁰

These arguments, one might say, have a certain relevance to the highly simplified version of Malthus's theory that appeared in the first edition of the *Essay*, or that his avid supporters later bandied about in his name. Anyone in favor of absolute laissez-faire found in Malthus's principle of popu-

²⁶ See McCleary, *op. cit.*, pp. 94-95.

²⁷ We are told, for example, that there were five during his lifetime in H. L. Beales, "The Historical Context of the *Essay on Population*," in D. V. Glass, ed., *Introduction to Malthus* (New York: Wiley, 1953), pp. 1-24.

²⁸ Marx was apparently responsible for spreading the legend that Malthus "had taken the monastic vow of celibacy" (Karl Marx, *Capital*, Chicago: Kerr, 1906, I, 675-676). Actually, he was married and had three children.

²⁹ Beales, *op. cit.*

³⁰ Erich Roll, *A History of Economic Thought* (Rev. ed.; London: Faber & Faber, 1954), pp. 211, 205.

²⁴ McCleary cites a passage to this effect from an introductory text "emanating from a famous American seat of learning, Dartmouth College," and published in 1941 (*op. cit.*, p. 96).

²⁵ Sidney and Beatrice Webb, *Industrial Democracy* (London: Longmans, Green, 1919), pp. 632-635.

lation, as later in Darwin's principle of natural selection, a doctrine that seemed to give his political views scientific backing. The main contemporary impact on social and political events was not made by the *Essay* or the *Origin of Species*, but by vulgarized caricatures of these works, which generally had, it is true, a pernicious influence on British social policy. Malthus has been criticized for ignoring the many distortions of his theory that appeared during his life-time; he might have answered that to refute all of them he would have had to devote full time to the task, and that in the prefaces to successive editions of the *Essay* he did try to correct the most important errors. Yet while subsequent generations have managed to distinguish Darwin from Social Darwinism,³¹ Malthus is still usually pictured as a cartoon figure, Good or Evil incarnate, depending on one's politics.

Malthus was no revolutionary. His sensibilities were revolted by the Terror in Paris, and his solid English empiricism by such utopian extravagances as that man can become immortal by establishing a new form of government. But neither was he a reactionary. He is vilified for having denounced the Speenhamland system, but he is less well known as the advocate of free universal education, free medical care for the poor, state assistance to emigrants, and even direct relief to casual laborers or families with more than six children; or as the opponent of child labor in factories, and of free trade when it benefited the traders but not the public.³² More fundamentally, these policy recommendations derived from Malthus's underlying principles. That his sympathies lay with the upper classes is true, but these sympathies were weakened

³¹ Even Jacques Barzun, who has written what is undoubtedly the least sympathetic recent account of Darwin, distinguishes "The Newton of Biology" from "The Uses of Darwinism"; see *Darwin, Marx, Wagner: Critique of a Heritage* (New York: Doubleday-Anchor, 1958), chaps. 4-5.

³² Cf. Bonar, *op. cit.*, p. 343, where citations are given to the passages in Malthus's work expressing these opinions. For a modern liberal view of the Speenhamland system thoroughly in accord in the Malthus's, see Karl Polanyi, *The Great Transformation* (New York: Rinehart, 1944).

by the fact that they were divided between the gentry and the urban middle class. Brought up the son of a country gentleman, he ended his life as a staunch Whig. Appreciative of certain elements of country life ("feudalism"), he was for parliamentary reforms that would shift the political power to the cities. When he termed "most" men lazy, who would "sink to the level of brutes" if permitted to remain idle, he certainly had some basis for this judgment among the declassed peasants of his day. The key to his social philosophy is not his unflattering appraisal of the illiterate mass, but his conviction that their state was not ingrained, that social classes are not, as Edmund Burke later wrote, "as it were, different species of animals." Following the example of Adam Smith in *The Wealth of Nations*, Malthus proclaimed the right of each individual to seek happiness rather than serve the state, and to do this by following his own conscience rather than traditional usages. A full break with mercantilism—and with its paternalistic obverse, represented in Speenhamland—was a necessary prerequisite to the development of modern democracy. However, unlike some proponents of laissez-faire liberalism, who demanded of each man only that he seek his own interest, Malthus did not see the upper classes as automatically right by reason of their social position. If they failed to assist the lower classes in becoming self-reliant, they were thereby censurable.

To reject the frequent errors and misrepresentations in discussions of Malthus's work does not mean that we much accept it as gospel. He is still worth reading today because he forcefully posed a few very important questions, but his answers to them are inadequate by modern standards. These deficiencies derive in large part from three contradictions in his work that were never wholly resolved.

1. *Moralist vs. Scientist.* To this day, social theorists find it difficult to separate an analysis of what is from what, in their opinion, ought to be. The theory of the population optimum is a good modern example of this recurrent dilemma. Malthus wrote at a time when such subjects as population were ordinarily discussed in the context of "moral philosophy";

he himself, as mentioned above, was England's first professor of political economy. The pages of his books, reflecting this transition from a moralist to a scientific frame of reference, are sprinkled with allusions to "the Creator" and what He would prefer. The present-day reader, even a pious one, finds such stylistic mannerisms inappropriate to a work in social science.

Sometimes the competition between the two analytical systems comes to the surface. Consider the proposition that "vice" leads to "misery." This might be the topic of a sermon, and Malthus the moralist would be pleased with the formulation. Malthus the scientist could hardly be. The main impetus to rapid population growth and thus, in his system, to misery, came from early marriage. While he strongly advocated "moral restraint," he never quite designated the failure to exercise it—getting married—as "vice." And on the other hand, as he pointed out in an interesting footnote, some vice—for example, extramarital intercourse—may "have added to the happiness of both parties and have injured no one."

These individual actions, therefore, cannot come under the head of misery. But they are still evidently vicious, because an action is so denominated which violates an express precept, founded upon its general tendency to produce misery, whatever may be its individual effect; and no person can doubt the general tendency of an illicit intercourse between the sexes to injure the happiness of society.³³

Or, as a present-day sociologist would put it, no society can be viable if it lacks so fundamental an institution as the family, which, to persist, must be protected by a principle of legitimacy and moral injunctions against extramarital relations. In the *Essay*, a hint of such a functional analysis is sometimes vaguely perceptible, intertwined with "moral philosophy."

Or, as another example, compare his opposition to birth control with that in Catholic dogma. When contraceptives are denounced as "unnatural," there is no way

of translating this moral judgment into scientific language. Malthus disapproved of them "both on account of their immorality and their tendency to remove a necessary stimulus to industry," and of the two reasons he stressed the second. Birth control was what modern sociologists would term "dysfunctional." Malthus was wrong on this point, of course: man's ambition can be excited by many stimulants other than his sexuality. But the interesting point is that he was not satisfied with labeling birth control as "immoral"; he tried to state his opposition also in an empirical context, in which he could be proved wrong.

Although he was for a period a curate of the Church of England, whom Marx and others referred to as "Parson Malthus," many clergymen found his interpretation of Providence not to their liking, and one went so far as to charge the author of the *Essay* with atheism.³⁴ The population theory appropriate to a "parson," they felt, was something along the lines of Luther's adage, "*Gott macht Kinder, der wird sie auch ernahren*."—God makes children, and He will also nourish them. The principle of population, on the contrary, brought man fully into nature, one species among others. As Darwin himself remarked, his casual reading of the *Essay*, "for amusement," furnished the first clue out of which the theory of evolution developed. Thus, in the dispute between evolutionists and traditionalist theologians, a momentous struggle that set the tone of intellectual life during the whole second half of the 19th century, the role of Malthus was not that of a theologian but rather a forerunner to scientific biology.

2. *Biological Determinist vs. Sociologist.* Sometimes Malthus's emphasis on the fact that man is an animal, with sexual passions and the need for food, has been taken as the sum of his theory, so that he is attacked (or defended) as a biological determinist. This is a reasonable interpretation of the first edition of the *Essay*, on which critics have usually concentrated, as the easier target. Malthus's life-long effort to improve the first statement of his theory, has failed to impress many analysts, who

³³ Malthus, *Essay*, p. 9.

³⁴ Cf. Bonar, *op. cit.*, p. 365.

note the later editions only to point out the inconsistencies.³⁵

Malthus's emphasis on man's biological nature, which today often sounds like an insistence on the obvious, was not so pointless in his day. Many then believed that the fecundity of the human species was being reduced by its new urban setting or by food it was then eating. Sadler, for instance, was not the first to contend that "the fecundity of human beings under similar circumstances, varies inversely as their numbers on a given space"³⁶; or Doubleday, that abundant food destroys the physiological ability to reproduce, so that "in a nation highly and generally affluent and luxurious, population will (necessarily) decrease and decay."³⁷ And according to Godwin, if sexual intercourse were stripped of "all its attendant circumstances, . . . it would be generally despised."³⁸ Against such adversaries, it was relevant to stress man's physiological drives and needs.

In Malthus's final statement of his population theory (that is, the last edition of the *Essay* together with portions of the *Principles*), some remnants of the initial biologicistic framework remained in an occasional turn of phrase. But basically he was less of a biological determinist than many other 19th-century economists. For most members of this school, the problem to be analyzed was production, and consumption was viewed rather mechanically in terms of a reified Economic Man. For Malthus,

³⁵ Bowen tells us, for example, that "the clear alternative" to Malthus's biological theory is "the hypothesis that economic as well as social conditions affect the growth and size of populations, and that sexual passions operate only within the restrictions or stimuli imposed by these conditions." And yet two pages earlier the reader was informed that Malthus had "emphasized the dependence of the actual level of population upon the laws, institutions and habits of each society." See Ian Bowen, *Population* (London: Nisbet, 1954), pp. 111, 109.

³⁶ Michael Thomas Sadler, *Ireland, Its Evils and Their Remedies* (London: Murray, 1829), p. xxviii.

³⁷ Thomas Doubleday, *The True Law of Population Shewn to be Connected with the Food of the People* (London: Pierce, 1947), p. 7.

³⁸ Godwin, *Political Justice*, quoted in Malthus, *Essay*, p. 392.

the standard of living was not a biological factor, but a cultural one. It is worth recalling again the debt Keynes acknowledged to Malthus on this point:

The idea that we can safely neglect the aggregate demand function is fundamental to Ricardian economics, which underlie what we have been taught for more than a century. Malthus, indeed, had vehemently opposed Ricardo's doctrine that it was impossible for effective demand to be deficient; but . . . Ricardo conquered England as completely as the Holy Inquisition conquered Spain. . . . (Malthus was one of) the brave army of heretics, . . . who, following their intuitions, have preferred to see the truth obscurely and imperfectly rather than to maintain error, reached indeed with clearness and consistency and by easy logic, but on hypotheses inappropriate to the facts.³⁹

3. *Deductive vs. Inductive System.*⁴⁰ The principle of population, as enunciated in the first edition of the *Essay*, was wholly deductive. It started with axioms and then proceeded with conclusions inferred from them. Subsequent editions, as we have seen, were based also on a mass of empirical data, gathered to check and support the original thesis. In its final statement, Malthus's theory is not clearly either deductive or inductive, but a sometimes confusing mixture of the two.

An indication of this confusion is the ambiguity of a number of key words. In the phrase, "the ultimate check to population appears to be a want of food," what is the meaning of "ultimate"? Sometimes it seems to mean "in the long run" (if the potential population increase is realized, then ultimately the lack of food will become the most important check), but Malthus emphasized that the potential had never been fully realized, and if moral restraint became general, the population need never press on the means of subsistence. Some-

³⁹ John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (New York: Harcourt Brace, 1935), pp. 32, 371.

⁴⁰ See Kingsley Davis, "Malthus and the Theory of Population," in Paul F. Lazarsfeld and Morris Rosenberg, *The Language of Social Research: A Reader in the Methodology of Social Research* (Glencoe, 111.: Free Press, 1955), pp. 540-553.

times "ultimate" seems to mean "fundamental, underlying all other checks" (for both vice and moral restraint were often the consequence of hunger, or of the fear of it); yet Malthus also emphasized that the standard of living could rise above the subsistence level, so that hunger would be completely irrelevant to actual population trends—as indeed it has become in the countries of the West since his day.

A more important symptom of the confusion between Malthus's deductive and inductive systems is the ambiguity of the word "tendency."⁴¹ In the sentence—apart from "extreme cases, . . . population always increases where the means of subsistence increase"—the tendency seems to be a summary of empirical data. In other contexts, however, the "tendency" of population to increase up to the means of subsistence means its "power . . . when unchecked."

If we try to resolve these confusions, expressing Malthus's ideas in present-day terms, he seems to be making several assertions at once:

Man's physiological ability to reproduce is great enough to permit any population to double each generation (true). Actual fer-

⁴¹ See the interesting exchange between Malthus and Nassau Senior, reprinted in McCleary, *op. cit.*, pp. 114-128.

tility has never been so high as fecundity (probably true). In most cases, however, the checks on population growth imposed by reduced fertility were less important than those effected by heavy mortality (generally true of Malthus's day and of prior periods, though the postponement of marriage had also been a significant factor). The most important reason for late marriage, and for high death rates, was usually an actual or threatened shortage of food (the postponement of marriage had been enforced by institutionalized regulations; and at least in Europe, disease was more significant than hunger as the cause of early death).

Malthus's population theory is neither wholly valid nor wholly defective. It suffers from inconsistencies and ambiguities. Yet Malthus's principle of population has been one element in almost every subsequent theory, and many of the later reformulations were no great improvement in either logical or empirical terms.

Malthus's results were not all new and were not all true; but his work has the merit of being the first thorough application of the inductive method to social science. The chief workers therefore in the modern historical school of economics justly regard him as one of the founders of that school and his work as a solid possession for ever.⁴²

⁴² Alfred Marshall, *Principles of Economics*, quoted in McCleary, *op. cit.*, p. 50.

Hunger - The Great Discovery of the Twentieth Century

By DR. JOSUE DE CASTRO
(Rio de Janeiro)

(We are happy to publish this article by Dr. de Castro, the distinguished Brazilian nutrition expert and former Chairman of the Executive Board of the U. N. Food and Agricultural Organization, Rome. Although we do not share Dr. de Castro's view that the world is not overpopulated, as a journal we welcome diverse points of view, and we believe that our readers will find Dr. de Castro's analysis stimulating, particularly in view of the current U.N. World Campaign Against Hunger.—Ed.)

In spite of all pat phrases to the effect that the world is getting smaller, and that man, through the development of his knowledge, had come to dominate the whole of it, the fact is that we arrived at our mid-century with a great deal of our planet almost, or completely, unknown. There was still a great area of *terra incognita* on our little globe, although human beings had been wandering about on it for close on a million years.

For hundreds of thousands of years man remained on the defensive, a poor unarmed animal, and survived the attacks of wild beasts by hiding fearfully in clefts and caves. It is only very recently that he has gained the upper hand in the struggle for existence, and has set forth into the world in search of wealth and adventure.

The first real knowledge of the earth as a whole came little more than two thousand years ago. It was in the fourth century before our era that Alexander, pursuing his adventure of conquering Asia, made possible the contact of three great civilizations that had previously lived in isolation, mutually ignorant of each other's existence: the Greek, the Hindu, and the Chinese. Rene Grousset calls this "a sublime moment in history", when these three humanisms came into contact and, to their mutual surprise, discovered each other.

FIRST DISCOVERY OF THE CIVILIZED WORLD

This was in fact the moment of the first discovery of the civilized world: when, led by Alexander the Great, the Greeks penet-

rated the cultural world of India, and when, following this, Indian missionaries carried Greco-Buddhist sculpture into China—images of Buddha expressed in the forms of Greek art. Thus Buddhism and Hellenism were revealed to this people of the Far East, and were influenced in turn by a revelation of the equilibrium of Chinese civilization.

Several centuries passed before Marco Polo rediscovered the Orient in the 13th century, and quite a few more before the Portuguese and Spaniards filled in the general map of the world with the great discoveries of the Renaissance period.

The broad outlines of our world have been known since 1500, and the gaps and blank spaces on the old medieval charts have gradually been filled in. The world has gained form and relief and identified itself to the eyes of man. The infinite variety of its natural and human landscapes have come to seem as familiar as the paths of our own backyard.

All this, however, was nothing but an illusion. At mid-century we were still far from knowing the substantial reality of the world. The image we had of it was so superficial as to be to a certain degree false, and thus the world is again being rediscovered by man.

This rediscovery of the world in the 20th century is characterized by a more searching investigation of certain features and details that were not taken into account when the great colored maps of civilizations and cultures were made up. The fact is that geography and other related sciences,

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such as anthropology, sociology and economics, devoted themselves almost exclusively to showing forth the grandeur of earth and of man. They glorified the work of creation, the epic of human toil, retouching and brightening the natural landscape. The portrait they painted was all in positive relief, the colors clear and brilliant. It was an ideal portrait, quite different from the real face of the earth with its grandeur and its misery.

It is only recently that science has gathered courage and decided to paint the world in realistic colors, abandoning the rose-colored picture of the epoch of colonial splendor. And so there have appeared a geography and an economics that are no longer afraid of being disagreeable that show things as they are. They no longer paint the earth as a paradise, a land of Cockaigne, or man as an Olympic god set in the midst of an earthly paradise he had helped to create and make beautiful. The epoch has passed when geography was a magic mirror of the world and a guide to the marvellous voyages of the great conquistadors. This is the epoch of scientific geography, which seeks to analyze in detail the mechanism of the relations between man and his environment. It registers not only what man has done, like a true geographic force, to shape the cultural landscape of the world, but also what man has not done, what he has not known how to do, what he has not wanted to do. It deals with the geographic possibilities of which man has taken advantage, but it also deals with those he has wasted and thrown away.

The geography of today is a science not only of the greatness, the achievements of man, but also of his failures and his misery. Its graphs of the present world show both its great heights and its great depressions. They show the bright spots and also the tragically dark spots that mark the true face of the earth, with its human anthills.

HUNGER: MORE DANGEROUS THAN THE ATOM BOMB

One of the darkest blots on the face of the earth—but which was systematically hidden or covered over by the dominant groups—is the existence of the great demo-

graphic areas of starving populations, which dominate enormous regions of the geographical map of the world. Hunger—chronic and endemic hunger on a universal scale—is the most typical feature of the misery that holds sway in our world. The revelation of this hunger constitutes beyond a doubt the great discovery—tragic and promising discovery—of the science and culture of the 20th century.

This revelation is being forced upon us by the pressure of circumstances, because hunger thrusts itself forward as the most aggressively serious problem today's rulers have to face. It carries as explosive a charge of danger and threat to civilization as the nuclear weapons of mass destruction. Lord Boyd Orr has stated with all authority that hunger is more dangerous than the atomic bomb for the future of humanity; and the British statesman Harold Wilson, in his timely book "War on World Poverty" writes the following words: "For the great majority of humanity the most pressing problem is not war or communism, or taxes or the high cost of living: it is hunger. Because hunger is at the same time cause and effect of the poverty and misery that is the lot of a billion and a half human beings."

WIDENING CONTRAST BETWEEN ABUNDANCE AND MISERY

One of the most constant and telling factors in the terrible social tensions of our days is this economic unbalance of the world, with its resulting social inequality. To put it another way, the profound difference in economic level that separates the well-developed countries from the under-developed constitutes one of the greatest dangers to peace. And this gap, far from showing any tendency to close, has grown wider in the recent period, because the rate of economic growth in the rich countries is much faster than that in the poor countries.

For evidence of the tremendous economic distance that divides the peoples of the world into two politically and economically antagonistic groups, it is sufficient to examine certain statistics on national income collected by the United Nations. These data show that the 19 richest countries of the world, with only 16% of the

population, enjoy more than 70% of world income. By way of contrast, the 15 poorest countries, home of more than 50% of the world's population, receive less than 10% of world income. These eloquent figures lay bare the tragic disparity in distribution of the world's goods—concentrated today in the hands of a small minority, while enormous human masses live in a regime of absolute misery.

This decisive economic inequality is the fundamental cause of innumerable other forms of inequality as between human groups, differences that were formerly attributed to racial or climatic factors. It is economic inequality that cuts the life expectancy in most underdeveloped regions to only 30 years (in India 27)¹ while the figure is about 65 years in the well-developed regions of Europe and North America (that is, twice as high). Thus same economic inequality is the decisive factor in the probability of survival of babies born in the world of the rich and the world of the poor; infant mortality in one of these worlds is only 30 per thousand, while in the other it is some 200 per thousand (that is, seven times as high).

A UN publication on the social situation in the world demonstrates with precision and wealth of detail all the contrasts existing between the lands of abundance and the lands of misery. In the fields of production, health, education, consumption indices, indeed, in all sectors of life there is evidence of the shortages in underdeveloped regions as compared to the well-developed world. But the most striking characteristic, the blackest and most constant feature of the economic and social conjuncture of these underdeveloped regions is the chronic and generalized hunger that weighs down their populations—"the great disinherited masses", in the burning expression of Tibor Mende—whose only inheritance from one generation to the next is a fixed quota of hunger and misery. According to statistics of the United Nations, at least two thirds of humanity live under deficient nutritional conditions, that is to say, in a state of chronic hunger. Of the two and a

half billion human beings that inhabit our planet, about one billion seven hundred thousand have not yet succeeded in escaping from the iron circle of hunger.

THE SINISTER ROLE OF HUNGER IN THE WORLD

According to surveys carried out by the FAO, only 28% of the world population have a diet adequate in calories, that is, sufficient calories to cover the needs of the organism; and only 17% succeed in eating what is considered an adequate daily quota of proteins. The uncovering of these alarming facts, plus publication of statistics showing that world population is increasing by some 50 million individuals each year have forced upon the consciousness of the world the grave problem of feeding mankind, permanently threatened as it is by the spectre of hunger. No one can hide the fact any longer that hunger is the most serious manifestation of world pauperism, generated by defective economic progress and aggravated by the vicious circle that misery imposes: low productivity, on the one hand, for lack of physical energy—and low consumption, on the other, for lack of productivity and consequent purchasing power.

This sinister role played by hunger in the economic and political chaos of our times has brought the phenomenon somewhat more to the attention of students of social problems, who are concerned first of all at the impulse towards revolution that hunger generates among starving people when they become aware of the relative opulence of the rich. They are worried about the constant and anguished fear of the wealthy in face of this violent revolt. This universal misery has in reality divided the world into two groups; those who do not eat and those who do not sleep. The group of those who do not eat inhabit the poor countries, and feel themselves crushed down in their misery by the economic oppression of the great industrialized powers. In these wealthy lands live the group of those who do not sleep, terrorized by fear of the revolt of those who do not eat.

But hunger has always existed, just as there has always been poverty and misery

by the side of wealth and luxury. All ancient civilizations, in the final analysis, were nothing but "small islands of wealth and culture rising up from an immense sea of poverty and slavery", in the expressive phrase of Kenneth Boulding. So how can we explain the fact that this social unbalance that has always existed should now be transformed into a spring of social revolt, arousing miserable and underdeveloped peoples against the rich and developed? The explanation lies in the fact that these miserable peoples were to a considerable degree ignorant of the social reality of the world and of their own place in the picture. It was the bursting into consciousness of this reality, it was the true discovery of the world that has taken place in our days—these are the factors that have awakened them to struggle and to demand the basic necessities of life.

Lord Boyd Orr is entirely right when he states that hunger is the worst manifestation of poverty, the fundamental cause of the revolt of the Asiatics against economic domination of the European powers. This revolt cannot be put down with bombs and cannon, so long as these sufferers believe that their misery and starvation are unnecessary. Prime Minister Nehru, speaking of India, is still more categorical when he says that neither hunger nor misery is new in that country; what is new today is the consciousness of the Indian people of their own hunger and their own misery.

It is true that even today occasional attempts are made to hide this truth. Typical case is the attitude of the so-called neo-Malthusians, disciples of the same old Malthus who in the middle of the 17th century sought to justify the existence of hunger and misery as natural products of the stinginess of nature, which was supposed to be incapable of feeding the world's growing population.

But all this has been scientifically superseded, and to appeal to this decadent doctrine of Malthus is like trying to blot out the sun with a sieve. Today everyone knows that it is not nature that is stingy; the world's natural resources are more than sufficient to feed the human race for many years to come. It is human nature that

has been stingy, or rather, the inhuman nature of our civilization, based as it is on the inhuman exploitation of colonial wealth, quite against the interest of the majority of the world's people, by destructive processes that permit the great powers to obtain, at insignificant prices, the raw materials necessary to their industrialization.

CHANGING POLITICAL ATTITUDE

Now that this subterfuge has been unmasked—the idea of wanting to blame nature for what is a product of the negative activity of man, a product of his selfishness and uncontrolled ambition—the whole world is changing its political attitude and organizing an efficient struggle against this scourge of hunger, this man-made product. The FAO has been in existence since 1945 — a special organ of the United Nations set up for the purpose of combating hunger and undernourishment everywhere. It is a gigantic task, however, and available resources and means of action have been limited, so that up to today, in spite of the effort that has been made, it has not been possible to accomplish any appreciable improvement in the world food situation. The trouble is that the causes of hunger are implanted in the very structure, economic and social, of the world, are part and parcel of the ruling economic systems, which in general have no idea of permitting the balancing and reasonable redistribution of potential wealth. For this reason the FAO has felt practically impotent in face of such a difficult task. It means reorganizing the whole world economy on a juster basis; it means setting up a more humanized economy with greater respect for human beings as such.

During the four years that I was President of the Executive Council of the FAC, from 1952 to 1956, I had an opportunity to see how difficult it is to overcome the resistance of private interest, both national and on the part of economic groups. Problems such as agrarian reform or the setting up of an emergency food reserve—measures essential to any successful struggle against hunger, but which require modifications in existing structures—did not succeed in breaking through the barrier of prejudice and accumulated fears.

¹ Dr. de Castro gives the 1931 figures. The figure for 1961 is 40 years.—Ed.

Today, fortunately, the international climate is impregnated with a collective consciousness that times have changed, and that we must work to construct a new world of peace and international understanding. Today we can be optimistic as to the results of this age-old battle of man against hunger.

WORLD CAMPAIGN AGAINST HUNGER SET IN MOTION

At the last conference of the FAO, held at Rome in November of 1959, a resolution was approved which is a sign of the new times, because it reveals a new world-wide sentiment, a new way of approaching the problem of relations between peoples. This resolution, marking a new stage in the history of international relations, was approved unanimously by the 80 countries present at the Conference. It sets in motion a World Campaign Against Hunger, to be carried out between 1960 and 1965.

This project was approved not only by the FAO, but also by all the other special organs of the United Nations. It represents a plan of work to be carried out under the auspices of the FAO, but it will enjoy the technical and financial collaboration of all the organs of the UN and also of various non-governmental institutions. What we have here is a true crusade on a universal scale designed to fill in the gap that today separates the well-developed world of the

rich from the underdeveloped world of the pariahs.

The action to be undertaken will not be limited to simple measures of assistance or nutritional aid to children. It will strike at something more basic: the problem of the economic structure of the world. It will take up the problem of agrarian structure in the various countries, and will undertake in particular a general revision of the bases of international trade, of the relations of commercial exchange and of the balance of payments between industrialized countries and those supplying basic products and raw materials. In short, it will promote a whole complex of economic measures aimed at achieving a true integration of the economies of the various countries and at setting up a really universal economic system.

This is the task that will be undertaken with decision by the organ elected by the last Conference to plan and execute the World Campaign Against Hunger—a campaign that will surely exert a decisive influence on the destinies of mankind.

I have not the least hesitation in affirming that the creation of this new fighting organ, universal in scope, is the most daring and positive international step yet taken by the United Nations. With this new working instrument the United Nations will be in a position to carry out, peacefully, that overall revolution that the world demands if it is to survive and prosper.

Some Reactions to Bonuses for Family Limitation

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INTRODUCTION

A year ago, in this Review, it was proposed that governments of overpopulated countries should offer a bonus to parents who have fewer children.¹ Specifically, it was suggested that government pay a bonus to husbands who have a vasectomy and to wives who remain non-pregnant over certain periods of time. Various rough calculations indicated that, for each birth permanently prevented, government could afford to pay a sum of about Rs. 500, or roughly twice the per capita annual income of overpopulated and poor countries such as India. An economic argument suggested that resources devoted to such a program might be several hundred times more effective in raising per capita incomes, over say a ten year period, than resources of equivalent values invested in traditional industrial development projects. These somewhat startling conclusions have been commented on by numerous people. Of most

interest perhaps are questions raised by Professor P. C. Mahalanobis, Professor Paul A. Samuelson, and Dr. James A. Tobin. Briefly, their respective points are: (1) industrialization will so increase India's national income that population control is unnecessary; (2) a scheme that seeks to equate the marginal return on resources devoted to increasing capital stocks or labor force will maximize aggregate national income and not income per capita; and (3) the suggested bonus payments are not merely transfer costs but also include a measure of lost investment cost. As these objections raise some nice analytic questions, and have been made by outstanding scholars, they deserve to be explained and answered.²

RESUME OF PROPOSALS

If a country is overpopulated, in some economic sense to be defined, its present inhabitants have a financial interest in dissuading parents of child-bearing age from having as many children as they otherwise would. Some of these parents—a minority only—can be so dissuaded by gifts of money or something useful of equivalent value.³ Larger bonuses are presumably more persuasive.

¹ See "Government Bonuses for Smaller Families", *Population Review*, July 1960, by the author. Other articles that have appeared on the same proposal are "The Gains to India from Population Control: Some Money Measures and Incentive Schemes", *Review of Economics and Statistics*, May 1960, and "The Economics of Government Payments to Limit Population", *Economic Development and Cultural Change*, July 1960, both by this author. These same ideas have been presented in Washington to the Econometric Society, December 1959, and to the Society for International Development, March 1960. They were mentioned during an interview with Prime Minister Nehru in early 1959. They have been the subject of discussion and correspondence with numerous other people also, including Professor P. C. Mahalanobis, (Director of the Indian Statistical Institute), Professor Paul A. Samuelson (current President of the American Economic Association), and Dr. James A. Tobin (now a member of President Kennedy's Council of Economic Advisers). To these and others who have commented on my bonus proposals the author expresses his appreciation.

² The other comments received—apart from a few abusive ones—do not raise such fundamental issues but rather discuss practical problems of administrative procedure. Most of these reactions have come from economists. Not much has yet been heard from sociologists, demographers, and those involved in the contraceptive programs.

³ There is an atavistic and widespread revulsion against the idea of parents accepting cash not to have children. But strangely enough, if the payment is something tangible and productive, there may be more social acceptance. For instance, Government might instead offer to finance the eldest son's education through secondary school, or extend peasants and artisans a free "credit" against which they could buy capital goods to increase their output. Any

The maximum bonus the government can pay, as agent of the public, depends upon the value to the economy of permanently preventing a birth. This last is what a representative baby will take in consumption during its life, less what it will add to production, and in overpopulated countries additional children will consume more than they produce during their lives.

This difference between marginal consumption and marginal production has to be expressed in present discounted values. Discount rates will be high if resources can earn a high rate of return when invested in steel mills, agricultural improvements, and other forms of real capital. Because people do not contribute significantly to production until they are adult, the potential output of a baby has little present value at birth when annual discount rates are high. The cost of more immediate future consumption is not so heavily discounted. Hence, viewed by the economy as productive assets, babies have a negative present value. Other parents' babies are indirectly a liability to each and every family in the land.

Of course, although babies are economically anti-social in overpopulated countries, parents continue to have them. They provide great pleasure—both in their conception and after birth—and the cultures of many poor countries have always placed great stress on fertility. Moreover, in an extended family, babies are not an immediate economic liability to their own parents (for children share in the food and means of the entire three generation family), but are a sort of old age asset for them (when they in turn have become grandparents supported by their children). Hence, it may well be that the failure of most birth control programs in underdeveloped and overpopulated countries is not so much inability as unwillingness to have fewer children. Even distribution of a cheap and effective contraceptive pill will be of little value if women won't swallow them.

The bonus-vasectomy scheme simultaneously contributes to willingness and ability

scheme would have to incorporate such alternative forms of bonus. The economic incidence of so modifying the original scheme is discussed below. (p. 39).

to restrict births. The bonus, if large enough, overcomes unwillingness. The operation itself, which affects only fertility and not virility, provides ability by preventing the ejaculation of sperm. As the operation can be performed simply and quickly, without subsequent hospitalization, the resource cost of the program is very low per participant. Eventually, as more men have the operation and continue to enjoy their wives, a less than minimum possible bonus may evoke adequate volunteers.⁴

If young parents want no more children, but are loathe for the husband to have a vasectomy, they might be encouraged to persevere in their use of ordinary contraceptive measures by a small but regular government bonus that would continue so long as the wife remained non-pregnant. She would have to undergo a superficial and negative pregnancy check at a government clinic every 17 weeks to qualify for the next bonus. Moreover, these bonuses, up to the value of permanently preventing a birth, would remain blocked until she reaches say 45 years of age or her earlier death. A missed or positive examination cancels the credit. For a wife in her twenties the bonus could be about Rs. 40 each four months.⁵

For an economist, the problem of population and its control is merely another exercise in Pigovian welfare economics, there being a disparity between the interest of young parents in having children and the interest of society in not having babies born who will subtract more from consumption than they add in production. The traditional way to resolve such differences in a liberal society is to have government pay a subsidy so that private behaviour will be brought into greater conformity with the general welfare. This is the philosophical source of these bonus schemes.⁶

⁴ A volunteer presumably would not be operated upon without his wife's consent, evidence of several living children, and a reflection period of some months after his initial application.

⁵ Details of this scheme are described in the three articles cited in the first footnote.

⁶ The situation is analogous to the classic case of a factory that emits dirty coal smoke that blackens the clothes and furnishings of nearby

DOES INDUSTRIALIZATION OBVIATE POPULATION CONTROL?

It has been suggested by Professor P. C. Mahalanobis, in correspondence with the author and in a subsequent discussion, that novel schemes to retard population growth are unnecessary in India because of the rapid increase in national income that can now be expected from industrialization.⁷ This sanguine view, that the relative severity of the population problem has been substantially lessened now that there is planned economic development, is shared by enough influential people that it deserves scrutiny. A few rough magnitudes may assist each reader in coming to his own subjective conclusion.

The population of India is increasing at about 2% a year. The annual compounded increase in gross national product during the Second Plan, after deflating for rising prices and subtracting foreign gifts and loans, was not over 3% despite spectacular increases in a few favored industries. One might say that roughly two-thirds of the extra available consumer goods were "swallowed" by population increase. Per capita consumption perhaps rose about one per cent a year. Although the Third Plan may do somewhat better, every national economy is constrained in ways that respond little to government policy.⁸

A nation's output increases because it has more labor (L), more invested capital (K), or has increased its productivity through innovations in technology (ϕ). Natural resources (R), including agricultural land,

residents. It is not in the financial interest of the factory owners to abate the smoke. But it is worth a lot to the local populace who must spend more time and money washing, laundering and cleaning. The usual solution is for the public, through government, to make it worthwhile for the owners of the factory to cease their nuisance. Whether a carrot (subsidies) or stick (taxes) is used depends on the political strength of the parties at issue.

⁷ Professor Mahalanobis, although not an economist by training, influenced India's Second Five Year Plan perhaps more than anyone else.

⁸ See Enke, S. "Preliminary Thoughts about India's Third Five Year Plan" *South African Journal of Economics*, June 1960, for a sober appraisal of economic prospects in India.

are more or less given in quantity if reclamation is considered an act of investment. The extent to which changes in any of these elements may increase national income (Y) is not really known. However, for periods of from 5 to 10 years, the various interactions can probably be represented by a function of the Cobb-Douglas type.⁹

Specifically, where primed and unprimed values are given and base year magnitudes respectively, and ϕ is the increase in efficiency every year, the proportionate change in per capita income in any year is —

$$\frac{Y'/Y}{P'/P} = (1 + \phi) \left(\frac{L'}{L}\right)^l \left(\frac{K'}{K}\right)^k \left(\frac{R'}{R}\right)^r \left(\frac{P'}{P}\right)$$

The exponents l, k, and r, which indicate the respective output elasticities of labor, capital, and resources in turn, are usually assumed to sum to unity. This means that a doubling in the quantity of every one of the three factors would double national income without any change in technology. If l, the output elasticity of labour (L) is .5, it means that a given annual percentage increase in L (say 2%) will result in a .5 as great change in Y (i.e., .5 of 2%).

The proper values to ascribe to l, k and r are most uncertain in the case of India. Here it will be supposed that these are respectively .5, .2, and .3. Plus or minus .1 these educated guesses are probably about right. An r of .3 means that an imaginary 100% increase of all natural resources, and of each and every kind of land, would by itself increase output by 30%. A k of .2, given the present ratio of Y/K in India, implies the very high rate of return on extra investment of about 25 per cent. L can temporarily be assumed some constant fraction of population (P).¹⁰

⁹ Cobb-Douglas functions have a number of special characteristics. The most important to note here are that (1) each productive factor is supposed to enjoy a constant fractional share in total income, (2) there is a constant proportional rate of substitution between factors, and (3) the output elasticity of each factor is constant. (See Phelps-Brown, E. H., "The Meaning of the Fitted Cobb-Douglas Function", *Quarterly Journal of Economics*, November 1957, for a discussion of this production function's characteristics.)

¹⁰ A value of .5 for l seem low, and values of .2 and .3 for k and r in turn may seem high,

What is the per capita annual income increase likely to be in India over the next 5 to 10 years? Population, and hence temporarily we suppose L , is increasing .02 a year. K is increasing about .1 a year.¹¹ R cannot increase. Thus L and K respectively contribute a .01 and a .02 increase in Y annually. The proper value for n , given the other values and estimated GNP increases, may in future be about .01 a year. Thus national income (Y) may increase at .04 a year. But population (P) is increasing at .02 a year. So the per capita income change given by the formula at most is about 2 per cent annually.

But it depends rather, during short period of 10 years or less, why P is increasing. Is it because the death rate at all ages is falling, so that more people live longer to work longer, in which case there is a relation between P , L , and Y ? Or is the retardation in the rate of population growth because of an induced fall in the birth rate that will not retard any growth within 10 years of national labor and income? The labor force of the next ten years is already living. Children under 10 years of age are not producers. Hence, if India could lower its birth rate to its death rate, L and Y would not be immediately affected. Only P would be smaller than otherwise.

Thus the short run choice may be—assuming that the birth rate can be lowered to the death rate—between annual increases in per capita income of from 3 to 4 per cent (with reduced births) and from 1 to 2 per cent (without reduced births.) Possibly at stake is a doubling of the rate of per capita income increase. It is for each policy maker to search his own conscience and decide how important it is to realize such gains.¹²

but this may partly be because subsistence income is seldom distributed functionally among the factors and instead attributed to labor.

¹¹ The savings to income rate is .08, and K/Y is probably a little under unity, so a .1 annual increase in K is perhaps not unreasonable as an assumption.

¹² The Mahalanobis argument that industrialization makes birth control hardly necessary is stronger in the long run when changes in P must affect L and Y . But industrialization, which means large increases in K , makes most sense when the k , exponent has a high value. A higher k is likely to mean a lower 1 . And the

WHEN TO INVEST IN FUTURE WORKERS RATHER THAN IN PRESENT CAPITAL

Professor Paul A. Samuelson, in correspondence and discussion, believed at one time that certain precepts of the author would maximize national income rather than maximize per capita income.

It was asserted elsewhere¹³ that an economy should allocate resources between additional real investment and rearing future workers so that the return in output is equal at both margins. For instance, if $x\%$ can be earned annually from investments, children should not be born unless they too "earn" $x\%$ a year on all they "cost". The argument envisages a nation as an enormous enterprise, owned by the present inhabitants, and managed so as to maximize their per capita incomes.

Now it is an old maxim that the manager of a firm, if he has limited resources to invest in two factors such as labor and equipment, should invest in each so that the marginal value product of both is the same.¹⁴ This will maximize physical output and financial income. But, so long as the other factor is not a free good, it is well known among economists that this will maximize neither income per worker nor income per unit of real investment.

Samuelson therefore doubted that per capita income would be maximized if a government sought to reduce births, so long as a representative baby has a negative present value, when its future production and consumption streams are discounted at the rate of return obtainable on ordinary investments. For such a policy would seem to be tantamount to that of a firm's manager when properly investing funds for labour or equipment. However, it all depends on how the "earnings" and "costs" of babies are defined, and whether one assumes that these new children and adults will share representatively in consumption.

lower the output elasticity of labor, the more advantageous it is in the long run not to have large families. So the economic argument is rather obscure.

¹³ "The Economics of Government Payments to Limit Population," op. cit.

¹⁴ And greater or equal to the interest rate.

The author's argument is that the "earnings" of babies are the present discounted value of their future yearly marginal contributions to output. And the "costs" of babies are conceived to be the present discounted value of all their future yearly consumption. It is assumed that any representative baby will altogether consume goods and services having an undiscounted value equal to per capita annual consumption times the number of expected years of life. And it will presumably produce goods and services having a total undiscounted value equal to the annual marginal product of labor times its years of life expectancy.¹⁵

Samuelson is correct when the present worth of babies is calculated on the assumption that they "cost" only the minimum necessary to rear them and keep them alive. However, by instead assessing "cost" from per capita consumption, the policies originally suggested would seem to maximize future per capita incomes of the existing population as claimed. In practice, because of discounting and the different time shapes of the "cost" and "earning" streams, a baby must have a negative present value unless its marginal productivity exceeds per capita consumption.¹⁶

DO BONUSES INCLUDE AN OPPORTUNITY INVESTMENT COST?

At a Yale seminar Professor James A. Tobin objected to a statement that bonus costs were a transfer payment rather than a resource cost.¹⁷ A transfer payment is a

¹⁵ Even if these two undiscounted aggregate values were equal, their present discounted values at time of birth would not be, the consumption element normally being discounted less and so giving the baby a negative economic worth.

¹⁶ In static terms, the old definition of an optimum population was one that rendered the marginal and average product of labor equal. However, if an increment of population will share representatively in all available consumption, even this rule should be amended to "marginal product of labor equal to per capita consumption." A dynamic statement must make also into account that juvenile consumption precedes adult labor output, and that resources used to rear future workers might meanwhile be invested in real capital goods.

¹⁷ The same criticism has been made by others, notably by Dr. P. Demeny of Princeton, in *Economic Development and Cultural Change*, July 1961.

sum that passes from one person to another without a specific *quid pro quo* by the payee that involves his use of resources. In the bonus-vasectomy scheme the volunteer husband does perhaps offer a *quid pro quo*—because he is deprived of the pleasure and support of children he might otherwise sire—but the transfer does not on balance increase the overall use of scarce resources. However, Tobin has suggested that the government, to pay the bonus, must either curtail other disbursements or raise extra taxes. Some of the curtailed operations may be development projects. The persons paying extra taxes may invest somewhat less as a result. So the bonus may include a lost "opportunity to invest" cost.

Qualitatively, this point is well taken. Quantitatively, it may not be very important. And if the bonus is paid not in cash, but in goods and services of an investment character (see footnote 3), the superiority of the bonus-vasectomy scheme as a means of raising per capita incomes may be even greater than originally claimed.¹⁸

If government "finds" the money to pay the bonus by curtailing its other operations, what disbursements would it reduce, and how many of these might be considered investment? A not unreasonable assumption is that it might reduce expenditures on current and capital account in about the same ratio that it has been increasing them. Since Independence, the Indian record shows that only about .15 of each *extra* rupee of government expenditure have gone for *extra* development disbursements. If this sort of ratio continues—and governments even of countries with almost stable populations are constantly being pressed to incur more current expenses—bonus payments financed from other curtailed operations would probably include only a small fraction of investment opportunity cost.

¹⁸ Incidentally, the likely sums of money involved are not so great, viewed in the context of national income and government budgets. A rough estimate for India in the 'sixties is that, for each 10 million births reduced and assuming only half the maximum possible bonus has to be paid, the total money cost would be .0015 of the period's national income and .012 of the period's total disbursements by governments.

If government bonus payments are financed from extra taxes, those who must pay the extra taxes must together save and consume less, and they will probably save somewhat less. If extra taxes fall on wealthy business groups, who tend to invest their incomes, this is a serious consideration. However, as governments take an ever larger share of national income, they must increasingly tax those of more modest means. And, in the first years, volunteers for vasectomies may be disproportionately urban middle class rather than poor rural peasants. And so the same sort of people who pay the extra taxes may receive the bonuses. The net effect on investment is then probably zero.¹⁹

It is hard to guess what the propensity to invest may be of those who would be called upon to pay extra taxes to finance bonus payments for smaller families. It is to be hoped that this propensity is not larger than that of governments to allocate marginal disbursements to real development projects. Otherwise, and to the extent that governments have taxed to finance their extra aggregate disbursements, development has suffered.²⁰

Unless government development projects reduce net investment, the investing propensities of taxpayers are presumably not much greater than that of government, and the latter is not over .2 in India for example. So hereafter it is assumed that these two sets of propensities are both of this value. Such a .2 assumption is probably high and operates to favor conventional investment projects as against the bonus vasectomy scheme.

¹⁹ During recent years the writer has become impressed with the covariation that seems to exist, at least in the United States and so possibly elsewhere, between the incidence of vasectomies and the incomes of those having the operation. It may be that in occidental countries, the vasectomy is primarily an upper class operation so far. If this became true in other countries, a social emulation effect might spread the acceptance of vasectomies down to poorer families.

²⁰ For example, if the propensity of extra taxpayers to invest is .25, and the propensity of governments to disburse on development is .15 of all their expenditures, Rs. 10 of investment have been lost for every Rs. 100 of extra taxes.

In order to compare the effectiveness of vasectomies and investment in raising per capita income we must assume some number of vasectomies (V) and then estimate (1) the proportionate effect on national population of the vasectomies and (2) the proportionate effect on national income if resources of equal value to those directly and indirectly lost to investment because of the vasectomy program were instead invested in traditional development projects. Thus, over five years, it may be that some number of vasectomies would reduce population by .01 (from what it otherwise would be), and that the resources lost to investment would have raised national income by .0001 more. In this case vasectomies are one hundred times more effective in raising Y/P than investing the resources that are thereby not "lost" to capital.

If we provisionally ignore the income effects of population change, and less population may mean less labor, the relative effectiveness in raising per capita income of vasectomies and investment is given by $(\Delta P/P)/(\Delta Y/Y)$. The numerator, which is the relative change in population (because of vasectomies), is for a single year $(V \cdot f)/P$ where V is the number of vasectomies, f the normal annual fertility of the spouse, $\frac{1}{2}$ is a reminder that the vasectomies occur during the year and not all at its start, and P is the base year population. The denominator, which is the relative change in income during the year (if resources "lost" to capital because of the vasectomy program are instead invested), is —

$$\frac{1}{Y} [c + b(s_p - s_v)] V$$

where i is the ordinary rate of interest or return on investments, the $\frac{1}{2}$ indicates investment is over the year, c is the resource cost of the vasectomy, b is the amount of the bonus, s_p is the investing or saving propensity of the government or taxpayers, s_v is the investment component of the bonus as paid to the volunteer, V is the number of vasectomies a year, and Y is annual national income. The V and $\frac{1}{2}$ are common to both numerator and denominator and so can be cancelled. And $(1/P)$ divided by $(1/Y)$

is per capita income (Y/P). Hence the comparative effectiveness, over one year only, of either bonus-vasectomies or equivalent investment in raising per capita incomes is:

$$i \frac{f(Y/P)}{[c + b(s_p - s_v)]}$$

Comparisons of this kind are complicated though because population is a stock and income a flow. The longer the period of comparison the greater will be the proportionate change in population, relative to the proportionate change in income, at the end of that period. Moreover, for any period of more than one year, the apparent superiority of the bonus-vasectomy scheme will be twice as great if the comparison is during the entire period rather than at the end of it.

If the number of years in the period (N) is 10, vasectomies in the first year reduce births for 10 years, in the second year for 9 years, and so on. Hence the annual proportionate population effect should be multiplied by N², which can be approximated by $\frac{1}{2} N^2$, to obtain the proportionate population effect at the end of N years. However, to obtain the proportionate income effect at the end of 10 years, the annual effect should be multiplied by N only. As the N cancels, and when N is a considerable number of years, the apparent superiority of the bonus vasectomy scheme is approximately $\frac{1}{2} N$ times greater than its indicated annual superiority.

Let us try some representative values in the formula. Perhaps Y/P is Rs. 300, f is .2, i is .2, c is Rs. 10, b is Rs. 250 (about half the average maximum possible bonus), s_p is .2, and s_v is temporarily assumed zero. Then, after one year only, the bonus vasectomy scheme is 5 times as effective. After 10 years it would be 25 times as effective. During 10 years it would be 50 times as effective.

However, this assumes that volunteers who receive a cash bonus spend it entirely for consumption, which is an extreme supposition. Suppose s_v equals s_p . Then, after one year the superiority ratio is 30

times, and after 10 years it is 150 times. During 10 years it is 300 times.²¹

Moreover, if the bonus is paid not in cash but in productive goods and services (see footnote 3), the overall effect is very likely to increase net investment. This may be true even if volunteers eventually resell the equipment they buy with their government "credit", for the effect is then to lower the prices of such goods, as though the government were subsidizing them. If s_v is greater than s_p , sufficient to more than offset c, the denominator will have a negative value. This means that using resources in the bonus-vasectomy scheme both retards population growth and increases economic output. Algebraically, this scheme is then infinitely better than using resources to build factories, and raising per capita incomes through population control is a dominant policy.

A final complication is that, as we have seen, a reduction in population can mean a smaller labor force and so probably less national output.²² In a preceding section it was suggested that a given proportionate change in L might always occasion some constant proportional change in Y. This constant output elasticity was represented by l and was given an assumed value of .5 for India. This means that only a certain fraction of a proportionate change in population is a net increase in per capita income. This net fraction is one minus the output elasticity of labor (l) as indicated by the labor force exponent in the Cobb-Douglas type production function given on p. 35. Hence the comparative effectiveness equation, given in this section, should be multiplied by $(1-l)$.²³

²¹ It is worth remembering that bonuses are not paid to wives under the non-pregnancy scheme until a certain blocked credit has been accumulated, hence b is zero for some years under that scheme, and the propensities to invest of taxpayers and volunteers do not matter.

²² This is somewhat mitigated by the rise in L/P that normally accompanies a decline in birth rates in the long run. In the short run, under 10 years, changes in P occasioned by changes in the birth rate do not affect L and so Y. (See p. 36 above).

²³ This gives a final long run comparative effectiveness equation, at the end of N years, of

$$\frac{\frac{1}{2} N (1-l) (Y/P) f}{i [c + b (s_p - s_v)]}$$

Theoretically, depending on the values of N, f, Y, P, i, c, b, sp, sv and l, the comparative effectiveness of the bonus-vasectomy program may vary from almost zero to almost infinity. The greatest uncertainty concerns b (the demand price of volunteer husbands) and sp-sv (the net indirect loss of investment because of vasectomies). Should this difference be negative, as it could well be if the bonus is paid in real capital goods, the bonus vasectomy scheme could be superior by a factor of many hundred times.

SOME OBITER DICTA

Although the preceding analysis indicates the vast economic potential of family limi-

tation in many countries of South and East Asia, and hence the desirability of overcoming unwillingness through payment of government bonuses in kind and perhaps cash, it is evident that many practical problems and parameter uncertainties exist. Some problems can be anticipated. But parameters can probably be resolved only after a small scale trial of these schemes in a few selected towns. It is hoped that vigorous discussion of these ideas will improve any eventual program and hasten its implementation. Every year of delay makes the burden of overpopulation greater. In India alone, since these ideas were presented in *Population Review* a year ago, there are about 8,000,000 more consumers. Time is wasting.

Birth Control through the Ages

Birth control is both old and new. As a social practice it is old; as a social movement it is new. It is old in the sense that contraceptive knowledge in some form, often mixed with magic, has existed for centuries; it is new in the sense that the knowledge of contraception is gradually becoming democratized and that today we are more able than our predecessors were to distinguish rational from irrational, adequate from inadequate, methods.

Long before the dawn of written history savage peoples made some attempts to adjust the population to the food supply. This they did by what appear to us to be wasteful and cruel methods, by infanticide, abortion, or the killing of the aged; by ritual taboos on the time of intercourse, or by prolonging the nursing period. Involuntary checks, however, played a more important role in limiting population, as they still do in many countries today. Diseases and epidemics, famines, floods, wars destroyed large numbers of people in many periods of history, and to some degree they still serve as checks to population growth. Today, however, population control is increasingly dependent on birth-preventing methods rather than on death-producing factors. Only now are voluntary preventive measures beginning to play an important role in adjusting populations to resources.

—ABRAHAM STONE and NORMAN E. HIMES,
Planned Parenthood (New York:
The Viking Press, 1949) p. 3.

Felt Population Pressures in India: Methods of Identification*

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Since its initial formulation more than twenty years ago, the concept of felt population pressure has gone practically untouched. To isolate a concept and to show its importance is not necessarily equivalent to showing how it operates in on-going situations. The few who have worked in this area¹ have simply shown that some people of a given society felt that they "suffered" an unfavourable balance of people and resources. Exactly what segments of the population felt the pressure and the nature or extent of their feelings have gone unexplored.

None, of course, should minimize the importance of the contribution which imaginative pioneers render in first sensitizing us to the existence of certain phenomena.

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¹ W. S. Thompson and P. K. Whelpton, "Levels of Living and Population Pressure," *The Annals*, 198 (July, 1938), pp. 93-100; Frank H. Hankins, "Pressure of Population as a Cause of War," *op. cit.*, pp. 101-108; and E. W. Hofstee, "Population Pressure and the Future of Western Civilization in Europe," *American Journal of Sociology*, 55 (May, 1950), pp. 523-532. See also S. Chandrasekhar, *Population and Planned Parenthood in India* (London: George Allen & Unwin Ltd., 1955). This work might seem an exception, were it not for two points: (1) Chandrasekhar was only concerned with one aspect of felt pressure—birth control—and not with felt pressure, *per se*, and (2) even in the area of birth control, the evidence given for the values and attitudes of the Indian people is inconclusive, a point Chandrasekhar does not make clear. Cf. *ibid.*, p. 87.

But neither should one be content with introductions. It is proposed in the present discussion (1) to explore briefly the meaning of felt population pressure and (2) to offer a method which will be of some aid in systematically evaluating the available evidence on felt pressure. India is used as an illustrative case study.

Although the analysis is primarily methodological, the significance of felt population pressure for the social sciences should not be overlooked. Reasoning from a general level, felt pressure involves a study in the interrelations of demographic, political, economic, sociological, and socio-psychological forces. If there is value in interdisciplinary approaches, then the benefit should be particularly open to an investigation of felt population pressure. On a more specific level, if one is interested in predicting behaviour, he must know the behaviour tendencies as well as the conditions wherein the behavior occurs.² This paper cannot isolate the casual relations between felt pressures and the changes in the objective conditions of population pressure. However, the intention is to proceed toward the more modest goal of describing with some clarity the nature of the feelings involved.

The closely related area of optimum population is outside of this inquiry. The analysis is not involved with the essentially economic questions of the best balance between population and resources, nor even with that balance which would bring about

² This point, of course, is one of the important implications of the Thomas theorem: "If men define situations as real, they are real in their consequences." Since felt pressure is an analysis of behaviour tendencies in relation to objective conditions, it follows that the study of felt pressure can provide further materials which can be of assistance in evaluating the usefulness of the Thomas theorem.

a higher per capita income. Further, we are not here concerned with the objective relation between food and resources as much as with the population's subjective evaluation whatever relation may exist. The task of the present study consists solely in attempts to systematize the method whereby one describes the extent to which the people of a given nation are aware of what is taking place in their demographic-economic milieu.

Since the basic emphasis of this paper is in its method, interest lies as much in isolating gaps in the available data as in anything else, if not in preference, then at least through necessity. In other words, the conclusions offered about India's felt pressure are not intended to be final. But there is a hope that this paper will show the kinds of information necessary before conclusions as to the existence of felt population pressure can be safely drawn, in India or anywhere else.

The meaning of felt population pressure and its relation to value. The concern here is not with a complete treatment of the meaning of population pressure.³ It is felt pressure which is the target for analysis. But the inter-relation between the subjective and objective aspects of population pressure is so involved that a brief statement of the general phenomenon is needed.

By objective population pressure is meant the constraining forces which population size and resources place on each other. The relation between food supply and population growth is the simplest measure of population pressure. The relation between population growth and level of living gives a more complete measure but one which is not as readily quantifiable. According to this frame of reference, all populations have some pressure. The question then becomes, how much pressure is manifest? In other words, how many people are starving, or how low (or high) is the level of living per capita.

Felt population pressure refers to the belief of a people that they have too many

people for their resources. The belief may be an accurate recognition of the objective situation or it may not. The belief may even become a self-fulfilling prophecy, as where the belief would lead to an arms race to prepare for a war (the purpose of which is to increase *Lebensraum*), the war in turn curtailing food resources. Whatever the nature of the belief, the fact of the belief is itself of importance.

The people may feel (individually or collectively) that they have too many children, insufficient food, too few other economic goods, or they may feel all three things. The feeling can be defined as more definite to the extent to which the interrelations of these three elements are recognized. It becomes more vague as they are recognized in isolation or singly.⁴

Essentially, felt population pressure is a value phenomenon, i.e., it involves the values and attitudes of a people concerning their population pressure. For present purposes, the most important quality of values is their inferential nature. Davis makes this clear when he defines a value as that which is worthy of being pursued, regardless of whether it is actually being pursued.⁵ Robin Williams agrees, especially in describing values as conceptual, as affective, and as criteria. None of these attributes are directly perceived.⁶ Thus, felt pressure, itself, is not observable. Rather, the consequences of the feeling are observed — the feeling is only apparent as it governs and becomes reflected in behavior.

Attitude, as classically defined, can be seen as merely another variant of value: a tendency to act.⁷ If a distinction is required,

⁴ There are at least two dimensions to felt pressure: intensity and comprehensiveness. Felt pressure becomes more comprehensive as the interrelations are realized. It can become quite intense, however, if even only one of the three factors noted here are recognized, as food riots should well attest.

⁵ Kingsley Davis, *Human Society* (New York: Macmillan Co., 1949), p. 124.

⁶ Robin M. Williams, Jr., *American Society* (New York: Alfred A. Knopf), 1951, p. 376 ff.

⁷ Cf. the definition given by G. W. Allport: a "mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is

³ A more extensive discussion of the meaning of population pressure is given in the author's "Population Pressure and Its Sociological Aspects," read before the Southern Sociological Society, April 17, 1959.

it probably lies in differences of generality — the attitude being more specific, the value more general (the inferential quality is still common to both).⁸ The importance of recognizing such a conceptual linkage, of course, is found in the greatly amplified sources of data made available, particularly to the study of values.

Williams underlines the inferential quality when he offers an operational definition of values "as overt choice or preference, as attention or emphasis, as statement or assertion. . . . These various evidences are 'pointers' that say 'this is what is meant'." But one may go further. If values are primarily tendencies to act, as are attitudes, then not always will they be effective as choices, as reflections of people's wants. In the language of research, this quality means that inferences (or, better, their evidences) must be repeatedly verified, especially with evidence from different sources. This quality, incidentally, forces one to rely quite heavily on operational definitions, i.e., values become "defined" in terms of the operations used to infer them.

The argument may be offered that a more efficient approach would be to study behaviour directly and to work with its functions instead of bothering with a useless "middle item," i.e., the value or attitude. Such an approach is, in fact, liable to obscure a fundamental goal in value research. This goal is not the study of raw behaviour, nor is it the study of values as metaphysical constructs. Rather, it is the effort to deal with the empirical fact that people tend to behave in consistent ways. These tendencies may be classified in terms of various categories which we call attitudes

related." "Attitudes," in Carl Murchison (ed.), *A Handbook of Social Psychology* (Worcester, Mass.: Clark University Press, 1935). See also Theodore M. Newcomb, *Social Psychology* (New York: Dryden Press, 1950), pp. 117-118.

⁸ If the connection seems far-fetched, the author can only say that he bases it on the nature of the two phenomena: values as something desired (positively or negatively, it should be added) and attitudes as tendencies to act. The two terms seem interchangeable, logically, and in fact it is useful to use them as if they were interchangeable — within the limits noted — as this paper will try to show.

⁹ Williams, *op. cit.*, pp. 381-382.

and values. The fruitfulness of each set of categories must be tested by research, i.e., it must be ascertained whether the empirical referents for the categories do indeed constitute a syndrome, an integrated complex. It is submitted that one such category is felt population pressure. The nature of this complex is discussed in the following section.

The analytical model. In an effort to provide a systematic check to inferences on felt pressure, the analytical model described below has been developed. Basically, the model is an enumeration of the types of data which are important signposts for the inferences. Two dimensions of value are used in the model. They are based on the type of behaviour and on the position in the social structure from which the behaviour comes.

For the sake of simplicity, the variation within each of these dimensions may be dichotomized. The first set of classes is determined by the nature of the data, or rather, by the manner in which researchers are accustomed to looking at the data: The distinction is between verbal and other-than-verbal behaviour; or between written and spoken behaviour as contrasted with riots, migration, and other acts requiring more bodily movement. The two types are termed "verbal" and "action" data.¹⁰

The remaining classes, again forming a dichotomy, are derived from the social structure: "official" and "mass." By an "official" is meant anyone acting in a capacity recognized by the society as a part of its leadership. The "masses" are the remainder of the population. Quite often, the masses become the total population, including the officials when they are not acting in an official capacity. For example, an official urging his people to practice birth control represents a type of official behaviour. But should this official respond to an anonymous public opinion poll, or should he become part of the society's low fertility pattern by restricting his family to

¹⁰ This two-fold approach is made necessary, of course, as a caution against the danger of assuming one has uncovered a value or attitude by recording only verbal behaviour.

one or too children, then this same official becomes part of the mass.

One may see, thus, that the data which are available have heavy bearing on the distinctions used. Abstractly, the concepts may not be as pure as one could wish. But a more important consideration rests in articulating the concepts with the data. It is this effort which produces operational definitions. The chief claim to usefulness which such definitions have is that they throw significant light on their purer cognates.

The four interlocking classes which are produced when these dimensions are combined can be depicted by means of the analytical table, below. Within each of the resulting cells are shown the specific types of evidence to be discussed in this paper.¹¹

AN ANALYTICAL MODEL FOR THE DOCUMENTATION OF FELT POPULATION PRESSURE

	Official level	Mass level
Verbal behaviour	Policy	Opinion polls
Action behaviour	Birth control clinics Financial expenditures	Fertility patterns Food riots Hoarding

In using this table, the reader is cautioned that (1) the dimensions are not considered to be the only ones possible, though it is believed that they are the more important, (2) the number of cells are determined operationally, (3) within either dimension, distinctions are continuous rather than discrete, and (4) the types of evidence are suggestive rather than exhaustive.

Each of the specific types of data noted in the cells of the table are employed to answer the questions: does India have felt

¹¹ According to the definition of felt pressure as given earlier in this paper, evidence for each cell of the table should embrace at least the elements of children, food, and other economic goods. The reader will note that the types of evidence in the table have been gathered according to these criteria. Some of the elements are untreated because of the lack of data.

pressure, and if so, what is the nature of this pressure? If one is to claim that a given country has felt population pressure, then logically all four cells should have at least some evidence. But even should one claim that felt pressure exists only on the mass level, or only on the official level, then the behavioural dimension must be documented in both its aspects. Otherwise, one could assume that only lip service is paid to the existence of felt pressure (i.e., where only verbal behaviour appears), or *vice versa*, that the people may not recognize the pressure for what it is, though they act as if they feel it (i.e., where only action behaviour appears).

*Felt pressures on the official level.*¹² The importance of official behaviour in inferring felt pressure is difficult to overestimate. Even if the leaders are the only ones to feel the pressure, they are still most capable of initiating action in their culture. Verbal behaviour indicating felt pressure in official India is of long duration and (now) great extensiveness. Nehru may be cited as one example of many who showed early alarm over population growth and definite favour toward birth control.¹³ By the time India

¹² That India has a population pressure to feel is readily demonstrated. *Per capita* food consumption is and has been substantially below estimated requirements (24 per cent below the 1949-50 requirements in 1949-50 and 19 per cent below the 1949-50 requirements in 1952-55). Cf. Food and Agricultural Organization of the United Nations, *Second World Food Survey* (Rome: 1952); United Nations, *Statistical Yearbook* (New York: 1957). Here, alone, is evidence of population pressure in an absolute sense. Relatively speaking, India's *per capita* real national income ranks as one of the lowest even among the generally low incomes of Asia and the Far East. U. N., *Economic Survey of Asia and the Far East: 1954* (Bangkok: Economic Commission for Asia and the Far East, 1955), p. 115.

For a careful and extensive treatment concerning objective factors which are involved in population pressures of India, see Ansley J. Coale and Edgar M. Hoover, *Population Growth and Economic Development in Low-Income Countries: A Case Study of India's Prospects* (Princeton: Princeton University Press, 1958).

¹³ Although the British welcomed Indian population increase, the Indian elite by no means always did so. Cf. Chandrasekhar, *op. cit.*, pp. 75-76 and Kingsley Davis, *The Population of India and Pakistan* (Princeton: Princeton University Press, 1951), p. 227.

achieved independence, surveys and planning commissions had shown marked awareness of population problems, low food resources, and economic insufficiency.¹⁴ Gandhi's own position no doubt increased the extent of the feeling.¹⁵

One should not interpret the foregoing remarks to mean that all Indian officials approve of birth control. Gandhi did not so approve, and one would most probably expect the same to be true for Roman Catholics. Orthodox Communists would place their emphasis on the need to reduce capitalistic exploitation rather than the need for family limitation. But for present purposes, the more important question is the feeling of the Indian officials about population pressure. Birth control is but one means for inferring such feeling. Even opposition to such measures of population control must be considered in conjunction with the other value systems of those who are opposing. From this vantage point, Gandhian, Catholic, and Communistic opposition to family planning should be interpreted as inferences toward the ethical, religious, and political value systems of the respective adherents and not necessarily as inferences of their views on population pressure. Indeed, one may even go farther in examining the case of Gandhi. He was not insensitive to population pressure.¹⁶ He merely differed in the means (rightly or wrongly) of attacking it. The same inter-

¹⁴ Chandrasekhar, *op. cit.*, pp. 77-78.

¹⁵ Though one may well wonder about his solution. Reference is made to his strict commitment to continence for birth control and to his anti-industrial attitudes. Cf. T. K. N. Unnithan, *Gandhi in Free India (A Socio-economic Study)* Gronigen, Netherlands: J. B. Wothers, 1956, pp. 75-76, 91 ff. See also footnote 16, below.

¹⁶ Gandhi's position is actually one of contradictions. On the one hand, he admitted that "the pressure of populations on land is greatest" in India and China. On the other hand, he maintained: "It is absurd to say that India is overpopulated . . . if all the land that is available was properly utilized . . . it would maintain the whole population. Only we have got to be industrious and to make two blades of grass grow where one grows today." D. G. Tendulkar, *Mahatma's Life of Mohandas Karamchand Gandhi* (Bombay: Jhaveri and Tendulkar, 1951), Vol. IV, pp. 29, 30. Further, Gandhi advocated a lower rate of population increase, but (as noted in footnote 15) he was against any form of birth control except continence.

pretation appears equally feasible for Catholics and Communists.

The Five Year Plans have crystallized the awareness of Indian officials into significant action. The position of the Indian Government in a mixed economy, where private enterprise functions within limitations set by the State,¹⁷ gives more than usual weight to State planning. Particularly important is the expenditure of approximately \$400,000 on birth control ("family planning") in the First Five Year Plan and allocations of over \$10,000,000 for the same purpose in the Second Plan,¹⁸ and \$5,000,000 in the Third Plan.

One must be careful, however, in judging the importance of these dollar expenditures. At least two additional considerations are necessary. (1) Not only are governmental expenditures for population limitation rare among nations, but according to the considered judgment of some demographic experts, there was very little of any hope that India would ever spend such money at all.¹⁹ (2) The expenditure is not as important in showing the Indian government's concern over birth control as it is evidence for showing how they feel about population pressure. Whether the amounts spent are token (from the point of view of our standards) or substantial (from India's standards) is a point not easily established. But the fact that government money is being spent on a population limiting device is partial evidence that there is some official concern over population pressure. The evidence becomes stronger when one views it in connection with the verbal behaviour (see above) and the other actions (see below)

¹⁷ United Nations, *Economic Survey of Asia and the Far East: 1954* (Bangkok: Economic Commission for Asia and the Far East, 1955), p. 125.

¹⁸ Rs. 1,850,000 were spent during the First Plan, Rs. 50,000,000 were allocated for the second. Government of India, Planning Commission, *Review of the First Five Year Plan* (New Delhi: Government of India Press, 1957), p. 281; Government of India, Planning Commission, *Second Five Year Plan* (no publisher or place given, 1956), p. 554.

¹⁹ Davis, *The Population of India and Pakistan*, *op. cit.*, p. 229; Warren S. Thompson, *Population Problems* (4th ed., New York: McGraw-Hill Book Co., 1953), pp. 269, 457-458—though Thompson is not as bleak in his outlook.

taken by Indian officials. Indeed, it is one of the cardinal features of the present method that no piece of evidence is to be viewed by itself. Data on one facet of felt pressure become meaningful only when viewed in the light of other data.

More important financially were expenditures in other areas also directly relevant to population pressure. Agriculture and rural development, irrigation and power, industry and mining, and transportation and communication took almost three-fourths of the budget for the First Plan and more than three-fourths of the allocations for the Second Plan.²⁰ India is probably not unusual in this respect. The point to be made, again, is that one would be hardput to claim that Indian officials felt population pressure if they only concerned themselves with family planning.

One may conclude, therefore, that Indian officials feel a population pressure. But even more, they are among the few officials of the world who have significantly approached a realization of the relation between population and resources.

Felt pressures among the masses. The description of the value complex of an elite is only a partial picture of that of the society. However, the Indian masses are not yet articulate, and obtaining expressions of their verbal behaviour is difficult. The available evidence is apparently limited primarily to one attitudinal area. Numerous surveys have indicated that there is notable interest on the part of married persons (including both men and women) concerning family limitation. From several independent samples (taken from areas located reasonably in accordance with India's population distribution), Chandrasekhar found that proportions favouring birth control ranged from more than half to over three-fourths.²¹ The conclusions of Coale and Hoover, after examining several other studies which revealed the same pattern, are appropriate: "These scattered

indications can be taken to show, not that significant reductions in fertility will occur spontaneously, but that there might be popular acceptance of effective birth control if the right methods of education, manufacture, distribution, etc., are discovered."²²

Unfortunately, the writer has not been able to discover any evidence on verbal behaviour for other aspects of felt pressure.

In spite of the expressed opinion, the transition to action is evidently difficult. The general consensus has been that little deliberate family limitation has occurred.²³ If a decline has been witnessed in India during the present century, it has been slight at best. This is the conclusion reached in the studies of both Davis²⁴ and of Coale and Hoover.²⁵ Additional data provided by the United Nations serve only to raise doubts as to the existence of any trend at all, no matter how slight. Fertility ratios since 1901 show at most a trendless fluctuation (see Table 1).

TABLE 1.

Children Under 5 years per 1,000 Women
Aged 15-49 Years, India,* 1901-1951.

Year	Fertility Ratio
1901	526
1911	562
1921	523
1931	629
—	—
1951**	549

* Territory at date of census; data for 1931 exclude Burma.

** For 1951, data are a smoothed age distribution based on a 10% sample, excluding Kashmir-Jammu, tribal areas of Assam, Andaman and Nicobar Islands and Chandernagor.

Source: United Nations, *Demographic Yearbook*, 1954, Table 7.

²² Coale and Hoover, *op. cit.*, pp. 81-82.

²³ Chandrasekhar, *op. cit.*, p. 71; Davis, *Population of India and Pakistan*, *op. cit.*, pp. 81-82; S. P. Jain, "Indian Fertility-Trends and Pattern," Abstract from World Population Conference, *Population Bulletin*, 10 (Oct., 1954), p. 94.

²⁴ Davis, *Population of India and Pakistan*, *op. cit.*, p. 69.

²⁵ Coale and Hoover, *op. cit.*, pp. 45-50, 54.

TABLE 2.

Crude Birth Rates for the Registration
Area* of India, 1948-1956.

Year	Crude Birth Rates**
1948	25.2
1949	26.4
1950	24.9
1951	24.9
1952	25.4
1953	24.8
1954	24.4
1955	27.0
1956	27.4

* For 1953, Ajmer is excluded; for 1955, Bihar, Madhya Pradesh, and Orissa are excluded.

** Rates are not corrected for underregistration.

Source: United Nations, *Demographic Yearbook*, 1957, Table 6; United Nations, *Economic Survey of Asia and the Far East* 1957, Bangkok: 1958, p. 198.

Crude birth rates are based on data which are too-heavily underregistered to reveal anything but trends, and these only with caution. Nevertheless, these data also point in the same direction. As can be seen in Table 2, India has displayed no trend in birth rates since her partition from Pakistan. Abortions may possibly be high, but, according to Davis, the evidence is not clear.²⁶ A few doctors in different regions of India have found Indian parents—especially fathers—voluntarily submitting to sterilization as a conception preventative,²⁷ but there is no evidence that the practice has affected a significant proportion of the Indian population. Whatever the resistance

²⁶ Kingsley Davis, "Fertility Control and the Demographic Transition in India," *The Interrelations of Demographic, Economic and Social Problems in Selected Underdeveloped Areas. Proceedings of a Round Table at the 1953 Annual Conference of the Milbank Memorial Fund* (New York: Milbank Fund, 1954, p. 84).

²⁷ Coale and Hoover, *op. cit.*, p. 61.

to change,²⁸ it is apparent that verbal behaviour cannot be studied *in vacuo*. The people may probably favour limited families in principle. What they do under community pressures in usually another matter.

The feeling of the people relative to food seems more intense. The data on which this conclusion is based are necessarily more qualitative than that pertaining to fertility. Two types of evidence are available—that concerning food riots and that relative to hoarding. Seldom does a year go by without some report from India of strikes, protests, or riots concerning food shortages. A search through the files of *The New York Times* (for the period 1946-1956, inclusive) revealed only 1948 to be free from disturbances directly related to food, and even in that year there were several riots the causes of which were unspecified. In each of the remaining years, from one to three reports of riots were found to be concerned with food, with the exception of 1946 when four reports of food disturbances were noted (three reports of riots and one of a "protest" involving 100,000 persons).²⁹ These data are incapable of more precise quantification. There is no reliable information on the number of riots, the number of people involved, the duration of the riots, or their intensity. Nevertheless, one can feel certain that there are food riots and that they occur with some regularity.

One undoubtedly will feel a lack of food if he riots over it (though food shortages do not necessarily cause riots). However, riots are sporadic things, and if they are the only times the people feel food shortages, then this aspect of felt pressure is equally sporadic. In view of the level of literacy prevalent in India, it is not im-

²⁸ Explanations have ranged from ignorance and a low level of living (Chandrasekhar, *op. cit.*, p. 71) to the tendency of the community structure of India to put a premium on community size (Dwarkanath Ghosh) *Pressure of Population and Economic Efficiency in India* (New Delhi: Indian Council of World Affairs, Bombay: Oxford University Press, 1946), p. 109.

²⁹ The following types of information were classified as riots (in all cases the terms are those used by *The New York Times*): Riots; non-military raids, attacks, or clashes; looting; fights or demonstrations resulting in one or more deaths; mob actions or protests.

²⁰ Government of India, *The New India: Progress Through Democracy* (New York: Macmillan Co., 1958), pp. 82-83.

²¹ Chandrasekhar, *op. cit.*, 70-71. The respondents were mothers and married couples, for the most part. See also *The New India*, *op. cit.*, p. 350.

possible that the people are aware of food deficiencies only at the time of shortages. The thesis is that if the people were aware of a relatively chronic situation, more effort would be given to long-range storing. Observations are available for the four-year period 1953-1956. According to United Nations' analysts, the movements in food-grain prices during this time have been accentuated by changes in the holdings of stocks by producers and private traders. When prices began to fall from 1953/54

TABLE 3.
Indices of Wholesale Prices of
Selected Agricultural Products,
India, 1951-1957.

Year (as of last Saturday of March)	Rice	Wheat	Gram	Ground- nuts
1951	100	100	100	100
1952	94	85	90	60
1953	90	96	96	38
1954	88	93	80	75
1955	75	74	49	44
1956	94	90	73	74
1957	111	104	93	74

Base: Last Saturday of March 1951 = 100.
Source: United Nations, *Economic Survey of Asia and the Far East*, 1957, Bangkok: 1958, 6, 77.

(see Table 3) producers and traders dis-
hoarded their stocks, thereby accentuating
the decline in prices. The opposite pro-
cess has been visible since 1955/56, a period
of increasing prices.³⁰

Hoarding and dishoarding are, of course,
evidences of the feeling of population pres-
sures in themselves. But they are also
evidences of a short-lived feeling. Admit-
tedly, it is possible that the people do have
economic views of more extended duration
and that their hoarding practices as well as
the more violent forms of behaviour dis-
played in riots are witness only to the

severity of immediate pressures. But infor-
mation to permit such a conclusion is not
apparent. The picture relative to food, then,
is that the people of India (or at least some)
do feel a pressure. The duration of extent
of the feeling in this area of felt pressure
is undetermined.

Attitudes of the people concerning their
level of living are virtually unknown. On
the one hand, industrialization, an im-
portant source of change in attitudes toward
levels of living, has lagged until recently.³¹
New shifts in both industrialization and
literacy³² may render the people more sensi-
tive in time. On the other hand, reports of
riots are too frequent for one to conclude that
India is apathetic. Admittedly, most reports
specify political and religious causes, and
not a few disturbances are communist
inspired.³³ But these events nonetheless
indicate some kind of dissatisfaction. The
question of feelings about levels of living
must thus remain open.

Conclusion. In every area of behaviour
outlined in the analytical model, some evi-
dence of felt population pressure was un-
covered. But one cannot say that the
Indian people feel population pressure. The
officials do, probably intensely so. The
masses feel something, and something con-
nected with population pressure. But
although part of the evidence unmistak-
ably points toward a feeling of pressure,
some evidence is inconclusive and some is
unavailable. One might tentatively con-
clude that the feeling of the masses exists
as a tension but is unrecognized as popu-
lation pressure—or is not wholly recogniz-
ed.

A more basic offering of this paper is
methodological. It is hoped that the fruit-
fulness of treating felt pressure as a mani-
festation of values has been indicated. If
one begins by assuming that the affective
perceptions of a people concerning their
population pressure may be conceptually
treated as if these perceptions are reflec-
tions of values and attitudes, then certain

³¹ Ibid., pp. 77-79.

³² U. N., *Economic Survey of Asia and the Far East*: 1954, Ch. 12, esp. p. 113.

³³ See the discussion on riots, above.

methodological alternatives present them-
selves which enable one to reach some con-
clusions regarding the qualitative existence
or absence of felt population pressure
among the people in question. (The pro-
blem of the degree of felt population pres-
sure is another and more difficult problem.)

The analysis has also attempted to show
that certain questions must be answered

before one can speak of a population that
feels pressure. There is a difference in
saying that the officials feel a pressure and
in saying that the population as a whole does
so. And there is a difference in demonstra-
ting that a people speak of a pressure and
that they also act as if there is one. In
order to safely advance conclusions on felt
population pressure, all of these areas must
be investigated.

Asia's Population Boom a 'Threat'

"Unless population growth can be restrained, we may have to
abandon for this generation our hopes of economic progress in the
crowded lands of Asia and the Middle East," Eugene R. Black, Presi-
dent of the International Bank for Reconstruction and Development,
said in New York on April 24, reported the *New York Times*.

He gave this assessment of the coming disaster he envisions as a
result of the expansion of population in those lands least able to support it.

He said the net rate of increase is adding one birth per second to
the world's population. The total is expected to push past 3,000,000,000
this year, and double that number by the end of this century.

The critical areas, Mr. Black pointed out, are agricultural lands,
which have been divided and sub-divided beyond the limits of effec-
tive cultivation. "Cities are crowded to bursting, and are still getting
bigger," he noted.

While all the evidence points to a greater flow of aid in coming
years, Mr. Black said he was increasingly doubtful that domestic savings
and foreign aid combined would be sufficient to achieve genuine pro-
gress if current trends continue unabated.

To illustrate the challenges involved, he cited statistics compiled
for India on the extra housing that will be needed by 1986 if the
present rate of population growth continues. Exclusive of rural areas
or even of improvement of existing housing in such cities as Calcutta,
the total investment required is estimated at approximately
\$25,000,000,000.

"If you find the figure difficult to grasp," Mr. Black suggested, "I
may say that it is well over four times the total lent by the World
Bank since it started business 16 years ago." The cost estimate also
ignores the need for roads, sewage systems, water supplies, more hospi-
tals and clinics, or the multiplying education needs.

Mr. Black said he was not convinced that population growth would
eventually outrun the development of world resources, although "it is
true that at present rates of consumption we would use up known
resources of several important fuels and minerals within a few decades."

"I'm inclined to think that those prophets who forecast the exhaus-
tion of the earth's resources under-estimate the ingenuity of men and
the potentialities of science," he added. "And I am not too disturbed
about the long-run problems of feeding the extra people we expect.
But all this does not mean that we ought to welcome population growth
on the scale that we see it today."

—The Asian Student, 6th May, 1961.

³⁰ U. N., *Economic Survey of Asia and the Far East*: 1957, op. cit., p. 78.

Asian Migration and the Role of the Churches*

By PROFESSOR S. CHANDRASEKHAR

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I. THE FACTS

Today, the total world population has exceeded the three billion mark. As many countries of the world complete their decennial censuses in this year of 1961, the world is witnessing an ever increasing rise in human numbers.

The world's population has been increasing faster during the last fifty years, especially during the last two decades, than ever before in human history. According to some "guesstimates", there were probably no more than ten to fifteen million people in the whole world at the end of the Stone Age. At the birth of Christ the population had increased to about 250 million. In 1650 it rose to about 500 million, and a century later, in 1750, to about 695 million. In 1850 it passed the billion mark and became 1,091 million. Half a century later, at the beginning of this century in 1900, it rose to 1,500 million. But during the last sixty years (1900-60) the world population has doubled and has become three billions. Thus while it took man many thousands of years to multiply to a billion and a half in the past, it took only a little more than half a century in recent years to double that number—an incredible and unprecedented rate of increase. And now the United Nations estimates that at the current rate of increase, the world might have 6.2 billion people by 2000 A.D.

In other words, the population of the world is increasing by about 45 to 55 millions a year—that is, the net annual addition. For thousands of years during man's early history the rate of increase of the world's population was infinitesimally

slow, between .01 and .02 per cent. And a few centuries ago, when man was slowly becoming the master of his environment, the rate of increase ranged between a quarter and a half of one per cent. And the annual rate of growth, which was about one per cent before the Second World War, increased to 1.6 per cent a few years ago, and today it is about 2 per cent. That is, roughly, every year more than a hundred million babies are born and 50 million people of all ages die, leaving a net addition of some 50 millions to the existing population. As Professor Kingsley Davis puts it, "Viewed in the long-run perspective, the growth of the earth's population has been like a long, thin powder fuse that burns slowly and haltingly until it finally reaches the charge and then explodes."

Of these three billion people, Asia claims over one half. Today Asians are increasing faster than Europeans, and at the current rate of increase Asia might have to take care of 60 per cent of the total world population by 2000 A.D., an increase she cannot afford at the present rate of her economic and social development.

Asia as a whole is the second most densely populated continent in the world. Despite the fact that nearly 80 per cent of the Asian population is rural, the density per square mile is higher than the density of some thickly populated European countries. While in the United States the density per square mile is 50, and in Europe 220, it is 384 and 225 per square mile in India and Pakistan respectively. The density is even higher in East Pakistan, where the majority of Pakistanis live. In Taiwan the density is 700, while in Japan it is 650. And certain areas within some Asian countries are even more densely populated. Bengal in India, Java in Indonesia, and southern Japan are examples of dense settlements.

*Text of a speech delivered by Professor Chandrasekhar at the International Conference on Migration under the auspices of the World Council of Churches (Division of Inter-Church Aid and Service to Refugees) at Leysin, Switzerland on June 14th 1961.

1961

ASIAN MIGRATION AND THE CHURCHES

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HIGH BUT DECLINING DEATH RATES

This tremendous increase in the world's population, particularly in Asia, in recent years is due to man's increasing control over disease and death. The effectiveness of death control is not uniform all over the world, for while the death rate in the Soviet Union and most countries of North-west Europe is about 10 per thousand, the rates in Asia are relatively high—about 30 to 35 per thousand in Burma and Nepal and about 20 per thousand in India and Indonesia.

Vital statistics in India and Asia are defective and inaccurate but the available data show a declining trend in the general death rate. Particularly during the last decade and a half, since the termination of the Second World War, the death rates in many Asian countries have begun to decline, thanks to the work of the World Health Organization, American technical aid, and the efforts of various national governments, providing a modicum of modern sanitation and environmental hygiene, health education, wonder drugs and basic health services. In Ceylon, for instance, between 1945 and 1955, the death rate was cut by more than 40 per cent: in India, within a few years, by 33 per cent. Once underground drainage, potable water supplies, modern conservancy measures and the widespread use of modern drugs become available, the death rates in underdeveloped Asian countries will register an even more dramatic decline.

The infant mortality rate, which is considered a sensitive index of a community's level of living and total cultural milieu is also declining in many Asian countries. While in North Western Europe, Canada and the United States of America the infant mortality rate is between 20 and 25 per thousand live births, the rates in Asian countries, which were much above 100 before the Second World War, have come down to 98 in India and Indonesia, 67 in Ceylon and 41 in Japan. But even the present lower rates are uncivilized and there is room for considerable further decline. However, it must be remembered that in some parts of Asia the rates were between 150 and 200 only twenty years ago.

HIGH BIRTH RATES

The average world birth rate during 1955-1960 was estimated to be about 35 per 1000 population. On a continental basis, Africa has the highest estimated birth rate—45 per thousand. Asia, which has the next highest birth rate, has an over-all rate of about 40 per thousand. The highest regional birth rates occur in South East Asia and Tropical and Southern Africa—about 46 per thousand.

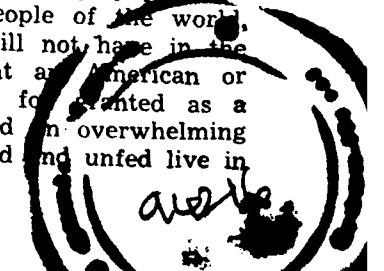
Within Asia the birth rates range from 46.2 per thousand in the Federation of Malaya, 40 in India, 37 in Burma and Pakistan, and 17 in Jordan down to 10 in Lebanon. Regionally the birth rates during the last ten years have ranged between 42 per thousand in West Asia to 35 in East Asia.

Thus with a definitive decline in the death rate and a high and near stationary birth rate, the survival rate is high, yielding huge net additions to the population. For instance, the population of India alone increased by more than 77 millions during the last decade (1951-61). Hence the world's, and particularly Asia's, population explosion.

ASIA'S STANDARD OF LIVING

What is the standard of living of the average Asian? Technical definitions apart, a standard of living can be simply defined as the level of consumption of the basic requisites of civilized human existence in terms of food, clothing, housing, educational and health facilities, leisure and certain cultural amenities. Accurate statistics on all these matters are not available but they are not really necessary, for anyone who has travelled in Asia knows the wretched poverty in which a majority of the people live, compared to American or European standards.

Food is Asia's biggest problem. According to a recent United Nations survey, four out of five people, or eighty per cent of the three billion people of the world, have never had and will not have in the foreseeable future what an American or European family takes for granted as a good square meal. And an overwhelming majority of the underfed and unfed live in



Asia. Most Asian countries are faced with food shortages and in a few countries the shortage is chronic, bordering sometimes on famine conditions. There is not enough food even of the coarsest and least nutritious variety to go round. But if the levels of consumption, both in quality and quantity, recommended by nutrition experts are taken into consideration, a hundred million Asians suffer from mal—and undernutrition.

The per capita daily consumption in terms of calories varies from 1700 in India and 1,900 in Ceylon to 2,100 in Japan, as against an estimated minimum requirement of 2,500 calories for all Asian countries. The present low consumption is in striking contrast to the 3,000-3,400 calories consumed in Canada, the United States of America and countries in North West Europe. And if anything, the hunger in Asia is increasing everyday, for while food production is increasing, the number of mouths to consume it is increasing at an even faster rate.

As for clothing, thanks to a tropical climate, Asia's needs are not great. Even so, many millions in Asia go about seminaked, clad only in rags. Though Asia raises a considerable share of the world's cotton and is the home of some of the largest textile mills in the world, the per capita consumption of cotton textiles is very low, ranging from about 16 yards in India to less than 50 yards in Japan. This must be considered inadequate even for the tropical parts of Asia.

The housing situation is no better. Barring palaces and mansions, which house about a million or two people, middle class housing without too many amenities takes care of the needs of only a minority of Asia's population. A great majority of the people—ranging from 65 to 80 per cent in different countries—live in rural areas. These areas are basically backward and underdeveloped from the point of view of minimum amenities and sometimes of even basic necessities. People live in sub-standard dwellings—primitive mud huts amounting to hovels. As for urban areas, land has become so valuable in the major cities that there is incredible overcrowding. Tokyo, Calcutta, Bombay, Rangoon,

Colombo, Singapore and Hong Kong—all have their unenviable slums.

As for literacy and primary education, more than half the world lives in unlettered darkness. While Asia claims more than half the world's population, her share of illiterates is disproportionately high. The illiteracy rates range from 75 per cent in India to 40 in Japan. Leaving aside the adult illiterates, the countries in the region find it impossible to provide educational resources to catch up with the birth rate. The governments are simply unable to provide trained teachers and text books, school buildings and equipment for all the children of school going age.

There are some 550 million children from five to fourteen in the world today and only about 300 millions are enrolled in schools. A majority of the remaining 250 million children are in Asia and Africa—children who have no chance of obtaining even a few years of schooling in this generation and who will grow up to swell the existing army of adult illiterates. And yet many of these countries are trying to be democracies despite the utter incompatibility of predominant illiteracy and effective democratic, political institutions.

In brief, the level of living of a vast majority of Asians and Africans is below the poverty line. In fact, the entire vicious circle starts with incredibly low incomes. The per capita annual income of the Asian ranges between 50 and 120 U.S. dollars, depending upon the country he lives in. This low income is in striking contrast to the per capita income of some \$2000 in the United States and Canada and about \$1000 in Europe excluding the Soviet Union. Millions of Asians earn in a day little more than what a package of cigarettes costs in America. This low income is both the cause and consequence of the misery of the underdeveloped countries in Asia.

II. THE PROBLEM

Thus the basic economic problem in Asia is really demographic: How can we raise the standard of living (which means more of food, goods and services for everybody) and cut down the still relatively high death rate (which means keeping alive more people and taking care of them), when it is so

difficult to support the existing population even at a low standard of living, if the population in Asia continues to increase by about 30 millions every year?

Asia cannot lower her standard of living any further. Nor can anyone suggest raising the death rate! From the Asian point of view, the way out appears to be rapid economic development with foreign aid, a drastic reduction in the birth rate, and whenever possible outlets for Asian emigration.

III. THE SOLUTION

All the free countries in Asia, and those in Africa as well, are dedicated to the task of liquidating poverty, raising the general standard of living and evolving ultimately some kind of a welfare state. Almost every country has drawn up plans—Five, Six or Ten Year Plans—for overall economic and social development. They have taken an inventory of available resources—natural, monetary, human, managerial and technological—have set up targets on the basis of priorities of the countries' pressing needs, and are doing their best to achieve their targets. But natural and monetary resources are limited. While there is a large reservoir of labour, it is largely illiterate, unskilled and untrained. Capital goods and technical know-how are wanting. But thanks to the aid offered by the United Nations, the Colombo Plan, the United States of America and other advanced countries, these underdeveloped countries are registering slow but steady progress.

Till now these countries have concentrated on agricultural development on modern scientific lines, and large scale industrialization with foreign technical aid. But experience during the last decade and a half has shown that in the desperate race between population growth and economic development, the latter has been losing. New lands are reclaimed and brought under the plough and the yield per acre has been increased with irrigation, fertilisers, better seeds and generally more modern methods of agriculture; new industries have been set up creating new jobs and increasing the available goods and services. But the additions to national income generated by both

these approaches have been more than swallowed up by the increasing number of new mouths. Thus the biggest barrier in the path of the rapid economic development of these underdeveloped countries is their existing large populations, and, what is more, their rapid rate of increase.

It is in this context that the question of Asian emigration must be examined.

To those who contend that such crowded Asian countries as India, Japan and Indonesia should practice birth control and solve their population problems within their national geographic confines, it may be pointed out that Asia—the conservative and traditional East—has, surprisingly enough, taken a more progressive stand on the question of family planning than most Western and relatively advanced nations.

Japan, after the Second World War, reversed her pro-natalist policy and officially promoted family planning. What is more, in an effort to solve her population problem she has gone to the extent of legalising abortion. Today, officially a million (and unofficially about two million) abortions are performed in Japan every year, and through this costly, drastic and unhappy method she has reduced her birth rate by half in a decade.

The population of Japan increased from 78 million in 1947 to 93.3 million in 1957. During the same period, however, the total number of births fell from 2.7 million in 1947 to 1.6 million in 1957. That is, the Japanese birth rate fell from 34 per thousand in 1947 to 17 in 1957. Thus Japan halved her birth rate in a decade primarily through legalised abortion.

Unfortunately, in India there has been no such dramatic decline in the birth rate as in Japan. But during the last ten years India has become increasingly aware of her population problem and has officially embarked upon a policy of population control, using all the available contraceptive methods, including sterilization, short of abortion. During the last decade, beginning from scratch, India opened nearly 2000 birth control clinics in rural and urban areas. She spent on family planning Rs. 16.5 million during her First Five Year Plan (1951-56), and Rs. 20 million during the

Second Plan (1956-61), and has now allocated some Rs. 25 million for the Third Plan period (1961-66). And a declining trend in the birth rate is noticeable in certain areas in India. It is possible that India might cut her birth rate in half in another ten years. Thus two leading Asian countries are already dedicated to the ideal of the small and planned family and are trying hard to promote family planning among their people. Similar efforts by voluntary agencies are being made with official approval in Malaya, Singapore, Hongkong and Indonesia and by governments in Ceylon and Pakistan.

What about emigration as a factor in Asian economic development? It is true that today the population problems of Asian countries cannot be solved through emigration because of the formidable numbers involved. There has been a great deal of discussion on this subject and a vast amount of literature is available. The difficulties are many. There are few emigration outlets for people from overpopulated Asian countries because of racial and cultural prejudices, and in the countries which might be willing to receive Asian immigrants there may not be ready jobs. Then there is the expenditure involved in the transportation of immigrant families, the problem of taking care of them until they can find suitable employment or otherwise stand on their own feet, and, last but not least, the problems inherent in their eventual cultural assimilation.

Asian emigration, and by and large emigration in general, has usually been due to acute pressure of the one kind or another — compelling poverty, political tyranny, religious persecution. People do not just pick up their belongings bag and baggage and move to a foreign country to settle there permanently, forsaking all the familiar sights, smells and sounds of their homeland, without very strong motivation. And since Asians are amongst the most stay-at-home people in the world, only the worst kind of pressure has made them move.

Of course, in terms of poverty and low living standards the pressure to migrate is ever present. The "push" mechanism of distress, hunger and famine is almost always there. Emigration, unlike water, flows, whenever possible, from countries of low

standards of living to countries with better opportunities and higher standards of living. But if would-be emigrants never leave their homes, it is not because there is no "push" mechanism but because there is no "pull" mechanism and no countries are willing to receive them.

Unfortunately, the relatively "empty" lands like Australia, Brazil, Canada and parts of Africa are most willing to receive Europeans, and especially emigrants from such countries as Great Britain where there is no great population pressure and no particular need for emigration outlets; whereas Asians, who desperately need emigration outlets, are unwelcome. This unjust imbalance in the availability of effective emigration outlets today perpetuates the traditional denial to Asians of emigration opportunities that has been going on for some three hundred years. In fact, the Europeans have not only denied access to new lands to Asians, but until only a decade ago they occupied and exploited the Asians' and Africans' native habitat.

Today, now that the means of "death control" are available to them, it is the Asian populations which are increasing rapidly. But we tend to forget that during the last 300 years, between 1650 and 1950, while the world as a whole was increasing about fourfold, the Europeans increased sevenfold. They—the Europeans—emigrated to and settled in the empty lands of Canada, the United States of America, Latin America, Australia and New Zealand. For instance, the number of European emigrants to the new continents in a single century, 1815-1914, has been estimated at more than 60 millions, twenty millions of whom came from the British Isles alone. In addition, they conquered, colonised and settled in the cooler areas of Asia and Africa, and where they could not settle, they exploited with rare greed.

It is obvious that today emigration from Asia on the lines of European emigration of the eighteenth and nineteenth centuries is impossible. All the vacant lands have been taken over, and it would be impossible to find emigration outlets for some twenty to thirty million surplus Asians a year. And even if there were countries willing to receive them, the monetary cost of transporting and settling such vast numbers of

emigrants would be near impossible (though perhaps not as expensive as racing to the Moon or Mars).

What has been the direction of inter-continental and inter-Asian migration in the past? Within Asia, the Japanese emigrated to Korea (now Communist North Korea and free South Korea), Manchuria (now part of Communist China), Taiwan (now Nationalist China), Thailand, Burma, Malaya, Indonesia and the Philippines. The Chinese, mostly from the southern and coastal provinces, emigrated to practically every country in south east Asia, but primarily to the four nations of former Indo-China, Malaya, Thailand, Indonesia, the Philippines, Borneo and of course Hongkong, Macao and Taiwan. Indians emigrated to Ceylon, Burma and Malaya.

Beyond Asia, the Japanese emigrated largely to Hawaii, Canada, the continental United States of America, Brazil and the Union of South Africa. The Chinese emigrated to Hawaii, the U.S.A., Canada and Central America. Indians emigrated to East Africa, South Africa, the Fiji Islands, Canada and the United States of America.

But though Asians have migrated to distant countries, the total of emigrants does not add up to a large number. The total number of Japanese settled abroad is about a million. The number of overseas Chinese is less than 15 millions, and the Indians abroad about six millions.

We have noted the difficulties concerning planned international migration under the auspices of governments or governmental agencies, and emigration on a relatively large scale. But now let us look at emigration from an individual's point of view. Considerations of whether emigration solves a country's population problem or not do not deter an individual emigrant. All he knows is that opportunities in his country for a decent living are extremely limited and that, should he emigrate to a rich, opportunity-filled country such as Canada or the United States of America, his lot would be better. If he and his family are able to emigrate, the chances are that they will move into comfortable and perhaps affluent circumstances. Thus emigration could help one family. His native country

need not support him and the pressure on the limited resources is lessened by one family. From his old country's point of view this may be a drop of relief in an ocean of poverty, but from the individual emigrant's point of view he has been saved from hunger and humiliation. This kind of individual and voluntary emigration is going on daily between Asian countries and from Asia to the West.

Of course, some countries, whatever their record in the past, just do not admit Asian immigrants. A blatant, if curious, example is that of South Africa. The South African whites, who as aggressive immigrants have taken over the country from the Natives, do not permit today Asians as immigrants. And while every country must have the right to decide upon the composition of her population, it is a strange anomaly that the whites, themselves immigrants to a non-white country, should withhold from others the right of migration on the basis of colour.

Here we come to the issue that is basic to this entire problem — race prejudice and discrimination. So much has been written and said on this agonising problem of our day, and yet so little has been accomplished, that one wonders whether man — largely the white man — is capable of reason. Here, surely, is the first area of concern for the churches. If only the churches could bring the elementary, scientific knowledge of anthropology, that all men are brothers under the skin, to the white men, what a civilised world we should live in!

Once the white countries can be persuaded to accept Asian immigrants, they could be put on some quota basis, as the United States of America has done. Australia, for instance, would be happier and more secure, situated as she is so close to Asia, if she would admit Asian immigrants on the same basis as she does Europeans. The excuses she gives for not doing so ring hollow indeed in Asian ears. It is true that Australia or any relatively under-populated country cannot solve India's, let alone Asia's, population problems. She cannot admit any large number of Indian or other English-speaking Asian immigrants. But she should admit Asian immigrants on a quota basis much as the United States of America does with India. Even if only fifty

families from India are admitted annually into Australia the psychological relief would be out of all proportion to the actual economic relief, and the resulting goodwill between the two countries would be considerable.

The second major problem is one of fair treatment once a country has admitted alien elements into its population. They must be treated as one hundred per cent citizens and as an integral part of the country's population. The denials and discriminations heaped upon Negroes in the southern United States of America after two centuries of their domicile, and the treatment of Indians in South Africa after a century of their domicile, are striking and painful examples. Here is an area of concern for the churches. The churches, as an unofficial and world body, above and beyond ethnic differences, should be able to work to raise the status of minorities to wanted instead of rejected groups. Whether it is a question of Orientals in Canada, Negroes in the United States, or Jews in Europe, the majority communities must learn to treat their minorities in a fair and just fashion and give them every opportunity for assimilation when such minorities are eager to adopt the citizenship of the receiving country. Tolerance is not enough. What is needed is acceptance. This implies the right to vote, to travel, to own property, to live in an area one can afford, to choose one's occupation, to marry the person one loves, to eat at any public restaurant, to educate one's children at the school of one's choice, etc.

The third area where the churches can do fruitful work is in helping the immigrant community to adjust to the new ways of the receiving country. Even where total prejudice against the immigrant community is absent, the difficulties in learning a new language, new manners and imbibing new mores are difficult enough. Here a great deal can be accomplished in promoting harmony and accelerating assimilation if the "peculiar" ways of the immigrants can be looked upon with friendship, sympathy and understanding.

And last is the provision of certain social services to the newcomer, who may come on his own without any particular sponsorship or relatives to receive him, or a suit-

able job awaiting him. Here the role of the church can be a vital one. It can call on him and welcome him, help him to find suitable accommodation, commend him to sympathetic friends, and above all satisfy his spiritual need to belong.

All these problems are common to migrants all over the world, irrespective of their national, racial or religious origin; it must, however, be accepted that these common problems are more acute with Asian and African migrants, especially when they go to countries which are alien to their native cultural milieu.

There are also the difficult problems connected with inter-Asian migration—not as acute as when peoples of conflicting cultures meet, but problems nevertheless. Indians in Ceylon and Malaya, the Chinese in Burma and Indonesia, the Koreans in Japan and the Japanese in Okinawa and the Philippines have their own problems of citizenship rights, trade privileges, linguistic conflicts, etc.

The crying need today in this area is that of the displaced people and refugees. Today there are many groups in Asia and Africa who have become enforced migrants. Among these are the following:

1. Tibetans in India
2. Chinese from the mainland in Hong Kong
3. Chinese in Indonesia who do not wish to return to China
4. The Arab refugees of Palestine
5. Algerian refugees
6. East Pakistan refugees in Bengal, and
7. Displaced groups from Angola and in the Congo.

Perhaps the most distressing situation is that of the Tibetan refugees in India, the latest group to join the ranks of the forced migrants. It is amazing that both the civilized world and the United Nations have watched with cynical unconcern the rape of Tibet, the near-genocide of Tibetans and the destruction of their way of life. Even as the United Nations debate the question of granting independence to colonial countries and people, some Communist countries are marching ahead with their new and total colonialism. The Communist semantics, by

which this new slavery is called "liberation" seems to confuse many.

There are today some 45,000 Tibetan refugees in India, Nepal, Sikkim and Bhutan. The Tibetan resistance to Communist Chinese aggression, despite heavy odds, is apparently continuing, for the refugees continue to come to India despite the Chinese watch on the frontier.

The Tibetan people, it must be remembered, are different from the Chinese (the Hans), in culture and language race and religion. These simple, sheltered and religious people, cut off from the outside world, have been suddenly uprooted with brutal violence and thrown into unfamiliar surroundings.

Behind the refugees there is the basic problem of the freedom of Tibet herself, perhaps beyond the concern of the churches. Chinese aggression in Tibet is not simply a case of political domination or exploitation. If Tibet is not freed there will not be much of Tibet left. For as the Dalai Lama pointed out recently in India: "As I understand it it is not necessary for the perpetuation of genocide to destroy the major portion of a population. It is enough if an alien power, by mass killings, deportations and immigration, so change the face of the country that the people become a minority, that their religion is exterminated, their culture is destroyed, and even their identity. This is what is happening in Tibet."

The World Council of Churches may well look into the plight of these Tibetan refugees and decide for themselves whether this is not an area where their help is needed.

In any plan to help migrants, the top priority must be given to refugees because they are forced migrants and not refugees by choice. While the Tibetans are the latest batch of uprooted humanity in Asia, there have been others since the cessation of the Second World War. As a result of partition of India into India and Pakistan, India received some seven million Hindu refugees from Pakistan and some 4.5 million Muslim refugees went to Pakistan from India. While most of these refugees have been settled and rehabilitated by their respective governments, considerable work in raising the standard of living of these people needs to be done.

Besides these, there are about a million refugees in South Korea from the North, and nearly a million refugees from Mainland China in Hongkong and other areas, and their present economic status is far from satisfactory.

It is unfortunate that while the European refugees of the Second World War have been settled in various countries of the world—the United States, Canada, Australia, the United Kingdom, Brazil, Israel, Turkey, Sweden, etc., Asian refugees have nowhere to go beyond overcrowded Asia, where opportunities for economic advancement are so severely limited. A non-governmental and non-partisan body like the World Council of Churches may well explore the possibilities of certain advanced but relatively thinly populated countries, such as Australia, Canada and Brazil, accepting Asian refugees, and other voluntary emigrants, on a fairly large scale.

In conclusion, a policy of assisted, planned and selective emigration from Asia to thinly settled but developed countries could have a decisive and desirable effect on Asian relations with other nations. Apart from the moral position of thinly populated, prosperous countries in a distressed and overcrowded world, those who oppose international migration as a threat to their high standards of living or to their cultural or racial "superiority" may be actually losing an opportunity to raise that standard further, in that they are promoting an atmosphere of international distrust and suspicion in which neither their particular "race" nor culture can progress or succeed unhampered. The difficulties of such a policy of emigration, as already observed, are not to be minimized. Nor will, it must be repeated, such emigration solve the population problems of Asia. But I do contend that such emigration will generate tremendous goodwill toward the white nations, and the psychological relief to Asia will be out of all proportion to the actual economic and demographic relief involved. This is an area which deserves to be explored by the World Council of Churches. The churches must show some urgent 'concern'—I use the word in the Quaker sense—for this problem.

Population Growth and Economic Development in India 1951-1961

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INTRODUCTION

India completed her tenth decennial census, and the second census since independence, in March 1961. The provisional results of the latest census have now been released by the Registrar-General. These provide data on the size of population, literacy levels, rural-urban ratio and sex composition. While these are incomplete for a detailed study of the demography of present-day India, they are sufficient to examine the rate of growth of the Indian population during the last decade and to note the margin by which the population increase has exceeded the estimates of population for 1961 made by various planning and statistical agencies of the Government of India.

POPULATION GROWTH (1951-61) AND CHARACTERISTICS

The Registrar-General, in his Census Report of India for 1951, estimated, on the basis of the then available data, that the population of India was likely to reach the figure of 407 millions in 1961. A few years later an expert committee of the Planning Commission, headed by the Registrar-General for the 1961 census, calculated that India's population was likely to be 431 millions in 1961. This figure was accepted by the Planning Commission and the calculations for the Third Five Year Plan (1961-66) were based on the assumption that the population numbers in 1961 would be about 431 millions. The actual census count, however, revealed a total of 438 millions, yielding a net decennial addition of 77.26 million, or a 21.49 per cent increase, as against 42.6 million, or a 14.1 per cent increase between 1941 and 1951.

LITERACY

According to the Indian census, "Literacy" is defined as the "ability to read any

simple letter either in print or in manuscript". Though a detailed analysis of literacy requires data by age and sex, the provisional results show that the percentage of literates has increased for all-India from 16.6 in 1951 to 23.7 in 1961. The male and female components are 33.9 and 12.8. While all the States have registered an increase in literacy rates, wide differences (in the levels of literacy achieved) continue to exist among the various states. As in the past census, Kerala has registered the highest literacy rate, 46.2 per cent, and the male and female components are 54.2 and 38.4 respectively. Jammu and Kashmir with 10.7 per cent of literacy is at the bottom of the list; besides Kashmir, backward states in the matter of literacy are Rajasthan, Madhya Pradesh, Uttar Pradesh and Bihar. That is, the South Indian States are more literate and educated than those in North India.

The literacy rate for both sexes has increased, but the increase among females is not considerable. The male literacy rate has increased from 24.9 in 1951 to 33.9 in 1961, while the comparable increase for females has been from 7.9 to 12.8. In fact, the gap between the levels of literacy between the two sexes has been widening as the overall literacy increases. This unhappy situation certainly demands attention.

The Registrar-General points out, "More distressing has been the low progress of female literacy. Although for the whole of India the female literacy ratio is slightly more than 50 per cent of the general rate, yet there are substantial regions where female literacy is less than a quarter of the general rate. When we remember that even this low rate would have been still lower but for the higher rate in towns

situated in these areas, the state of literacy can be properly comprehended."

and general backwardness, continues to be predominant.

THE RURAL-URBAN RATIO

The rate of urbanization of the country as a whole, despite the gradual industrialization of the country, has been very slow. The urban population in 1961 was only 17.84 per cent of the total population, compared to 17.38 in 1951. The rural population, with all that it implies in India in occupation, education, low levels of living

Three major factors affect the rural-urban ratio of the population of any country. First, there are the proportions of rural and urban areas and the traditional size of communities occupying these areas. The second factor is the rate at which the rural and urban populations grow—the problem of differential fertility. And the third factor is rural-urban migration, which in India is usually an exodus of people from villages into cities. While the "push" mechanism of low living standards, some-

TABLE No. 1

Growth of India's Population, 1951-61

States	Population 1951 in millions	Population 1961 in millions	Absolute increase between 1951-1961 in millions	Percentage increase between 1951 and 1961
All India	359.22	436.42*	77.26	21.49
Andhra Pradesh	31.12	35.98	4.86	15.63
Assam	8.83	11.86	3.03	34.30
Bihar	38.78	46.46	7.67	19.78
Gujarat	16.26	20.62	4.36	26.80
Jammu & Kashmir	3.27*	3.58	0.32	9.73
Kerala	13.55	16.88	3.33	24.55
Madhya Pradesh	26.07	32.39	6.32	24.25
Madras	30.12	33.65	3.53	11.73
Maharashtra	32.00	39.50	7.50	23.44
Mysore	19.40	23.55	4.15	21.36
Orissa	14.65	17.57	2.92	19.94
Punjab	16.13	20.30	4.16	25.80
Rajasthan	15.97	20.15	4.18	26.14
Uttar Pradesh	63.22	73.75	10.54	16.67
West Bengal	26.30	34.97	8.67	32.94
Union Territories				
Andaman and Nicobar Islands	0.031	0.063	0.032	104.83
Delhi	1.74	2.64	0.90	51.60
Himachal Pradesh	1.11	1.35	0.24	21.59
Laccadive, Minicoy & Amindive Islands	0.021	0.024	0.003	14.61
Tripura	0.64	1.14	0.50	78.63

* The population of Manipur, Nagaland, NEFA and Sikkim are not included in the All-India figure.

The following Table No. 2 gives the sex ratio of India's population in 1961:

TABLE No. 2
India: Sex Ratio in 1961

States	Sex Ratio No. of females per 1000 males
All India	940
Andhra Pradesh	979
Assam	877
Bihar	991
Gujarat	939
Jammu and Kashmir	883
Kerala	1022
Madhya Pradesh	952
Madras	989
Maharashtra	935
Mysore	959
Orissa	1002
Punjab	868
Rajasthan	908
West Bengal	879
Union Territories:	
Andaman & Nicobar Islands	616
Delhi	786
Himachal Pradesh	925
Laccadive, Minicoy & Amindive Islands	1021
Tripura	931

times even of famine conditions, operates in every village, the reason for the absence of any considerable increase in the urban population is the want of an urban "pull" mechanism and the want of adequate employment opportunities in the cities for the villagers who are willing to forsake their homes and their traditional occupation of agriculture in the villages to come to the cities.

Further, during the last decade some rural areas have been absorbed into the urban sector because of the growth of urban population and the demand for land for housing, industrial sites, etc. And yet the proportion of the urban population has not increased significantly. The reason apparently is that the rural population has increased at a faster rate.

While the urban population as a whole has not increased markedly during the last decade, a few cities with a population of

TABLE No. 3
Sex Ratio of Urban Population in India:
1961

States	Sex Ratio No. of females for 1000 males 1961	1951
Urban India:		
Andhra Pradesh	950	987
Assam	680	682
Bihar	809	842
Gujarat	896	920
Jammu & Kashmir	847	N.A.
Kerala	N.A.	990
Madhya Pradesh	853	907
Madras	962	986
Maharashtra	800	808
Mysore	912	914
Orissa	817	881
Punjab	813	812
Rajasthan	902	928
Uttar Pradesh	814	820
West Bengal	700	660

N.A. = Not Available.

100,000 and more have registered abnormal increases. The present trend of urban growth is resulting in unplanned, overcrowded and squalid cities and the need for planned development of both old and new cities is considerable. Unless this situation receives immediate attention numerous social problems will plague the authorities later.

The unevenness of the pattern of urbanisation also demands some attention. The various states exhibit wide differences in the proportion of urban areas. They range from 6.33 in Orissa to 27.92 in Maharashtra. There is a tremendous pressure on land both in rural areas for agriculture and in urban areas for new industries and for housing, the people connected with these industries.

The following Table No. 4 gives the literacy rates and the urban ratio of the Indian population.

TABLE No. 4
India: Literacy and urban Ratio, 1961

States	Literacy Percentage Males	Females	Total	Percentage of urban to total population
All India	33.9	12.8	23.7	17.84
Andhra Pradesh	29.7	11.8	20.8	17.40
Assam	35.5	14.6	25.8	7.50
Bihar	29.6	6.8	18.2	8.43
Gujarat	40.8	19.1	30.3	25.61
Jammu & Kashmir	16.3	4.2	10.7	16.80
Kerala	54.2	38.4	46.2	15.03
Madhya Pradesh	26.7	6.6	16.9	14.29
Madras	43.0	17.3	30.2	26.72
Maharashtra	41.8	16.7	29.7	27.92
Mysore	36.0	14.2	25.3	22.03
Orissa	34.4	8.6	21.5	26.33
Punjab	32.4	13.7	23.7	20.10
Rajasthan	22.8	5.7	14.7	16.05
Uttar Pradesh	26.7	7.3	17.5	12.85
West Bengal	40.0	16.8	29.1	23.15
Union Territories				
Andaman & Nicobar Islands	42.4	19.4	33.6	22.22
Delhi	58.9	41.1	51.0	88.65
Himachal Pradesh	22.6	6.0	14.6	4.73
Laccadive, Minicoy & Amindive Islands	35.9	10.9	23.3	Nil
Tripura	32.2	11.4	22.2	9.01

A DECADE OF POPULATION GROWTH, 1951-1961

These provisional results of the census reveal that during this century India's population has registered the highest rate of growth during the last decade, 1951-61. The rate of growth is in excess of the most liberal estimates made on the assumptions of considerable decline in mortality and a near-stationary birth rate. That India has added in a decade more than the population of any European country (with the exception of the Soviet Union) or North or South American country (with the exception of the United States of America) and that this number is more than what the planners had expected and feared, call for certain far-reaching changes in our economic and social plans and policies.

Apart from the massive size of the total population and the alarming rate of its growth, a striking feature is the heterogeneous growth of population in the various states. The percentages of increase in the states during the last ten years cover a wide range—from 34.30 in Assam and 32.94 in West Bengal down to 11.73 in Madras. While the abnormal increase in Assam and West Bengal is explained largely by the influx of labour for the plantations, mines, oil wells and other industries in the regions from other areas, the low rate of increase registered by Madras State is, apparently, the result of the successful implementation of the family planning programme. Apart from these extreme cases, the variations in the rates of growth in the other states are sufficiently marked to demand a careful study of the causes

behind these differences in growth when further details are released by the Registrar-General.

THE SEX RATIO

The adverse and deteriorating sex ratio in our country is a phenomenon that has been observed ever since census-taking began in India. Though the exact reasons for a particular sex ratio in favour of males or females have not been determined, it is generally explained on the basis of a not too satisfactory biological-cum-cultural hypothesis. Further, there are considerable regional variations in the level of the sex ratio and in the nature and extent of its change. Now the Registrar-General has introduced a geographical qualification when he says: "Except for Bihar and Madhya Pradesh, it will seem that the State-wise sex ratio is appreciably lower north of latitude 22 degrees than south of it."

For the whole of India, the number of females per 1,000 males has gone down from 946 in 1951 to 940 in 1961. In the change in sex ratio there are marked regional variations, ranging from a decrease of 20 females per 1,000 males in Orissa to an increase of 14 females per 1,000 males in West Bengal (excluding the Union Territories).

The deteriorating sex ratio has the effect of slowing down the rate of population growth. Therefore, from the recorded high rate of population growth, it must be concluded that if the ratio of females to males had not gone down as it has, the population growth would have been even greater than it has been. The correlation of the extent of change in the sex ratio and the rate of population growth in the different states does not yield any evidence to support the theory that the states with larger decreases in the sex ratio have a lower rate of population growth. Probably the effect of a deteriorating sex ratio on population growth has not been considerable.

The sex ratio in the urban areas has also been declining during the last ten years. As already observed, there is a noticeable variation in the sex ratio from state to state as is the case with most other demographic, economic and social characteristics. However, in the matter of sex ratio, the south-

ern states present a uniform pattern markedly different from the northern states. In all the three southern states of Andhra Pradesh, Madras and Mysore, the urban sex ratio is over 900, while in most of the northern states it is below 900, and in some states it is less than 800. "This doubtless indicates," the Registrar-General observes, "differences in the growth and sociological structure of urban areas in the South and the North and suggests greater stability or inertia, whichever way one chooses to call it, in many behavioural patterns of urban areas in the South."

EXPLANATION OF THE POPULATION GROWTH

Any detailed and valid explanation of the rapid increase of India's population during the last decade must await a more detailed analysis of the census returns, and, what is more, a satisfactory explanation will be possible only if reliable birth and death rates are available for the period.

To begin with, India in 1951 had a large population and even a nominal rate of increase would have yielded an impressive decennial addition. But the rate of increase of 21.5 per cent is not nominal and the decennial addition of 77 millions is unexpected.

Secondly, the question of migration can be dismissed as of no consequence in the growth of India's population. Indians do not emigrate overseas, nor do foreigners immigrate to India in any large numbers. Official figures are not available but the number of Indians who emigrate do not exceed a few thousands and the foreigners who come to India and become Indian citizens are even less.

Therefore, any explanation of the population growth has to be sought in the nation's birth and death rates. If the birth rate is assumed to have been stationary, the death rate would have had to decline from 27 per 1,000 in 1951 to less than 19 per 1,000 during the ten years from 1951-1961 to yield an increase of 21.5 per cent in ten years. Hence it is possible to suppose that there has been not only no decline in the nation's fertility but, if anything, an increase. Obviously, the nation's efforts at family planning have not yet been success-

TABLE No. 5

India: Birth, Death and Infant Mortality Rates, 1951-57. (1957-61 rates not available)

Year	Birth Rate	Death Rate	Infant Mortality Rate
1951	24.9	14.4	123
1952	25.4	13.8	116
1953	24.8	13.0	118
1954	24.4	12.5	109**
1955	27.0	11.7	102***
1956	21.6	9.8	98
1957*	21.5	11.0	—

* Provisional.

** Excludes Bihar, Madhya Pradesh, Himachal Pradesh, Jammu and Kashmir, and Tripura.

*** Excludes Delhi, Madhya Pradesh, Himachal Pradesh, Jammu and Kashmir, and Tripura.

years. Mortality in general and infant and childhood mortality in particular show decreasing trends.

In the past malaria took a heavy toll. Both the number of people who suffered from it and who died of it ran into some 80 and one million respectively. And the Government's piecemeal and sporadic efforts were called the "Malaria Control Programme". But in recent years, thanks to massive American aid, the programme became a vast "eradication programme" and as a result today only four millions suffer from malaria and the number of deaths is relatively negligible.

As for tuberculosis, both the BCG vaccination programme and domiciliary treatment have come into vogue and the mortality from tuberculosis has been reduced, though exact figures are not available.

The number of institutions, as well as the facilities available for medical education (for doctors, dentists, nurses and midwives) have considerably increased during the last ten years. The following table gives a picture of the progress recorded during the last decade.

ful for the country as a whole. It is true that for the first ten years since freedom (1947-1957) the question of family planning received little impetus (thanks to the ideological prejudice of the then Health Minister) and the Health Ministry's record on family planning was one of masterly inactivity and was confined to experiments in the rhythm method. Family planning in a serious and sustained manner is of recent origin, and here again only a few states have demonstrated any lively and effective interest in the subject. Therefore, it must be admitted that family planning has not yet become a part of the marital mores of the country and consequently has not affected the nation's birth rate. However, certain states like Madras have seriously responded to the family planning movement and have not increased their populations as much as they might otherwise have.

What about the nation's death rate? From the point of view of the considerable growth in numbers registered, one may infer that the death rate must be declining. But, unfortunately, the official vital statistics are far from reliable and both the birth and death rates are gross underestimates. It stands to reason that the death rates are more reliable than the birth rates. Relatively more births than deaths go unregistered in India and other underdeveloped countries, for the event of a death seldom escapes the notice of a community which is anxious to know the cause of death, whereas births are "natural" and happy events and the community does not take any serious notice of them. Therefore, what the official figures of birth and death rates reveal is more the direction of the movement of the rates over a period of time, though not the exact dimensions of such movements, and the vital rates given in the following table reveal that the general death rate as well as the infant mortality rate are declining.

Such a decline in the death rate appears probable in the light of the many improvements that have been made in the health conditions in the country during the last decade. An unofficial estimate of the expectation of life at birth in India for 1961 is put at 42 years, while the census calculation of life expectancy in 1951 was 32

TABLE No. 6

Progress of Health: Medical Institutions and Personnel

Category	1952	1956	1957	1958
<i>Medical Institutions</i>				
No. of Hospitals	2,736	3,106	—	—
No. of Dispensaries	6,762	7,073	—	—
Number of Beds	124,419	155,572	—	—
Number of Medical Colleges	30	44	48	50
Number of Medical Graduates Turned Out	1,956	2,953	2,802	2,859
<i>Registered Medical Personnel</i>				
Nurses	18,006	24,724	26,470	28,049
Midwives	20,551	28,030	31,412	33,208
Dais (traditional midwives)	3,749	7,977	9,059	10,287

INDIA'S ECONOMIC DEVELOPMENT 1951-61

Population trends and economic development are closely interrelated and each is a consequence and determinant of the other. In many cases it is difficult to isolate one as the cause and the other as the consequence. Rising income levels, better consumption of food and other necessities and better sanitation and widespread medical services may raise the marriage and birth rates and reduce the death rate. On the other hand, famines and food shortages and paucity of health, medical and other social services may increase the morbidity and mortality rates and even reduce the birth rate.

The population factor—which includes the size of population, the rate of growth, the age and sex composition, and fertility and mortality rates—has a direct bearing upon the development factor, which includes the resources to be spent on supporting the population at a certain level of living, the size and possible employment of the labour force, the rate of current consumption and saving available for investment, etc.

It is difficult to construct a single and precise index of economic development of a country for such a short period as a decade. Economic development generally

consists in increased production leading to higher levels of living, despite a certain increase in population numbers.

An index of economic development most often used is the level of per capita income, the national income being the total value of goods and services produced within the country during a certain reference period. It does not take into account consumption, though it is an important determinant of the nation's level of living and gives both the pattern and extent to which wants are satisfied. Further, the proportion of wages, salaries, profits and rents that make up the total national income is another aspect of economic development. Again, the increase in a nation's income may arise from the production of certain types of goods and services. Hence the particular contribution of various sectors to the national income is another indication of economic development.

In India, reliable and comparable statistical data on various segments of economic development during the last decade are not available. But such data as are available can be used to examine the Indian economic development during the past decade in terms of national income, sector-wise distribution of national income, income of states, total consumption, production of various sectors of the economy, employment trends,

and the availability of such social services as health and education.

REGIONAL ECONOMIC DEVELOPMENT

In recent years, both the people and the government have become increasingly aware of the existing and ever-growing disparities in the economic development of different regions of India. As the various cultural-linguistic groups in the different states clamour for the rapid development of their particular areas, the problem of the imbalance in regional development has come to the forefront of national discussion.

Apart from the imbalance in the distribution of wealth among the different income groups and the rural and urban population, the nation's economic planning during the last ten years has resulted in striking differences in economic development and income between different states of the Indian Union. It is true that there were wide disparities in economic growth and income among the various states before the advent of independence and the period of economic planning, but the last two Five Year Plans have tended to heighten the disparity in both per capita income and the pattern and volume of employment among the states. Some states feel that the fruits of planning have not been shared equally by all the states of the Union. The Government of India have recently appointed a committee to enquire into the distribution of national income between various states.

It is, of course, not possible to enforce a uniform pace of development for all the states irrespective of their natural resources, population size and the availability of capital and the level of education and technological "know how". If the existing inequalities between the states have to be reduced, the relatively underdeveloped states must be given preferential treatment by the Central Government in granting loans and locating industries. But experience in planning has shown that the states which were already industrialised and developed have been growing faster than the poorer states.

The size and growth of population as well as age and sex composition are important factors in planning economic development. The provisional results of the 1961 census show that the decennial growth in numbers has been very uneven in its geographical distribution. The rate of increase varies

NATIONAL INCOME

The national income is perhaps the most reliable single composite index of economic development. During the First Five Year Plan (1951-1956) the country registered considerable progress in the agricultural sector and the total national income increased by 18 per cent over the figure for 1951. At the end of the Second Five Year Plan (1956-61) the national income had increased by 20 per cent over the figure for 1956.

The population increased during this period at an annual rate of 2.15 per cent over the 1951 population figure, whereas the increase in national income was 4.2 per cent over the 1950-51 income figure at constant prices. The per capita annual income was Rs. 246 in 1951 and it increased to Rs. 286 in 1961, in terms of 1948-49 prices. This works out at an increase of 14 per cent during the ten years as against the 20 per cent increase envisaged by the Planning Commission (because of the Planning Commission's under-estimate of population growth).

The following table gives the estimated figures for total population and per capita income for every year during the last decade.

TABLE No. 7
Population Growth and Per Capita Income

Year	Estimated Population in millions	Per Capita Income at 1948-49 prices (in rupees)
1950-51	361.5	245.2
1951-52	368.0	247.3
1952-53	375.2	252.1
1953-54	382.5	262.2
1954-55	390.0	263.6
1955-56	397.6	258.5
1956-57	405.4	271.3
1957-58	413.3	263.5
1958-59	421.4	277.4
1959-60	429.7	273.5
1960-61	438.0	286.1

TABLE No. 8

Sector-wise Distribution of National Income (at 1952-53 prices) in Billions of Rupees

Sector	1950-51	1956-57	1960-61
1. Agriculture, Animal Husbandry & Auxiliary Activities*	45.2	52.7	60.0
2. Mining & Factory Establishment	6.8	9.1	14.9
3. Small Enterprises (including construction)	9.5	9.8	13.4
4. Commerce, Transport and Commercialism**	16.8	20.0	22.3
5. Other Services***	14.5	17.6	20.5
National Income	92.8	109.2	131.1

* Including forestry and fishery.

** Including organised banking and insurance.

*** Professions and liberal arts, domestic services, governmental services (administration) and real estate property are included under "other services".

from 11.73 in Madras to 34.30 in Assam. Despite one or two exceptions, the population growth has been greater in states which have registered relatively higher economic development. Assam's population has increased considerably but her economic growth during the decade has been almost negligible. On the other hand, Bihar and Orissa have nearly doubled their income during the planning period, though their population increase has been relatively slow. In the present context, slower population growth might yield higher incomes, other factors remaining the same.

The following table shows the marked differences in the per capita income of various states. It will be seen that the southern states have been developing at a slower rate than the states in other parts of the country. Had population growth been as great in the south as it has been in other parts of the country, the southern states might have been even slower in their development. While some states have certain regional and locational advantages for rapid industrial development, other states lag behind for want of these advantages. Perhaps the unevenness of population growth in various states accentuates the differences in the degree of their economic development.

The following table gives the total population of the various states, their decennial rate of growth and their per capita income.

TABLE No. 9

Population and Per Capita Income of India's States, 1961, (at 1955-56 prices)

State	Total Population in 1961 in millions	Rate of Population Increase 1951-61	Net per Capita Increase in Rs.
Andhra Pradesh	35.98	15.63	245
Assam	11.86	34.30	262
Bihar	46.46	19.78	156
Bombay (Gujarat & Maharashtra)	60.12	—	331
Kerala	16.88	24.55	297
Madhya Pradesh	32.39	24.25	229
Madras	33.65	11.73	290
Mysore	23.55	21.36	207
Orissa	17.57	19.94	190
Punjab	20.30	25.80	357
Rajasthan	20.15	26.14	238
Uttar Pradesh	73.75	16.67	229
West Bengal	34.97	32.94	375
Delhi	2.64	51.60	910
Himachal Pradesh	1.35	21.59	184
All India	432.85	21.49	264

AGRICULTURAL PRODUCTION AND CONSUMPTION

The record of agricultural production in India during the last ten years has been impressive. The total production of food grains in 1949-50 was 54 million tons. The preliminary estimates for 1960-61 show that an all-time peak of 77 million tons of food grains has been reached at the end of the Second Plan period. This increase in the production of food grains was distributed nearly equally between the two Five Year Plan periods, the average annual rate of increase being 4.3 per cent of the 1949-50 production.

During the First Five Year Plan period, the targets in most cases were fulfilled and, in a few cases, exceeded. But during the Second Plan period, though the overall achievements have been impressive, the total food grain production fell short of the targets. Many factors were responsible for the increase in the production of food grains. There were major and minor irrigation projects, double cropping, improved seeds, application of fertilisers, land reclamation, plant protection and improved agricultural practices in general. As a result, production both in cropped and irrigated areas considerably increased. And the overall productivity shows a long-term increasing trend, although there are cyclical movements.

The productivity of rice, measured in terms of pounds per acre, has increased from nearly 600 in 1950-51 to a little over 800 in 1959-60. The increase in the productivity of wheat was comparatively less with an increase of only 100 pounds per acre, from about 590 in 1950-51 to 690 in 1959-60. The available indices of agricultural production reveal rising trends in both food and non-food crops.

Thus there has been an increase of nearly 38 per cent in food production during the period 1951-61, while the increase in population was 21.5 per cent. Most of the states have increased their food production at a rate faster than their population increase. Of course, had population growth been slower the per capita consumption of food would have been higher.

If the three factors, of per capita food production, the total increase in food pro-

duction, and the population growth during the last decade, are taken into consideration, the states can be grouped into various categories as follows:

1. Low per capita food production; low rate of increase of food production and high rate of population growth = Assam and West Bengal.
2. Low per capita food production; moderate rate of increase of food production and low rate of population growth = Bihar and Madras.
3. Very low per capita food production; fairly fast rate of increase in food production and high rate of population growth = Kerala.
4. Low per capita food production; moderate rate of increase of food production and high rate of population growth = Gujarat and Maharashtra.
5. Moderate per capita food production; moderate rate of increase of food production and low rate of population growth = Andhra Pradesh, Mysore and Uttar Pradesh.
6. High per capita food production; high rate of increase of food production and high rate of population growth = Madhya Pradesh, Orissa, Punjab and Rajasthan.

As for the pattern of consumption, recent Family Budget Surveys show that generally 50 to 70 per cent of the total expenditure is on food, the important components being cereals and pulses. The net availability of cereals and pulses for consumption has been steadily increasing during the last ten years. As against a total of 13 ounces of cereals and pulses per capita per day in 1951, the corresponding availability in 1959 was 16 ounces. While the calorie and protein content of the diet of an average Indian is still very low, the position has improved during the last ten years.

The Nutrition Advisory Committee of the Indian Council of Medical Research has recommended the following as the (minimum) daily requirements of an adult (in ounces):

Cereals: 14

Pulses: 3

Root Vegetables: 4

Other Vegetables : 3
Fruits : 3
Milk : 10
Sugar & Jaggery : 2
Vegetable Oils & Fats : 3
Eggs : 1 egg or 1.5 ozs.

But the required amounts of foodstuffs at this level for the total population, with the single exception of cereals, are not available. The deficit is rather slight in the case of pulses, sugar and jaggery, but the supplies of fruit, milk, fats, fish, meat and eggs are far below requirements. In other words, the expensive proteins and protective foods are not available to the average Indian. Therefore, while the overall pattern of consumption shows an upward trend in terms of calories, the great increase in population renders both Indian self-sufficiency in food supply and an adequate consumption for every Indian impossible in the near future.

TABLE No. 10

Index of Agricultural Production
(Base : 1949-50 = 100)

Period	General Index	Food Crops	Other Crops
1950-51	95.6	90.5	105.9
1951-52	97.5	91.1	110.5
1952-53	102.0	101.1	103.8
1953-54	114.3	109.1	104.7
1954-55	117.0	115.0	120.9
1955-56	116.8	115.3	119.9
1956-57	124.0	120.5	130.6
1957-58	114.6	107.9	128.1
1958-59	132.3	130.1	136.7
1959-60	127.2	124.3	133.1
1960-61	135.0	131.0	143.0

The following table shows that the per capita gross production of food grains has increased during the last decade. There is no doubt that there is room for further improvement judged by an international comparison with the production shown below.

TABLE No. 11

Per Capita Gross Production of
Foodgrains* in Lbs. by States

States	1951	1961
Andhra Pradesh	316	435
Assam	454	314
Bihar	341	286
Gujarat	not available	179
Jammu & Kashmir	not available	304
Kerala	117	140
Madhya Pradesh	494	624
Madras	230	339
Maharashtra	not available	332
Mysore	286	345
Orissa	334	312
Punjab	477	592
Rajasthan	158	525
Uttar Pradesh	395	400
West Bengal	377	296

India** (including
Union Territories) 336 367

NOTE: The population figures for the years 1951 and 1961 have been related to the production figures for the years 1949-50 and 1959-60. The production figures for the years 1949-50 and 1959-60 are, however, not strictly comparable due to changes in coverage and method of estimation.

* Foodgrains include rice, jowar, bajra, maize, ragi, small millets, wheat, barley, grain and other pulses.

** Excludes Manipur, NEFA and Sikkim.

INDUSTRIAL PRODUCTION

The achievements of the industrial sector during the last ten years are impressive, particularly in comparison with the situation before India became free. The performance of both the private and public sectors has been considerable. Rapid progress has been recorded in the output of both producers' and consumer goods industries. The indices of industrial production show that overall production of the industrial sector has increased by more than 50 per cent. In the case of certain individual industrial products like machinery, production has even been quadrupled.

TABLE No. 12

India : Index of Industrial Production

	1951	1955	1956	1959
All Commodities	100	122.4	132.6	151.1
Cotton Textiles	100	111.9	117.5	111.1
Iron and Steel	100	113.3	119.4	163.1
Machinery	100	163.9	215.0	434.3
Chemicals	100	159.0	171.1	214.0

Source : Third Five Year Plan : A Draft Outline (New Delhi, Planning Commission, 1960) pp. 18.

Though the industrial targets of the First Five Year Plan were not achieved in the case of many commodities, the production fell only a little short of the targets. But in the Second Plan, according to provisional figures, the targets of almost all the industrial items have been reached.

The Planning Commission summaries India's industrial development during the last decade as follows : "Among the features of industrial development during the past decade which may be noted are the progress made in basic capital and producer goods industries, especially machinery and engineering industries. With the completion of three new steel plants in the public sector, the total finished steel capacity created will increase to 4.5 million tons as compared to one million tons at the beginning of the first plan, and 1.3 million tons at the beginning of the second plan. There has been considerable increase in the production of essential industrial materials like cement, coal, aluminium, etc. The country is now producing steadily increasing quantities of machine tools and machinery for use in agriculture, and for cotton textile, jute, cement, tea, sugar and vegetable oil industries. By the end of the second plan, much of the equipment required by the railways will be available from indigenous production. The aggregate value of all kinds of industrial machinery produced in the country has risen from Rs. 11 crores in 1951 to about Rs. 79 crores in 1958. The corresponding figures for electrical equipment are Rs. 20 crores and Rs. 71 crores respectively. A beginning has been made in the production of heavy chemicals, drugs and pharmaceuticals, fertilisers, etc. Under the second

plan, programmes for the modernization of jute and cotton textile industries have been undertaken. In a number of industries, the import component has been materially reduced."*

The pattern of consumption of consumer goods has also changed significantly during the last decade. As against a per capita annual consumption of about 11 yards of cloth in 1951, the figures for 1959 is about 16 yards. Similar increase in the consumption of other commodities have also been registered.

The following table shows the changes in the pattern of consumption during the last ten years. The population figures used in the table are 361 millions for 1951 and 438 millions in 1961. It will be noted that the consumption of all commodities (with the exception of automobiles) has considerably increased.

EMPLOYMENT TRENDS

Of all the factors in an economy, perhaps the employment trend is the best index of whether economic development has kept pace with population growth or not. Despite considerable development in both the private and public sectors, the problem of unemployment in general continues to be acute. While the pressure of people on land continues to increase, urban industrial development is not rapid enough to absorb all the new entrants to the labour force.

POWER, TRANSPORT AND COMMUNICATIONS

According to the Draft Outline of the Third Five Year Plan, "The installed generating capacity will increase from 2.3 million Kw. in 1950-51 to 5.8 million Kw. by the end of 1960-61. The number of towns and villages electrified will have increased from 3,687 in 1950-51 to 19,000 in 1960-61." While the ratio of electrical energy tapped to the total available resources is still low, the progress registered in increasing the total energy supplied has more than doubled.

As for the development of the transport sector, the rehabilitation of the railways has been a significant feature of the achieve-

* Third Five Year Plan : A Draft Outline (New Delhi, Planning Commission, 1960) pp. 18-19.

TABLE No. 13

India's Per Capita Annual Consumption: 1951-1959

Commodity	1951	1952	1953	1954	1955	1956	1957	1958	1959
Cloth (yards)	11.70	14.32	15.80	14.66	15.43	15.89	16.13	16.20	16.26
Coal (lbs.)									
domestic	9.80	10.07	10.18	10.30	10.60	10.71	11.74	12.18	12.53
Kerosene (lbs.)	6.42	6.28	6.87	7.14	7.92	8.44	8.59	8.71	8.29
Electricity (Kwt)	1.64	1.64	1.80	1.94	2.09	2.39	2.60	2.82	3.17
Paper (lbs.)	1.38	1.49	1.60	1.69	1.83	1.87	1.67	1.70	1.65
Cycles (Numbers per 1000 population)	1.10	1.07	0.94	1.21	1.64	1.77	2.21	2.24	2.36
Sewing Machines (No. per 100,000 population)	0.20	0.19	0.18	0.24	0.30	0.40	0.43	0.51	0.58
Radio Sets (No. per 100,000 population)	22.82	19.40	14.99	14.86	20.92	38.09	47.60	50.87	53.59
Cigarettes (number)	57	55	50	52	59	67	73	73	75
Automobiles (No. per 100,000 population)	6.1	3.3	2.9	4.2	5.1	5.1	3.2	2.0	2.6

Source: The figures are based on interpolated values of population based on census data, based on data compiled by the *Eastern Economist*, (New Delhi) March 4, 1961, pp. 578-79.

TABLE No. 14

India: Development of Transport and Communication: 1950-51 to 1960-61

	Unit	1950-51	1960-61
I. Railways:			
1. Freight Traffic	.. Million tons	90	162
2. Coaches	.. Number	19,200	28,900
3. Wagons	.. Number	199,000	354,000
4. Locomotives	.. Number	8,200	10,600
5. New Railway Lines	.. Miles	1,200	..
6. Double Railway Track	.. Miles	1,300	..
7. Electrified Railway Track	.. Miles	880	..
II. Other Transport:			
1. Surfaced Roads	.. Miles	97,500	144,000
2. Commercial Vehicles	.. Number	116,000	200,000
3. Shipping Tonnage	G.R.T.	390,000	900,000
III. Communication:			
1. Post Offices	.. Number	36,000	75,000
2. Telegraph Offices	.. Number	3,600	6,300
3. Telephone Connections	.. Number	168,000	475,000
4. Radio Licenses	.. Millions	0.55	1.88

Source: Compiled from the *Third Five Year Plan: A Draft Outline*, op. cit., pp. 20-21.

ments of the First Five Year Plan. The building up of steel, coal and cement industries necessitated the large-scale development of the railways during the second plan period. The following table shows the progress made in transport and communications during the last decade:

EDUCATION

The proportion of literates has been on the increase. However, in total numbers while the literates increased, the illiterates increased even more. Both the first and second five year plans laid stress on primary education as well as on technical education. But progress has been slow and the number of persons who have completed their primary education as well as the total number of technicians are far below the demand. The following two tables show the slow progress:

TABLE No. 15

Percentage of Children in the Age Group Enrolled in School

Period	6-11	11-14	14-17
1950-51	43.1	12.9	5.4
1955-56	51.0	16.3	8.1
1960-61	60.0	22.6	12.0

TABLE No. 16
Supply and Demand for Technicians: 1950-61

Category	Supply	Demand
Graduates	26,000	28,000
Diploma holders	32,000	54,000

CONCLUSION

As observed earlier, India's population growth during the decade has been analysed on the limited provisional census data released by the Registrar-General. For want of both data and space only a few basic criteria have been chosen to measure the extent of economic development.

Can the available data answer the question of whether economic progress has kept pace with population growth? Has the level of living of the average Indian risen at least a little, if not substantially? How much of a barrier has the huge net decennial addition to the population proved to be?

These questions cannot be answered with any statistical precision, for the data presented in the foregoing pages should be taken to indicate trends and nothing more, since compilation of data for the country as a whole leaves much to be desired. But it is obvious that the decade has witnessed significant economic improvement. An upward trend is visible in practically every sector of the economy. There is no doubt that the level of living of the average Indian family has gone up in terms of the basic requisites of decent human existence. The economy of shortages is being gradually transformed into an economy of near self-sufficiency, although it is still a long way from affluence even according to Indian standards.

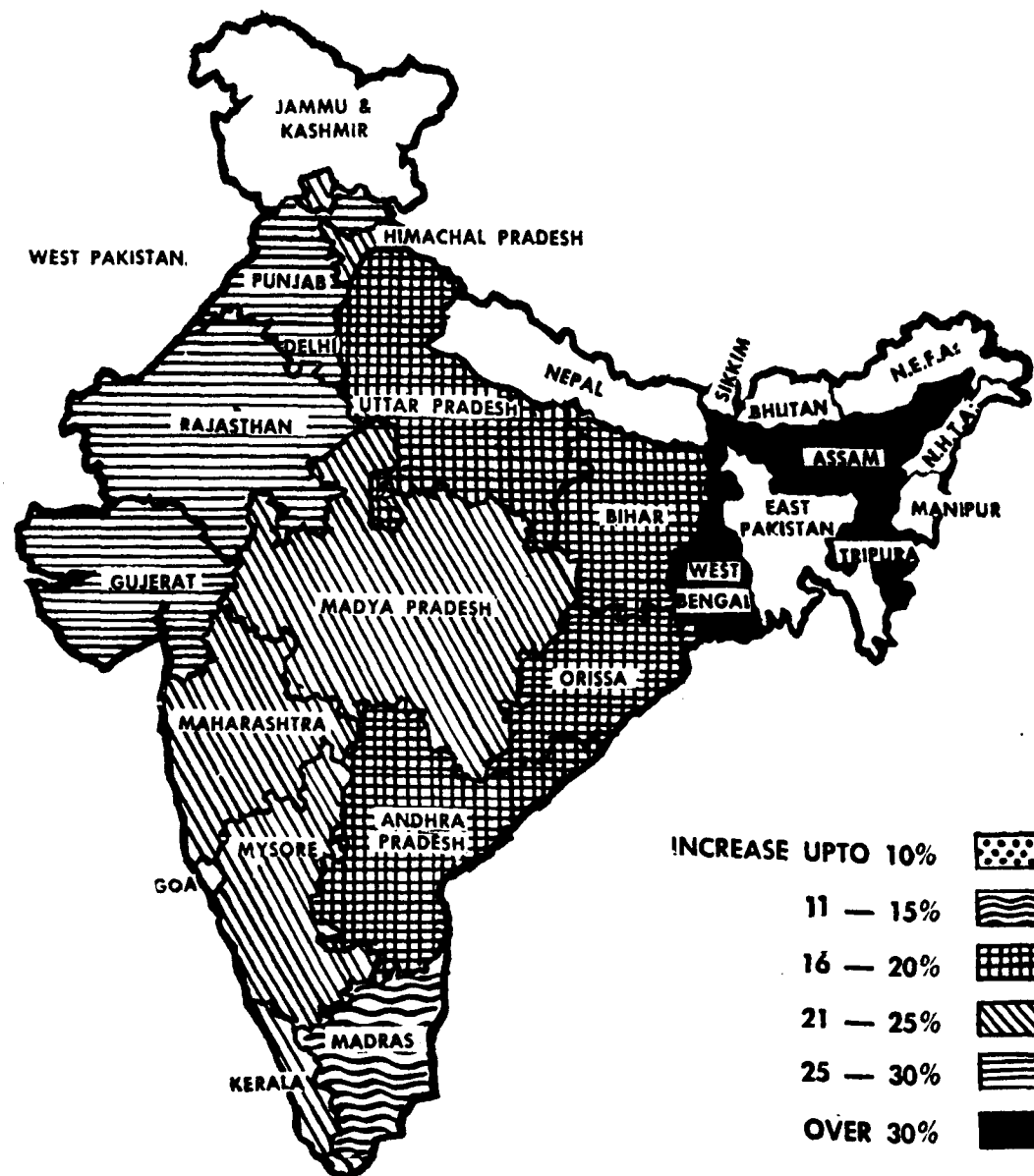
It must be noted that these improvements in consumption of certain basic goods and services have been effected despite the tremendous population increase of 21.5 per cent in ten years. The obvious question is whether it would not have been possible to attain still higher levels of living had the growth of population been at a slower rate. The answer is in the affirmative. Had we added about 38 millions, or about half the actual increase, more families would have received more amenities.

In the absence of age data for the latest census it is difficult to ascertain which particular age group has gained in the recent census. The rate of increase in the labour force is not proportionate to the general rate of population increase. Further, data on the particular age group which has gained through an overall fall in the death rate are not available. If it is assumed that children under ten years constitute about 28 per cent of our population and this group has received the major benefit of the decline in the death rate, it may be argued that the age group 1-10 is proportionately larger than the working age group of 15-60. It is possible that considering both ends of

INDIA

PERCENTAGE INCREASE OF POPULATION IN EACH STATE 1951-61

(Except Jammu & Kashmir, N.E.F.A. N.H.T.A. and Manipur)



the population, the number of dependents is disproportionately large. The pressure of population is matched by the mounting numbers of the urban unemployed. The economy has not been able to create a sufficient number of jobs to absorb all the entrants into the labour force. Therefore, it is difficult to evade the conclusion that because of the population increase the country has not benefitted in proportion to the effort invested. The growth in our numbers has not only not helped the economy but it has hindered the pace of our progress.

the extent of underemployment is steadily increasing. And if co-operative farming should ever come into vogue there will be even more idle hands than there are now. As for the urban job-seekers, it is difficult to envisage a great enough increase in our industrial investment to create a sufficient number of new jobs, though this might be possible if massive foreign economic aid were available. Under the circumstances, however, it may well be that a considerable share of our efforts and energy should be directed to quickly lowering our birth rate. Short cut methods to this end are available.

Of course, it could be argued that the mistake lies in our planning strategy, in not correctly estimating the population growth and in not utilising our manpower resources to the fullest extent. Our agriculture is oversaturated with labour and

It is necessary that India, with all the desirable values she stands for, should succeed in rapid economic development, not only for the sake of her own millions, but also to set an example of what a country under democratic leadership can do.

Pakistan: Area, Population and Literacy, 1961

Locality		Area Sq. Miles	Population (1,000s)	Persons per Sq. Mile	Literates	
					Number (100s)	Percentage of total population
PAKISTAN	..	364373	93812	257	143827	15.3
East Pakistan	..	55134	50844	922	89360	17.6
West Pakistan	..	300839	40815	136	47726	11.7
Federal Territory Karachi includes Lasbela District	..	8400	2153	256	6741	31.3

— Census of Pakistan, 1961

Census Bulletin. No. 1. Preliminary Release
(Karachi. Population Census Commission 1961.) p. 1.

From the Press Cuttings

INDIA

FUNDS FOR HEALTH

Though the general health of the nation is claimed to have improved during the past decade, we have not the accurate statistical information to assess it properly. But what is obvious is that communicable diseases are still stalking the land and the provision of healthy living conditions and pure food and water, that are the indices of a sound public health service, is far from being realised. Under the circumstances, the planners would do well to take serious note of the critical appraisal of the draft proposals on Health under the Third Plan, made by the Indian Medical Association, in a Memorandum submitted to the Planning Commission. The main line of criticism stems from the inadequate financial outlay proposed. Since poverty, disease and illiteracy are the three classic features of backwardness, any planned attack on these is possible only if resources in a fair proportion are available. The gains secured on the swings of economic growth should not be lost in the roundabouts of deteriorating health. The Indian Medical Association has cited the Bhoré Committee's views "that it should be a statutory obligation on Governments to spend the minimum of 15 per cent of revenues on health activities", and this contrasts rather sharply with the 3 per cent proposed in the next Plan (Rs. 300 crores out of the total outlay of Rs. 10,000 crores). No doubt a strong case for more funds for health and medical services has been made out, but the record in the past does not seem to justify a much bigger allocation unless steps are taken to utilise the money effectively and speedily. If we take for instance water supply, which has been properly given first priority, experience shows that the bulk of the allotted money was carried forward unused from the first to the Second Plan. Of the total of Rs. 91 crores allotted in the Second Plan, the Association itself has noted that there has been an outlay of only Rs. 36 crores. The bottlenecks to fuller utilisation seem

to stem both from lack of trained men as well as adequate departmental set-up in some States. Rural water supply which requires urgent attention, if such water-borne diseases as cholera are to be controlled, has made little headway so far, while urban schemes have suffered among other things, from lack of co-ordination with drainage schemes.

Since it is trained man-power rather than funds that limits a rapid expansion of preventive and curative services, a good part of the money may be best used to train the men and women necessary and use them with a minimum of wastage. The number of doctors per 1,000 of population that we have is only a fifth of what obtains in advanced countries. The Association has, therefore, suggested training of large numbers of para-medical personnel like nurses, midwives, health visitors and sanitarians. But on the difficult problem of getting even the available young doctors to serve in the villages by taking charge of the primary health centres, the question is said to hinge on the salary offered as well as the lack of facilities in relation to transport, housing and children's education in rural areas. The Planning Commission itself is uncertain about the wisdom of instituting a system of compulsion under which freshly graduated medical men serve in rural areas for a term. Whatever the difficulties, means have to be found to man the primary health centres properly without further delay. While there is acute lack of qualified doctors, it is unfortunate that a large number of failures occur in medical colleges amounting to as much as 40 per cent of those who join them. The I.M.A. feels that "there is something seriously wrong in the method of admissions, teaching, curricula and examinations". There may be little point in multiplying the number of medical colleges, without improving the standards on this front. In view of the present shortage, it would no doubt be wise to enlist the co-operation of the members of the independent medical profession to carry out some of the tasks needing the services of

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trained men, as suggested by the Association. It is already being done in a limited way, in the case of family planning for instance and could be placed on a proper basis in other fields too.

—The Hindu (Madras),
Editorial, 18th January, 1961.

SCOURGE OF HUNGER

F.A.O. DELEGATE'S CALL TO NATIONS

New Delhi, Jan. 23: Dr. Abdur Razzak Sidky, a delegate of the U.N. Food and Agriculture Organisation (F.A.O.), told the Afro-Asian conference on Rural Reconstruction here yesterday that the only way to rid the world of the scourge of hunger was to raise production so that it could sustain the growth of population.

The conference has the F.A.O.'s Freedom from Hunger campaign as one of the four items on its agenda.

Dr. Sidky said: "Nothing short of an agricultural revolution can bring about a change in the present state of affairs at an early date. This called for combined efforts of all peoples, nations and organisations, national and international, to be pooled together. The Freedom from Hunger campaign is meant to serve as a focal point of all these endeavours."

GROWTH OF POPULATION

Estimates showed that about half the world's population of 3,000 million suffer from hunger or malnutrition. By the end of the century, the world population might rise to between 6,000 million and 7,000 million. This factor underlined the urgency of the problem.

Hunger, apart from taking a toll of human life, he pointed out, caused unhappiness among men and created a feeling of degradation, which impaired the self-respect of the people. It circumscribed the political freedom which men in various parts of the world had been seeking to achieve. "The hundreds of thousands who have gained their political freedom since the end of the war, need to preserve it," he added.

—The Mail (Madras),
23rd January, 1961.

ERADICATION OF LEPROSY

By T. N. Jagadisan

It is not commonly realised that leprosy is a world-wide problem. It is prevalent in some degree or other at least in 90 countries and affects 10 to 12 million human beings. It is also one of the oldest diseases known to man. Lucretius in his *De Natura Rerum* refers to the ancient tradition that leprosy originated in Egypt.

"High up the Nile midst Egypt's central plain,

Springs the dread leprosy and there alone."

Some authorities believe that the cradle of leprosy was in the region of the river Indus, and that the disease spread through migration of those infected with leprosy through caravan routes to Persia, Chaldea, Babylon, Syria, Jordan and Egypt. A leading authority says, "Whether leprosy was passed on from Egypt to India, or whether it was in existence in both countries at the same time cannot be decided with certainty, but it is sufficient to note that India, East Asia and China are also the most ancient homes of leprosy."

STRIKING PHENOMENON

In mediaeval Europe leprosy was widely prevalent. Between A.D. 1000 and A.D. 1400, France is believed to have had 2,000 lazaret houses and Great Britain 326. However, it is a matter of serious doubt as to whether many who did not suffer from leprosy but had some other skin disease were not admitted to these lazaret houses. The decline of leprosy in Europe is a striking phenomenon in the history of the disease. This decline is partly due to restrictions of close contact between those who had leprosy and the healthy community. It was perhaps more due to the gradual improvement in the hygiene and economic conditions of society. Contrary to popular belief that leprosy has been completely wiped out of Europe, there are still some foci of leprosy in Spain, Portugal, the Baltic and Balkan States, European Russia and European Turkey and the Maritime Alps. But the problem in these countries is comparatively small. The decline of leprosy in Norway from 3,000 cases in 1855 to six cases in 1957 is an instructive

episode in the history of leprosy. An alert public health conscience in the people and among the administrators led to preventive measures which were reasonable and protected the public without punishing the patients. Though the last indigenous case of leprosy in Great Britain died in 1798, there are to-day over 100 cases, all of them repatriated from the countries where they contracted the disease.

From the Old World, leprosy spread to the New World first through Columbus's soldiers, and later, through the slaves who came from highly endemic areas from West Africa. In the United States of America there are no foci of the disease except in the States of Texas, Louisiana, Florida and California, which have a low incidence. In South America there are large foci of leprosy. It is a serious problem in Argentina, Brazil, Colombia and Paraguay. It is a noteworthy feature of leprosy that it tends to spread only in certain areas and not in certain other areas even when introduced. However, if we remember that the history of leprosy has been a slow and sinister process of uninfected areas becoming infected by migration of people from the infected area, we cannot be complacent about the influx of people from endemic areas to regions with no leprosy. It is clear that under modern conditions leprosy has to be controlled simultaneously all over the world if no new foci are to be set up.

Happily, there is a world-wide effort for leprosy control in the context of a new hope and a new outlook. Valiant attempts are afoot to kill the old legend of leprosy based on three false assumptions. (1) that it is very contagious, (2) that it is incurable and (3) that its victims are a people apart, accursed and possessed of a special psychology. Leprosy is coming into its own as just another disease, preventible and curable, and one which can be eradicated with persistent efforts. The leprosy patient is also coming into his own as a man like any other. His sickness is curable, and as knowledge of it is spreading, fear, hopelessness and degradation which were his lot in the past are no longer his. He may be able to lead a normal life while taking treatment and even continue in employment. If stay in a hospital is called for, it is only for a

short time. The recent advances of medicine and surgery can bring relief in re-actinal phases of the disease and also abolish established deformity. Physiotherapy has proved useful both in the prevention and correction of deformities. Mass treatment campaigns are striking a powerful blow at the leprosy bacillus by reducing the reservoir of infection in patients.

SERVICE OF DEDICATED MEN

In the past the only cheer and hope that illuminated the lives of leprosy patients came from the glow of the service and sacrifice of exceptional dedicated souls. The devoted work of the Mission to Lepers in many different countries, the services of the Catholic Missions in several parts of the world, and the inspiration of lives of outstanding heroism — most notably that of Father Damien — deepened compassion for the leprosy sufferer. Compassion also stimulated scientific adventure. Among the secular organisation, the British Leprosy Relief Association and the Leonard Wood Memorial have done much to promote leprosy research. The brightest feature of present-day leprosy work is that Governments recognise their "inescapable responsibility" in the matter. It is fortunate that they have the financial assistance and expert guidance of WHO and UNICEF. So far 20 countries where leprosy is a serious problem have received the active assistance of WHO and UNICEF. The WHO holds periodical conferences and seminars and appoints expert committees and study groups.

In our own country, the inspiration of Mahatma Gandhi's great concern for the leprosy sufferer and his deep interest in the eradication of the disease has been a driving force with Government as well as voluntary agencies. It is to be hoped, however, that the efficacy of sulphone therapy and the new hope that it has brought with it will not be allowed to stand in the way of the most vigorous efforts to discover more rapidly acting drugs and a specific preventive vaccine for leprosy. Even now we have tools enough with which to control leprosy. It is not unlikely that science may place in our hands far better tools with which to eradicate leprosy. It is profoundly stirring to think that perhaps this century may see the end or the near end of one

of the most ancient and most sorrowful of man's diseases.

—*The Hindu* (Madras),
30th January, 1961.

DR. CHANDRASEKHAR'S ADDRESS

Hyderabad, Jan. 30: Dr. S. Chandrasekhar, Director, Indian Institute for Population Studies, Madras, said here to-day that there was no shorter cut to economic well-being for an individual or a nation than through family planning. He was speaking at the All-India Family Planning Conference.

Dr. Chandrasekhar pointed out that family planning had come to stay. The country, as a whole, with some minor exceptions, was in its favour. Family planning should not be taken only as family limitation. The aim of the family planning was also to lower the death rate. Maternal mortality could be reduced to zero, if all births took place under ideal conditions, especially from the point of view of the mother's health.

Dr. Chandrasekhar said that the family planning had received the approval and support of the Prime Minister, the Planning Commission and the Central and State Governments. Both official and voluntary agencies were working toward the long range goal of making family planning an integral part of their health programmes. However, it was unfortunate that the term family planning in the popular mind had come to mean only the curbing of the total number of births in the individual family as well as in the larger family of the nation.

—*The Hindu* (Madras),
31st January, 1961.

CENSUS WORK

EMPHASIS LAID ON ECONOMIC DATA

New Delhi, Feb. 8: The All-India general census will commence on February 10. The results are expected to be announced within three weeks of the conclusion of the census. Already the census work in the snow-bound areas including Himachal Pradesh has been completed.

For the first time Jammu and Kashmir is being officially included in the census. Last

time it was done unofficially and out of a total population of 356.9 million the estimate in Jammu and Kashmir was 4.4 million population. Sikkim will also be included for the purpose of census.

As many as ten lakhs of enumerators have been engaged to cover the whole country. This includes 2½ lakhs of supervisory staff. For the first time enumerators will be paid 3.5 naye Paise per count as out-of-pocket expenses. Most of the enumerators will be teachers, patwaris, and clerks. There will be women enumerators also.

The questionnaire this time has an economic bias and is a comprehensive one intended to elicit information to see how far the two Plans have disbursed the population and prosperity and how far the people have taken to new vocations, new projects and new ways of living.

The 1961 Census will lay emphasis on work so that all those persons who work, whether women who draw no income or women who get very little income are included as worker. Another feature is that the data sought to be collected will not be merely in relation to individuals, but to the household as an entity.

From March 1 to 5 there will be a check up of the figures so as to include new births. This time there will be no questions on caste, but there will be questions on religion and mother tongue.

A sample survey has already been conducted and it has been found that the literacy has gone up from 14 to 30 per cent.

—*The Hindu* (Madras),
10th February, 1961.

FREE INDIA'S SECOND CENSUS

For three weeks from now on a million men and women will carry out one of the biggest counting operations in history—the census of India's population. In terms of sheer numbers and the vastness and variety of the area and peoples to be covered, it is a prodigious undertaking. But its importance lies not merely in the magnitude of the operation but also in its timing. It will be the second census to be undertaken since India became free and the facts and figures it will reveal about the age distribution, the sex ratio, the vocational pattern, etc. of the Indian people will be a significant index

of the demographic trends in the past decade and provide the basic data for important national policies in the future. In keeping with the emphasis we have been giving to economic planning, the coming census is biased in favour of collection of vital economic data relating to employment, housing and the availability of scientific and technical personnel. The value of the census as a record of facts depends directly on its accuracy and completeness and these cannot be achieved unless the general public co-operate wholeheartedly with the enumerators. Some of the Indian censuses in the past, especially the 1921 census, had been partially vitiated by the active hostility or the passive indifference of large sections of the public to the census operations because of their attitude towards an alien Government. To-day it is the national duty of everyone concerned to see that the census is carried out smoothly and efficiently so that we may get an authentic and complete picture of the Indian people as they enter the 'Sixties. The census, coming as it does on the eve of the Third Five-Year Plan, is not without international significance. The facts it will reveal will be yet another reminder to the friends of India abroad of the magnitude of the problems we face and how manfully we are trying to solve them.

—*The Hindu* (Madras),
Editorial, 10th February, 1961.

THE WORLD HEALTH ORGANISATION

The World Health Organisation is a special agency of the United Nations but it does not directly undertake health work in the hundred countries which belong to it. It provides for the training of health workers or sends to the requesting country a specialist or team of health workers for a specific purpose. During 1961, more than eight hundred projects will receive assistance from the WHO in some 130 countries. The governing body of the WHO is the Health Assembly now meeting in New Delhi. The organisation has six regional offices located in Manila, New Delhi, Brazzaville, Alexandria (Egypt), Copenhagen and Washington, U.S.A. In the South-East Asia region, covered by the Delhi office, the

member countries are Afghanistan, Burma, Ceylon, India, Indonesia, Nepal and Thailand. Last year, this office gave assistance to 450 projects, including some for the control of malaria, tuberculosis, venereal disease, yaws, etc. Reports and requests are sent by member countries to the Regional Director. The organisation as a whole has a staff of about two thousand persons and a budget of about nineteen million dollars contributed by the member States. The main programmes of the present Health Assembly are to review the health work done in 145 countries to plan new projects. Special topics for discussion are health assistance to the Congo (where WHO personnel had to fight a famine in the war-torn areas), the eradication of small-pox, new methods of tuberculosis control and hazards to health from atomic radiation.

The size of the job to be done, if the five great scourges of mankind—malaria, typhus, cholera, plague and small-pox—are to be eradicated can be seen from the work so far done on malaria control. The plan was launched in 1955 and the job to be done involved a population of 1,336 million people exposed to infection. So far 298 million now live in malaria-free areas, 612 million are covered by existing programmes, 170 million are in places where activity is beginning, and 255 million are still without any assistance. India will be happy to learn that plans are being completed to launch an all-out attack on small-pox and cholera in this peninsula. These two diseases have been killers on a big scale in the past but we are now within sight of permanent eradication provided there is full public co-operation with the health authorities engaged in the task. A striking example of what can be done by persistent effort is available from Ceylon. In that Island, cholera has vanished, small-pox makes only rare appearances and plague has been largely eliminated. The death rate has fallen to 9.4 per thousand persons—the lowest in the region. In 1935 there was a malaria epidemic which killed 50,000 persons. In 1946, as a result of a DDT spraying campaign throughout the country, the disease was gradually controlled and to-day only one or two persons die of malaria annually. Particularly interesting is Ceylon's current campaign to control rabies.

By eliminating stray dogs and vaccinating household animals it is hoped to put an end to this terrible threat in the Island, though nearly four million dogs will have to be handled. Experiments in Madras have brought new hope to sufferers from tuberculosis, of whom there are estimated to be 2½ millions in this country. In 1951, an effective drug (Isoniazid) was discovered. At about the same time, mass BCG vaccination was given to 53 million persons as protection. Now in Madras it has been found that patients can be as effectively treated at home as in the hospital. The co-operation of the household in taking precautions to prevent infection of others is necessary.

There is one field, however, where very little is being done, especially in Asia. This is in the area of mental health. The growth of cities, the rapid industrialisation and the break-up of joint families have all placed heavy strains on the individual and mental break-down is common. Yet the number of psychiatrists and mental hospitals is very small. The whole problem needs to be studied, not merely from the medical standpoint, but from the sociological side as well. The factors which lead to mental crisis might be eliminated if the individual is helped to feel secure in a transitional society. The WHO is aware of the problem but it needs further investigation in its Asian setting.

—*The Hindu* (Madras),
Editorial, 10th February, 1961.

ERADICATION OF MALARIA

New Delhi, Feb. 16: The plenary session of the World Health Assembly to-day decided to include the financing of the malaria eradication field programme in the regular budget of the W.H.O. in stages by 1964.

After a series of votes, including a roll call vote, the Assembly adopted the resolution on the subject, finalised by its two main committees, by 67 votes to six with 20 abstentions including India.

The roll call vote was taken on the part of the resolution relating to the phased transfer of the cost of the programme to the regular budget. It was adopted by 61 votes in favour, ten against, and 26 abstentions, India, the Soviet Union, Cuba, Niger, South

Africa and the East European countries voted against the resolution while the abstentions included the U.A.R., Yugoslavia, Afghanistan, Burma, Ceylon, Cambodia, Indonesia and Iran. Those voting in favour included, the United States, Britain, Japan, Nepal, and Pakistan.

The Albanian delegate told the Assembly that inclusion of the cost of the programme in the regular budget would mean a ten per cent increase in their yearly contributions, over and above the usual increases. The additional burden would impose hardships on under-developed countries, he said.

The assistance of the World Health Organisation to the malaria eradication fund has so far been given from a special voluntary account. Since its inception in 1958 up to the end of last year the account has received contributions of eleven million dollars from the United States and one million dollars from the other member-States of W.H.O. Besides the United States had pledged another four million dollars to the account.

The total estimated cost of the malaria eradication programme which was earlier planned to be financed from the special account in 1962 was 5.5 million dollars.

—*The Hindu* (Madras),
17th February, 1961.

ACCURACY OF DATA IN CENSUS

New Delhi, Feb. 27: Soon after the population count has been revised between March 1 and 5, there will be an enumeration check to assess the accuracy of the data collected.

The result, when published as a separate paper from the census reports, will help planners and others to know how far the population has been over-estimated or under-estimated. Another point that will be determined is why some of the persons were left out or why they did not volunteer information.

For this post-enumeration check, ten per cent of blocks and ten per cent of houses will be selected from the rural areas all over the country and five per cent of houses in the urban areas. In the States, where the number of blocks in the rural areas is abnormally big, a half per cent sample of blocks is to be taken. Similarly, where

the number of urban blocks is uncommonly low, the sample percentage will go up to five.

The check is not proposed to be carried out in inaccessible areas or in the Union territories, except Delhi.

PAVEMENT DWELLERS ENUMERATED

Madras, Feb. 28 :

With the completion of the first round in the enumeration of household people, the census authorities this evening devoted their attention in the houseless and the pilgrims.

At dusk, the enumerating staff started out to take count of the pavement dwellers in their respective areas and they would be engaged in this job for four consecutive nights.

A representative of THE HINDU who went round some parts in North Madras saw an enumerator and his supervisor busy at 11-15 to-night waking up those sleeping on the pavement near the mofussil bus stand in Broadway and recording particulars. They were questioning a woman who claimed ignorance about her age and her husband's name. With the help of her neighbours however, they got the particulars.

The supervisor, Mr. M. Ranganathan, said that by that time about 500 persons would have been enumerated in his circle. He mentioned that a group of people living on the pavement opposite the M.U.C. refused to give any information and his staff sought the help of the police to carry out the work. Apart from that, their work had gone on smoothly and among those enumerated was a group of tribal people, Kuruvikarans who were living near the Medical College Hostel.

Fifty pilgrims who arrived at Egmore by the Dhanushkodi Passenger this evening, were also enumerated at the station itself.

—The Hindu (Madras),
1st March, 1961.

CENSUS

The provisional results of this year's census have brought to light no startling facts. That the population had increased, that there was a flight from villages to towns,

that literacy had grown, had all been realised before. Further conclusions remain to be drawn from the figures. In fact, for a country that has been so much given over to planning, the fundamental basis of planning, accurate facts, has been lacking to no small extent, and the recent census must repair the deficiency. Though there is nothing surprising about the conclusions drawn from the provisional results, they are of absorbing interest. So far as can be seen at present, the increase in population has not been quite so catastrophic as feared. In fact, the rate of growth in Madras State has actually fallen compared to the figures in the previous decade. It is yet to be determined whether this has been because of the effectiveness of official exhortations against large families or to people seeking opportunities in other States and foreign countries. "Family planning" must have had a part, but it is not likely to have been considerable. It is certainly true that there is a definite exodus to the cities of northern and western India. There has been a phenomenal increase in the population of Bombay, and there need be little doubt that the South Indian community there has been largely augmented. It cannot be possible that a higher rate of mortality has brought down the increase. On the other hand, health measures, while not fully effective, have certainly not been without results.

The grand fact of Indian life today, the growing concentration of people in towns and cities, has been substantiated. The capital of Madras State harbours no fewer than 1.7 million people. It is obvious that villagers are flocking not only to Madras city but also to other towns in the State. The 1951 census indicated a growth of not less than 60.6 per cent in the population of capital. The present increase is certainly "reasonable". But many towns in the districts have grown largely, and two, Tuticorin and Nagercoil, have now more than 100,000 inhabitants. This must certainly be attributed to the pace of industrialisation. People are abandoning villages not only because of the opportunities of employment in the new industries set up in towns but also because of a growing dislike of rural life. This flight has already given rise to serious consequences. The towns are becoming impossible to live in, and foetid

slums are growing up everywhere. Agriculture is losing men to industry or to mere recklessness and idleness in towns. It has not yet been bled white, but that stage may not be very distant. Villages have been the foundations of Indian life, the main support to the national character. The prospect of their being depopulated cannot be viewed with equanimity. The Industrial Revolution needs to be carefully tended; otherwise, it might get out of hand, as it did in Britain. Silently, but irresistibly, the face of India is being changed. Old values and standards are disappearing or changing, not always for the better. The large growth in population and its uneven distribution call for remedial measures.

—The Mail (Madras),
Editorial, 13th March, 1961.

POPULATION OF WOMEN

New Delhi, Mar. 14 : The general rise in male population and a decline in the female population of India was referred to by a woman member in the Lok Sabha today.

The member, Mrs. Ila Palchoudhuri, asked the Health Minister whether any investigation had been undertaken about it.

The Minister replied that the slow decline in the female population in several parts had been reflected in the decennial census reports. The phenomenon had been examined in a number of reports and also independently, but it did not yield to clinical or public health scrutiny.

The causes of the decline were yet unknown. However, a number of public health and social measures were directed to the reduction of maternity and infant mortality and the removal of disabilities of women.

POPULATION OF KERALA

Kerala has a population of 1,68,75,199 made up of 83,45,897 males and 85,29,302 females, according to provisional figures of 1961 census officially released here today.

The population figure shows an increase of 24.55 per cent over the 1951 census count adjusted for the present boundaries of the State which was formed out of the old State of Travancore-Cochin with the

addition of some territories from Madras State. The 1951 figure for the area was 1,35,49,118.

The percentage of literacy is 46.22. There were 462 literates for every 1,000 of the population, 542 male literates for every 1,000 males and 384 female literates for every 1,000 females.

Of the nine districts of the State, Quilon shows the highest growth rate of 30.93 per cent between 1951 and 1961 while Palghat shows the lowest of 13.44.

The sex ratio for the State is 102 females for every 100 males. The density of persons per square mile for the State as a whole is 1,125, the district of highest density (2,545) being Alleppey and of lowest density (649) Cannanore.

—The Mail (Madras),
15th March, 1961.

POPULATION OF INDIA

New Delhi, Mar. 20 : India's population in 1961 exceeds 425 million, according to preliminary calculations from the latest census figures received from States, it is disclosed here today.

The census figures have come from all but two States so far, and these show that the population has generally risen from 15 to 25 per cent. The highest rise is in West Bengal—32.94 per cent—and the lowest in Madras—11.73 per cent. The population in the Punjab has risen by 25.8 per cent.

One broad feature which has been noticed is the growth in urban population. The population of Delhi has gone up by 51 per cent, Bombay by 38 per cent and Madras 21.83 per cent compared to the general rise of 11.73 per cent. The population of Calcutta has remained stationary.

It is also noted the ratio of female population has generally shown a tendency to go down. It is the lowest in the Punjab, according to figures received so far—87 per cent of male population. The Bengal figure is 88 per cent, and Madras 99 per cent, Maharashtra 93 per cent, and Madhya Pradesh 95 per cent.

Central authorities appear to feel that the Madras Finance Minister, Mr. Subra-

maniam's comment on the West Bengal census figures is not justified, as the procedure followed everywhere has been the same, and the census figures could not have been manipulated with an eye on the Finance Commission.

—*The Mail (Madras),*
20th March, 1961.

PHENOMENAL RISE IN ASSAM'S POPULATION

Shillong, Mar. 21: Mr. E. H. Pakyntein, Census Superintendent, yesterday said Assam's population had registered an increase of 34.3 per cent during the last 10 years.

"This phenomenal rise, perhaps the highest in India," he added, "is owing to natural increase, immigration, and under-enumeration in the previous census. The natural increase—excess of births over deaths—accounts for an increase of about 20 per cent owing to improved health facilities.

"The existence of riverine and cultivable lands, and deficiency of local labour for development works account for a steady inflow of migrants from many parts of the sub-continent into Assam during the last 10 years."

Increase in the current census because of under-enumeration in the previous one has been estimated at 14.3 per cent.

MARKED INCREASE IN TWO DISTRICTS

The rise has been "most marked" in the United Mikir and North Cachar Hills where the increase is 68.86 per cent. In Cachar district, the "increase is only 23.8 per cent, but in Goalpara, Kamrup, Darrange, Nowgong, and Lakhimpur districts of the Brahmaputra Valley it is from 36 per cent to 39.64 per cent.

Assam's present population is 11,860,059, against 8,330,752 in 1951.

The most populous district is Kamrup with a population of 2,063,845 and the least populated is Mizo district with a population of only 263,877. In Kamrup district, Gauhati town's population has registered a "phenomenal increase" of 131.9 per cent, the present population being 100,702,

against 43,615 of 1951. The population of Greater Gauhati comprising the municipality, Kamakhya Town Committee, and Pandu is 133,781.

LITERACY

The population of Shillong town has increased from 53,756 in 1951 to the present figure of 76,021. Greater Shillong comprising a municipality (whose population has been given above), cantonment, Nongthymmai, and Mawalai, has a population of 105,231.

Mr. Pakyntein observed: "Thus both Greater Gauhati and Greater Shillong can now be treated as class I towns or cities of India."

The number of literate persons in the State is now 3,054,516, the percentage of literacy being 25.76 (18 per cent in 1951).

Mr. Pakyntein said "the most literate district is Mizo Hills where 43.66 per cent of the people are literates. The least literate district is Garo Hills where only 16.26 per cent are literates."

—*The Mail (Madras),*
22nd March, 1961.

INDIA'S POPULATION 438 MILLION

New Delhi, March 27: India's population has now reached a total of 438 million. This provisional figure the Home Minister, Mr. Lal Bahadur Shastri, announced in the Lok Sabha to-day, giving the broad features of the census operations throughout the country early this month.

The census is not complete in areas like Manipur, North-East Frontier Agency, Nagaland and Sikkim. Bhutan is not included as part of India. The increase in population in ten years for the whole country is 21.49 per cent.

The States of Andhra Pradesh, Bihar, Jammu and Kashmir, Madras, Mysore, Orissa and Uttar Pradesh have registered increases below the country's average. All other States have recorded increases above the all-India average.

Assam shows the largest increase of 34.30 per cent while West Bengal comes next with 32.94 per cent.

The increase in the population is the smallest in Madras with 11.73 per cent. The

density of persons per square mile is 384 as against 316 ten years ago. The number of females per thousand males is 940 as against 946 a decade ago.

If literacy is taken to mean the ability to read and write, the percentage of literacy for the whole country is 23.7 per cent, which represents an increase of 7.1 per cent during the last decade.

This report is just preliminary and it would take some time before statistics with adequate explanations are available. One explanation may be the influx of refugee population from the neighbouring East Pakistan.

34% INCREASE IN ASSAM

Gauhati, March 27: The provisional figures now available disclose that during the past decade the population of Assam State, excluding the NEFA and the newly demarcated Nagaland, has increased by 34.3 per cent, i.e., from 8,830,752 in 1951 to 11,860,059 on the first March this year, according to the provisional figures of the latest census in the State. The increase is phenomenal in the Hill districts. None of the seven plains districts seem to have marked a rise of over 39.64 per cent—the spurt in most of them hovering between 24 and 25. North Cachar and Mikir Hills district alone, however, has recorded an increase of 68.86 per cent.

Regardless of Cachar's claim that it carries the heaviest load of East Bengal refugees, the district-wise population rise there (23.81 per cent) appears to be the lowest in the plains. Gauhati town now shelters as many as 100,702 people, as against 43,615 in 1951, thus showing an increase of 139.9 per cent. This figure would rise by 33,000 if the population of Pandu and Kamakhya township, which are progressively coming into the limits of the Gauhati municipality, is taken into account. This increase is attributed to the rapid growth of industries in this principal town of the State, coupled with "diversion of trade channels from the Surma Valley to the Brahmaputra Valley on account of partition" of the country in 1947. Also there are only 53 women for every 100 men roughly the corresponding figures being 34,885 and 65,817.

Though Shillong has no industry and its sustaining trade with areas now in Pakistan frequently stands snapped, its population during the past ten years has, nevertheless increased from 53,765 to 76,021 and for Greater Shillong, to 105,231.

The percentage of literacy in Assam has gone up to 25.76 that is to say, in this State to-day as many as 2,243,938 men and 810,638 women know the three R's. The rise in literacy is more marked in the hills, than in the plains.

IMPACT ON PLANNING

New Delhi, March 27:

The Union Home Minister, Mr. Lal Bahadur Shastri, expressed his confidence that the Government and the planners would be able to meet the situation arising out of the increasing population disclosed by the latest census figures. He admitted that the increased population naturally meant more expenditure and greater burden on the Government. But, personally speaking, he was not disturbed by the increase. The Third Plan, he pointed out, was flexible and so suitable changes could be made.

Mr. Shastri was addressing a Press Conference about the census. The special Secretary to the Ministry of Home Affairs, and Mr. A. K. Mitra, Census Commissioner, were present.

Drawing the attention to some of the important features, Mr. Shastri said that the number of cities with a population of more than ten lakhs was now five as against four during the 1951 census. They were: Greater Bombay 4.1 millions, Calcutta 2.9 millions, Madras 1.7 million, Hyderabad 1.2 million, Ahmedabad 1.1 million, and Delhi including the Corporation area 2.7 millions. The percentage of rural population to the total population was 82.16 in 1961 as against 82.62 in 1951. The percentage of urban population to the total population now was 17.84 as against 17.3 in 1951. Between 1911 and 1961 the population of India excluding Manipur and NEFA has risen from 250,738,409 to 436,424,429 or 74.05 per cent in 50 years.

The progress of general literacy has been sluggish throughout for the country. It has increased at an average of 0.7 per cent per

year for the general population, 0.9 for males and 0.5 per females.

Although the 1951 census report for West Bengal sought to define an area on both sides of the Hooghly river called the Calcutta industrial region composed of 38 urban units including Calcutta Corporation, as a compact metropolitan area with a total of only 164.03 square miles the units still remain "discrete" with the only difference that the former municipality of Tolygang has since been incorporated in Calcutta. This compact area composed of Calcutta and 34 contiguous urban areas has in 1961 a population of 5,550,195 representing a growth rate of 19.9 during 1951-61 as a contrast to Calcutta Corporation's 8.4 during the same year thus clearly indicating that Calcutta Corporation has reached the saturation point in density shortly after 1951 to disperse soon after.

Mr. Shastri paid a tribute to the tremendous interest taken by the late Mr. G. B. Pant in census work and said that he was the first to be counted.

The Minister said that one silver and two bronze medals would be given to those enumerators who had recorded more than one lakh of persons. An honorarium of Rs. 24 would be given to each enumerator for every 700 counted. The total cost might come to Rs. Two crores.

The Census Commissioner said that the results of the economic statistics taken during the census would be available at the end of 1963. His department would draw the attention of the State Governments to areas wherever there was a pronounced increase. The margin of error in census operation by this traditional method would be very little he said.

—*The Hindu* (Madras),
28th March, 1961.

OUR MOUNTING MILLIONS

Although a Post-Enumeration Check of the census figures gathered in February-March is under way on a sampling basis and the Registrar-General, in his preliminary report, admits that in an operation like the Indian Census "over-enumeration as well as under-enumeration cannot be ruled out," it is unlikely that any wide

margin of error will be discovered to cast doubts on the basic accuracy of free India's second census. That the totals revealed by the 1961 census have confounded all the seven earlier estimates based on projections of the 1951 figures, including the latest estimate of the Central Statistical Organisation, which had suggested a population of 431 million in 1961 as against the Planning Commission's estimate of 408, shows that there are many unpredictable factors at work which are influencing population trends in India. A rate of increase of 70 million in ten years is a disturbing growth by any test. The C.S.O. had estimated that an annual rate of 21.4 per thousand might be maintained in 1961-66 and that the rate might begin to decline slowly thereafter and drop to 14.7 per thousand during the quinquennium 1967-71. There is now reason to fear that the higher rate of growth of the past decade—60 per cent above the rate in 1941-51—may continue for the next decade and that the population, which the Second Plan had estimated would go up to 50 crores by 1976, may well reach that figure before the 'Sixties are out. The implications of the demographic trends revealed by the census will have to be most carefully studied because they will call for far-reaching changes in our economic plans as well as in our social policies. In his census report for 1951, Mr. R. A. Gopalaswami coined the phrase "improvident maternity" and made a passionate plea for family planning and for stepping up agricultural production with all the vigour the nation is capable of. We shall have to wait for quite some time to obtain Mr. Mitra's detailed analysis of the Census figures and his interpretation of their significance for national policies.

Meanwhile, there is little room for complacency in the preliminary data disclosed by the Census. Apart from the rate of growth of the population, there are other disquieting trends and some of the figures are intriguing and call for closer study. The rate of growth is not uniform in all the States—and that is not to be expected—but the wide departures from the national average of the figures for Assam and West Bengal on the high side and the Madras figure on the low side do call for a more thorough examination than what Mr. Mitra

has been able to give them in his preliminary report. The rates of growth in Assam (34.30) and West Bengal (32.94) are not only abnormal in comparison with the percentages for other States, but also in comparison with their own previous rates of growth during 1941-51. Mr. Mitra claims that "the increase in Assam beyond the average for India may be reasonably explained by immigration of labour into plantations, mines, oil areas, railway projects and road projects as well as immigration of both communities from East Pakistan." "The increase in West Bengal", he adds, "may similarly be explained by the acknowledged influx of displaced persons from East Pakistan, Tibet, Nepal and other places, by the exceptional increase of population in centres of railway and communicational expansion, in the expanding industrial centres around Asansol and Calcutta, in the newly established industrial and multipurpose project centres like Asansol, Durgapur, D.V.C., and Mayurakshi basins, all of which have attracted immigrants from outside and the steady and appreciable perennial trickle of immigrants into the Calcutta industrial region." It would be really interesting to know whether industrial expansion in Assam and West Bengal has been on such a large scale as to attract immigrants not in thousands but in lakhs. As Assam, like Madhya Pradesh, Rajasthan and Orissa, is among the less densely populated States of the Indian Union, it may not be undesirable from the larger national point of view if development programmes have the effect of drawing the "surplus" population from other States to the less populous regions. In fact, Mr. Mitra seems to think that the census figures suggest that such a trend is at work. "Increases during the decade in 11 out of 15 major States and more spectacularly in the Union territories, (Delhi and Himachal Pradesh notably) may pardonably conjure up a picture of a basin rapidly filling up, not only in the depressions like Gujarat, Madhya Pradesh, Orissa, or Rajasthan, but even in the rim like Assam, West Bengal, Kerala, Maharashtra and the Punjab". More detailed studies may show the character as well as the magnitude of the migratory movement set on foot by planning. Is there any room to think that Madras, which has recorded a lower rate of increase in popu-

lation than what was expected in earlier estimates and very much less than the national average, has been "exporting" population on a big scale? Mr. Mitra has confessed that the low rate of population growth in Madras State (11.73) is "a trifle baffling". That the rate should be lower than the figure for 1931-41, when the increase was 11.91 per cent, is even more mystifying. It would be remarkable if the State's family planning campaign, in carrying which it has been at the head of other States, has had any perceptible effect on population growth.

Of the other trends revealed by the census, the decline in the sex ratio (the number of females per 1,000 males), which has been noticed during the present century, has continued in all States except in Kerala and Himachal Pradesh, though the rate of decline varies from State to State. The reasons for this persistent long-term biological trend have not been precisely determined, though various explanations have been attempted. It may seem that from the point of view of a slower growth of the population a lowering of the sex ratio may not be unwelcome, but we need, then, an explanation for the higher rate of growth of the population despite a decline in the sex ratio.

The trend towards urbanisation, noticed in earlier censuses, is borne out by the 1961 figures, though here again the changes are not by any means uniform all over the country, reflecting the uneven development that is taking place. The sharp rise in the populations of cities with more than 10,000 population, noticeable in nearly all the States, is a phenomenon which needs to be watched and controlled properly if we are not to have on our hands in later years formidable social problems created by the unchecked growth of urban populations in congested and squalid cities. We are, compared to the West, at the beginning as it were of the urbanisation process and ought to take all the precautionary measures which experience elsewhere has shown to be necessary and desirable to prevent the growth of slums and haphazard development of industrial areas. It is significant that despite the progress of urbanisation, the relative proportions of the population in towns and villages have hardly changed

since 1951. Although the total urban population has increased by 24.85 per cent since 1951, it forms barely 17.84 per cent of the total population, as against 17.3 per cent in 1951. That the rural population continues to be as high as 82.16 per cent (as against 82.7 per cent in 1951) means that despite all the industrialisation and urbanisation that have taken place since the war years and more markedly since 1950, the pressure on land continues to be as high as ever. Here, again, is another disturbing thought for our planners. Unless we can significantly reduce the proportion of people dependent on the land and shift a substantial part of the rural population in non-agricultural occupation our basic problems of subsistence agriculture and low level of income and living will continue.

—*The Hindu* (Madras),
Editorial, 30th March, 1961.

RESPONSIBLE PARENTHOOD AND THE POPULATION PROBLEM

The Council for Christian Social Action of the United Church of Christ affirms the following statement and calls upon the members of our churches to give it earnest thought and prayerful consideration.

A major problem of our time is popularly called "the population explosion". It presently challenges the thinking of political leaders and of social scientists who are engaged in programs to improve the welfare of people everywhere. Technological progress has reduced death rates and improved opportunities for human life to such an extent as to make possible the doubling of the world's population in the last half century, and to give us the expectation of almost tripling our present numbers in another half century. This increasing population demands attention from all, particularly those who are already concerned about the misery and hunger which always accompany population pressures. Christian teaching concerning the rights of people yet unborn demands that we learn how to control population growth. So it is important that the church should speak to this problem.

The problem of population control is related to the institution of the family. Since all children need personal love and

nurture, the church must do what it can to support the development of strong family life.

The Christian family begins when two persons are drawn to each other in the covenant of marriage, and the two "become one flesh" (Eph. 5: 31). Marriage, in the Christian understanding of it, is a divinely given vocation as well as a free decision on the part of two people. It is a responsible act on the part of two responsible persons. It has its basis, indeed, in nature: it is the response to a mutual attraction of the one for the other. It includes the specifically ethical element of a lifelong mutual loyalty. From the perspective of the marriage partners who are ethically serious the marriage bond requires freely-given mutual love.

This freely-given mutual love will express itself in various ways in companionship, in acts of selfless service, and in sexual intercourse, all of which are necessary parts of true marriage. Two purposes are achieved in sexual intercourse; the expression of love between two partners and the procreation of children. The first of these purposes may be achieved without the other. The procreation of children is a further gift of God, and a sharing in His creation. As was said by an ecumenical study group, "A knowledge of the relation of sexual love to the procreation process gives to a couple the power, and therefore the responsibility, to lift the begetting of children out of the realm of biological accident or 'fate,' into the realm of grace where man is free to wait upon God and consciously to respond to his will."*

In a responsible Christian marriage there will ordinarily be a willingness to enlarge the family fellowship to include children, and a desire to establish an environment in which children can find security, status, and a sense of being wanted and needed. Questions which need to be asked by every parent relate to how many children they shall have, and at what intervals? These questions need to be answered responsibly as parents carefully consider their economic, spiritual, psychological and physical ability to make adequate provision for

* *Responsible Parenthood and the Population Problem*, Report of a Special Ecumenical Study Group, (Oxford, Mansfield College, 1959,) p. 5.

children, to surround them with love and care, and to help them prepare for the opportunities and duties they must meet. The physical and emotional health of the wife-mother and husband-father must also be a major concern.

Since husbands and wives owe a responsibility to other families on the earth, they must take into account the relation of natural resources to the total population. Under present circumstances the means that most couples have not only the right but also the moral obligation to space and limit the number of births. Procreation without regard to the consequences may be as irresponsible as refusal to assume the duties of parenthood.

In considering this problem husbands and wives who accept the obligation to space and limit the number of their children are confronted with the decision as to the means they will use. Is periodic continence the only morally acceptable method, or may mechanical and chemical barriers to the union of sperm and ovum be employed? We endorse the position taken in 1958 by the Lambeth Conference of the Bishops of the Anglican Communion: "It must be emphasized once again that family planning ought to be the result of thoughtful and prayerful Christian decision. Where it is, Christian husbands and wives need feel no hesitation in offering their decision humbly to God and following it with a clear conscience. The means of family planning are in large measure matters of clinical and aesthetic choice, subject to the requirement that they be admissible to the Christian conscience. Scientific studies can rightly help, and do, in assessing the effects and the usefulness of any particular means; and Christians have every right to use the gifts of science for proper ends."

There are other problems to be considered in this connection. Christians are deeply concerned about the moral problems of sex relations before marriage, and outside of the marriage bond. From the Christian viewpoint both are violations of God's will as expressed in the moral law. Advocacy of the use of contraceptives by married couples is not an endorsement of promiscuity among the unmarried.

Nor can we condone the practice of abortion, which is known to be widespread in today's world as a means of preventing the birth of unwanted children. The practice of abortion is a moral as well as medical and legal problem. Christian conscience cannot approve of abortion as a means of family planning, for it violates personality and involves the destruction of human life.

Another method of controlling conception is sterilization. In some countries voluntary sterilization is endorsed by government, and it has been accepted by some parents who desire to limit the size of their families. In the United States it is sometimes performed with the written consent of husband and wife when the latter's health seems to require it. The whole subject of sterilization is in need of careful study. It should be approached with sympathetic understanding of those factors which make the use of mechanical contraceptives most difficult.

In light of the foregoing considerations we hold that responsible family planning is today a clear moral duty. We believe that public law and public institutions should sanction the distribution through authorized channels of reliable information and contraceptive devices. Laws which forbid doctors, social workers and ministers to provide such information and service are infringements of the rights of free citizens and should be removed from the statute books. Any hospital which receives public funds should permit doctors to provide all services they consider necessary.

Those who are responsible for international technical assistance programs should give serious and realistic consideration to the implications of the population explosion in many economically less developed countries. These countries find themselves in a dangerous economic situation because of the rapid decline in death rates brought about by international assistance in medicine and public health. A foreign aid programme which has helped lower the death rate must also be concerned with a rising birth rate. Yet countries which desire to reduce the resultant population pressure through the encouragement of family planning are receiving little or no assistance on the technical problems involved. This

situation imperils their development programs. There is little hope for the success of such efforts unless birth rates are reduced. Therefore those responsible for international technical assistance programs should include family limitation help to those governments requesting them.

We call upon the members of our churches, voluntary agencies, and the government of the United States of America to give serious consideration and active support to these principles.

—Arunodayam (Kottayam),
May, 1961.

FAMILY PLANNING KERALA LEADS

Naini Tal, June 2: Kerala has the largest number of family planning centres in the country, according to the progress report on the family planning programme. The State has 678 centres—664 in rural areas and 14 in urban areas. Madras State stands second with 510 centres in rural areas and 156 in urban areas. Andhra is third with 540 centres.

Uttar Pradesh, which is the largest-populated State in the country, has only 158 family planning centres of which 120 are in rural areas and 38 in urban areas.

—The Mail (Madras),
2nd June, 1961.

10 MILLION WILL BE UNEMPLOYED

Geneva, June 13: There would be nearly 10 million people unemployed in India in 1965—at the end of the Third Plan period—Mr. Babubhai M. Chinai, Indian employers' delegate, told the 45th International Labour Conference yesterday.

He said that his country's labour problems must be examined against the background of the tremendous population increase. "This poses many problems, limits all attempts to increase productive capacity and weakens the degree of achievement."

On the basis of the 1961 census of population, new entrants into the labour force in the next quinquennium might be 17 or 18 millions.

"The total labour force available for employment over the course of the next five

years may then be nearly 25 to 26 millions. With the present level and distribution of investment outlay in the Third Plan, it is estimated that employment will be provided for 15 million persons."

Mr. Chinai added that he did not wish to minimise the importance of good industrial relations. But measures which were influenced only by the state of labour already employed, should not neglect the fact that here was a vast number of unemployed persons awaiting employment.

—Indian Express (Bombay),
13th June, 1961.

'WHITE' AUSTRALIA POLICY

Madras, June, 21: The international conference held under the auspices of the World Council of Churches between June 9 and 16 at Leysin, Switzerland, expressed the view that Australia should give up her White Australia policy and absorb Asians on a quota basis, as was done by the United States of America.

This was disclosed by Dr. S. Chandrasekhar, Director, Indian Institute for Population Studies, who has returned from Geneva. In a talk with newsmen, he said that the conference was attended by 300 delegates belonging to the Protestant denominations from different parts of the world and he was the only non-Christian delegate.

Dr. Chandrasekhar said that the conference expressed concern over the prevalence of poverty and hunger, particularly in Asia and Africa.

There was a great deal of sympathy to India's economic problems, Dr. Chandrasekhar added specially in view of the fact that India was trying to tackle birth control and was not advocating migration. This was the first time that all the denominations of the Protestant churches in Australia had taken such a positive stand on the question which was commendable, he said.

—The Hindu (Madras),
22nd June, 1961.

ERADICATION OF MALARIA

New Delhi, June 25: Malaria in the view of experts, will be virtually wiped out when the eradication programme began

three years ago, is completed by the end of the Third Five-Year Plan. The provisions in the Union Health Ministry's Third Plan for the Malaria eradication programme is Rs. 55 crores which is more than half of the total allocation of Rs. 92 crores for the prevention of communicable diseases in the Plan.

The funds provided for malaria eradication is over 16 per cent of the total outlay of Rs. 341 crores on health schemes. During the Second Plan, Rs. 45 crores were spent on the programme of eradicating malaria.

When the Third Plan allocation is also spent, the total amount expended on malaria eradication will be Rs. 100 crores.

Malariologists point out that as a result of the malaria control programme and partially-finished eradication programme many areas where agriculture was given up were recultivated and that agricultural operations were extended to new areas which were once malaria-ridden. The experts assert that without the malaria control programme, which was followed up by the eradication programme in 1958, it would not have been possible for India to have launched on many of its industrial and agricultural development schemes during the plans.

They cite the example of the Raipur-Vizianagram section of the former Bengal-Nagpur Railway whose completion was delayed for a number of years due to the prevalence of malaria in the area. In recent times, on the other hand, malaria control teams helped the Assam link railway laid in highly malaria infected areas to be completed in about two years.

The position regarding filaria, another mosquito-borne disease is not so satisfactory. Filaria, for the control of which a provision of Rs. 10 crores has been made under the head: 'communicable diseases' in the Health Plan, is reported to be spreading to even areas like Punjab which have been singularly free from the disease. A recent survey of filarial areas undertaken by the experts shows that 64 million people are now living in areas endemic to filariasis.

An expert committee appointed by the Government of India is understood to be reviewing the National filaria Control pro-

gramme. The report which is in the final stages of preparation will be shortly submitted to Government.

BIGGEST PROGRAMME UNDERTAKEN

In India's malaria eradication programme, stated to be the biggest undertaken in any part of the world, there are two phases. During the first phase, described as the 'attack phase' which has been completed, about 390 million people living in the endemic areas were covered by intensive spraying operations of their dwellings. During the Third Plan, the second phase of the operation, namely, the surveillance aspect, is being undertaken, spraying with D.D.T. and other insecticides of all houses below an altitude of 5,000 feet will be continued. Besides the spraying operation, surveillance workers will visit every house in the endemic area, check fever cases, collect blood smears and administer an anti-malarial drug.

For what is described as the active surveillance operation, 100 surveillance workers and 25 surveillance inspectors per million population have been provided to work under the supervision of the unit officer who is a trained medical officer.

Along with the 'active surveillance,' the experts say that passive surveillance, which also includes check-up of fever cases and collection of blood smears, will be undertaken by hospitals, dispensaries and the medical profession in general. Assistance of voluntary organisations will also be sought for collection of blood smears. The blood smears from fever cases will be sent to the nearest malaria eradication unit for examination and further action.

Apart from surveillance in endemic areas, a protective belt is to be created in the border areas in which intensive spraying will be continued during the eradication programme.

During the eradication programme, the curative aspect will also be given attention to potent drugs like chloroquine and primaquine will be administered to positive cases of malaria.

The experts say that as a result of the anti-malaria operations, incidence of the

disease has been considerably reduced since 1935 when it was about 100 million cases. The dread disease then used to take a toll of a million lives directly and caused indirectly the death of another million whose resistance had been weakened by the disease. There is no precise estimate of the current incidence of the disease which is only expected to be known after an year's progress of the surveillance programme. A rough estimate by the experts places current incidence at about five million cases. Fatal cases are stated to be almost nil.

REASON FOR SPREAD OF FILARIA

The reason attributed by experts for the spread of filaria is the growth of new urban areas, many of them unplanned, with inadequate provision for drainage. Stagnant, dirty water, the experts say, provide congenial conditions for the breeding of the hunch-backed culux species of mosquitoes which are the carriers of the filaria germs.

What causes concern to the experts is the fact that the 'culux' mosquitoes unlike their cousins, the 'anaphelines,' have developed great immunity against D.D.T. and other modern insecticides. The only effective cure now for filaria, in the opinion of experts, is surgery. There is a drug, diethylcarbazine, which according to the experts, reduces the quantum of infection but its effect is stated to be only temporary. Besides, the drug is said to cause unfavourable reactions in the patient like fever and nausea.

Measures suggested by experts for the tackling of the growing filaria menace include improvement of sanitation, especially in urban areas and continuation of intensive research for more potent insecticides and more effective drugs.

The Malaria Institute in Delhi, headed by Dr. S. P. Ramakrishnan, and the Ernakulam Filarial Unit are continuing their research measures for combating this ugly disease as it has done in the case of malaria for over 50 years.

The Institute, it is learnt, is to be expanded into an institute for research on all communicable diseases. In the initial stages the institute will be undertaking research on all insect-borne diseases like malaria, filaria, plague and kala azar.

—The Hindu (Madras),
26th June, 1961.

JAPAN

TEST TUBE BABY

JAPANESE DOCTOR'S CLAIM

Tokyo, June 3: The successful fertilisation of a ripe ovum in a test tube has been announced here by an authority on artificial insemination. The expert, Dr. Motoyuki Hayashi, Professor of Obstetrics at Toho University in Tokyo claims that the artificially impregnated ovum when transplanted into the womb of a sterile woman would enable her to bear a child.

Dr. Hayashi and three fellow researchers extracted ova from four hospitalised women patients and placed them in separate test tubes each containing a mixture of salt dextrose, special proteins and serum to encourage ovulation. In three cases the ova died in five days. In the remaining test tubes still containing live ova, he placed male sperms two days later. Within 24 hours, he found that the fertilised ovum had divided into eight cells indicating the phenomenon of pregnancy. He said during the following week the eight cells would continue doubling until a normal embryo was formed. This embryo if transplanted into the womb of even a sterile woman would grow into a foetus, he claimed.

Dr. Hayashi and his assistants have been carrying on studies on artificial fertilisation of ripe ova in test tubes for four years using rabbits, mice and other animals. He said that all the experiments were fully successful although experiments with human ova failed many times. Dr. Hayashi is confident that in two or three years his experiments would reach a stage where they could be successfully applied to sterile women.

Dr. Hayashi's success has been described as "epoch making" by Dr. Kakuichi Ando, one of Japan's foremost authorities on artificial insemination.

—The Hindu (Madras),
5th June, 1961.

POPULATION OF TOKYO NEARLY 10 MILLION

Tokyo, June 12: The Tokyo Metropolitan Government's Statistics Bureau yesterday reported that the estimated population of Tokyo was 9,857,818. There were 5,090,608 males and 4,767,210 females.

—The Statesman (Calcutta),
13th June, 1961.

SIKKIM

POPULATION OF SIKKIM

New Delhi, June 23: Sikkim has a population of 161,989—77,163 females and 83,917 males—according to provisional figures based on the 1961 census.

The population has gone up by 16.96 per cent or 1.7 per cent a year in the last decade. The density works out at 59 persons per square mile. Sikkim has an area of 2,744 square miles.

The sex ratio is 920 females for 1,000 males. There are 131 literates for every 1,000 persons, 209 male literates for every 1,000 males and 47 female literates for every 1,000 females

—The Statesman (Calcutta),
25th June, 1961.

PAKISTAN

SWEDISH OFFER ON FAMILY PLANNING

Rawalpindi, Jan. 2: An offer of assistance from the Royal Swedish Government for promotion of Pakistan's family planning programme was made by the Swedish Minister for Technical Assistance, Mrs. Ullah Lindstrom, during her meeting with the Pakistan Health, Labour and Social Welfare Minister, Lt.-Gen. W. A. Burki, here this afternoon.

Mrs. Lindstrom, who is on a 12-day visit to Pakistan, went into conference with Gen. Burki immediately on her arrival here from Peshawar by road.

Gen. Burki explaining Pakistan's family planning programme told her that over 600 family planning centres had been established in both the wings of the country. "We are very keen on family planning. Our Government is prepared to spend as much money as required in this connection. Our population, particularly the womenfolk, are also keen. They, however, want some simple means for that. What we need is the "know-how", he told her.

Mrs. Lindstrom agreed that Pakistan's family planning programme had been drawn up on right lines.

She stated she would present a proposal for assistance to Pakistan's family planning programme during the next year in the next session of the Swedish Parliament and was confident that this would come through. She indicated that the next Swedish budget would extend from July 1, 1961 to June 30, 1962.

After the acceptance of the proposal by the Parliament, they could start recruiting good English-speaking doctors and other personnel and send assistance to Pakistan in accordance with the agreement to be signed between Sweden and Pakistan.

SHAPE OF AID

Mrs. Lindstrom indicated that the Swedish Government would be prepared to give assistance in the shape of modern clinics, mobile family planning education units on jeeps with trailers, personnel including doctors and nurses, equipment and contraceptives.

She said the Swedish personnel would start the work and after some time hand it over to their Pakistani colleagues, who would be associated with them in their work from the very beginning.

Gen. Burki, pointed out that films on family planning were also required by Pakistan. A film unit already existed which could prepare films. Mrs. Lindstrom also agreed to extending Swedish assistance in this connection.

The Swedish Minister was accompanied by her daughter, Miss Annika Alm.

Later Gen. Burki gave a lunch in honour of Mrs. Lindstrom. The Foreign Minister, Mr. Manzoor Qadir, the Finance Minister, Mr. Mohammad Shoaib, the Railways and Communications Minister, Mr. F. M. Khan, the Commander-in-Chief of the Pakistan Army, General Mohammad Musa, and other high ranking officers were present at the lunch.

—Morning News (Karachi),
3rd January, 1961.

FAMILY PLANNING AND TECHNOLOGY CENTRE

The Swedish Government's technical assistance to Pakistan's Family Planning Project and the establishment of another Institute of Technology would be in the neighbourhood of two million rupees for the next year.

This was disclosed here yesterday morning by the Swedish Minister for Technical Assistance and Social Welfare, Mrs. Ullah Lindstrom, who during the past 11 days has held discussions on these schemes with the Pakistan Government.

While the Family Planning assistance will be for both East and West Pakistan, the proposed Institute of Technology is to be located in East Pakistan. The Institute will be similar to the Pakistan-Swedish Institute of Technology at Landhi and may involve an annual commitment of about a million Swedish crowns equivalent to a little more than a million Pakistani rupees.

Mrs. Lindstrom, who arrived in Karachi last night after her tour in West and East Pakistan had already held discussion with the Health, Labour and Social Welfare Minister Lt.-Gen. W. A. Burki, the East Pakistan Governor, Lt.-Gen. Azam Khan, the Industries Minister, Mr. A. K. Khan among others.

The East Pakistan Government had already reserved a site in Chittagong for the proposed Institute and during her tour, she had already looked it over.

—*Morning News* (Karachi),
12th January, 1961.

UNITED KINGDOM

POPULATION OF U.K.

London, June 7: Britain has added nearly 2.5 million people to her population in the past ten years.

This was disclosed today in a preliminary report to Parliament on the census taken on April 23, which said: "The total population of the United Kingdom of Great Britain and Northern Ireland is 52,675,094—or 2,449,870 more than it was in 1951."

The increase in population was greater in England and Wales than in any other part of the U.K.

According to the latest census, there are now 1,066 females to every 1,000 males.

—*The Hindu* (Madras),
7th June, 1961.

IMMIGRANTS TO BRITAIN NO DECISION YET ON CONTROL

London, June 12: Despite wide Press speculation foreshadowing a piece of legislation to control Commonwealth Immigration into Britain, the Government has taken no decision on this issue, authoritative sources here said yesterday.

The speculation stems from political concern over sharply-increased immigration from some Commonwealth countries, notably the West Indies, and including India and Pakistan.

Official Government sources have repeatedly affirmed that the Government—though watching the problem carefully—has no intention of introducing a Bill in the current session of Parliament which runs until late autumn.

From authoritative sources, the hope was reflected that the situation could be contained without resort to a piece of legislation.

The Government would be greatly reluctant to depart from Britain's traditional "open doors" policy for Commonwealth immigrants.

—*The Mail* (Madras),
12th June, 1961.

UNITED NATIONS

POPULATION OF WORLD OVER 3,000 MILLION

New York, Apr. 2: The world's population will exceed 3,000 million people in 1961, the U.N. Department for Social Affairs predicted today.

In a report to the U.N. Social Humanitarian and Cultural Committee before its coming session on Apr. 17, the department said the world population was increasing by

45 to 55 million per year. The rhythm of annual growth jumped from one per cent before World War II to between 1.6 and 1.9 per cent today and was tending to speed up still further.

Census taken in 1960 will doubtless oblige statisticians to revise and increase preceding evaluations, it was indicated. The report supplied no indication on the geographic distribution of population.

UNDER-FEEDING

The report said the Far East retained the record for under-feeding, the level of production per capita being much lower than before World War II. People in the Far East eat less and less meat, and for other products the quantitative level was able to be maintained only by imports. Not long ago the Far East exported a great deal of these products.

Elsewhere food production increased at a rate approximately equal to the population growth while in the economically advanced countries stocks accumulated.

As for housing, the report said the U.S.S.R. was well in the lead in new construction with a rate of 14 new lodgings per 1,000 persons in 1959. U.S. construction figures varied from seven to nine new units per 1,000 in recent years. In Western Europe, West Germany built 10 per 1,000 inhabitants.

VENEREAL DISEASES

New and "disturbing" outbreaks of venereal diseases in several countries were reported by a team of U.N. medical experts today.

The group, which recently conducted a study of world health problems, said these diseases had occurred since the advent of penicillin, the use of which had been considerably reducing the incidence of venereal disease.

The group reported that malaria remained the major health problem in tropical areas, and that malarial mosquitoes were developing resistance to insecticides with "unpleasant frequency."

Continuing progress had been made against poliomyelitis, particularly in the

economically developed countries. Much of this had been achieved through the use of oral vaccines.

TOO FEW TECHNICIANS

Post-primary schools were turning out too many would-be clerks, public employees and members of the traditional professions, and too few skilled workers and technicians, a U.N. report on education said here today.

Reviewing the general world-wide situation in education, the report said technical subjects, sciences and mathematics were receiving more attention, but there was a "particular scarcity" of qualified teachers for these subjects.

In some countries, more than five per cent of the national income was being allocated to education, and the percentage was expected to rise "still higher".

In Britain, university enrolments will nearly double during the next 10 years, the report predicted. In recent years, enrolment in higher education institutions had risen steadily.

—*The Mail* (Madras),
3rd April, 1961.

U. S. A.

ONE ANSWER TO INDIA'S 'EXPLOSION'

By S. Chandrasekhar

During the last 10 years, India has become increasingly aware of her 8 million annual population growth as a barrier to rapid economic development. The people, particularly the middle class have awakened to the implications of a large family in the context of a fixed salary and rising prices.

A decade, however, is too short a period in which to register any radical change in the pattern of marriage or the size of the family.

India today shelters about 425 million people in an area less than two-fifths the size of the United States and, according to certain projections based on the current high birth rate and declining death rates, the population may well double by 1985,

only a quarter century away! But if the birth rate declines along with the death rate, the figure may be around 600 million.

The reasons for the high birth rate are simple. Nearly everyone above the age of consent (and some millions below it) is married. Marriage is a quasi-religious duty. And there is no wide-spread family planning.

India's level of living is among the lowest in the world. The per capita calorie consumption in India is 1,800 as against 3,100 calories in the U.S. India goes semi-naked, for her per capita consumption of cotton textiles is only 18 yards—a low figure even for a tropical country.

About 360 million people in rural India have substandard housing—if their huts and hovels can be called housing. There are urban slums and the ubiquitous pavement population. The literacy rate is less than 25 per cent.

India's per capita income, which has increased a little in recent years, is about \$60, among the world's lowest. The expectation of life at birth is less than 42 years.

The basic economics of India's population problem can be expressed thus: How can India achieve higher levels of living when the economy is unable to support the existing population even at the present low level?

While during the last 13 years of our political freedom more land has been brought under cultivation and more food has been raised, more factories set up and more industrial goods created, the economic life of the average citizen has not improved very much because the increase in the number of consumers has been even greater. In a word, demographically India has been running so fast that economically she has had to stand still.

There are only two broad solutions. One is massive economic development, so massive that it can raise India's level of living despite her population growth. The other is a significant reduction in the birth rate.

As for massive economic aid, the prospects are not too rosy despite substantial help from the United States, Britain, West Germany, the Soviet Union and a few other

countries. Therefore, a significant reduction in the birth rate becomes imperative. This means family planning, and as this is theoretically accepted by nearly all groups in India, there is no need to dilate upon its importance.

It is fortunate that Hinduism—the religion of 85 per cent of the population—is not opposed to birth control. Hence the question is not whether India needs family planning but how best to achieve it within a limited time.

Progress in spreading contraceptive practices has been very slow. Surveys show that between 65 and 82 per cent of all couples interviewed want to limit their family size, but birth control is still an alien device, desired but not widely practiced.

Most objections to family planning are directed against the methods generally advocated and made available. The present Western methods (diaphragm and jelly) involve a clinical consultation, the means to buy the contraceptives, privacy, lights and running water and a certain amount of rational planning in conjugal relations.

These requirements imply a high level of living. But we need family planning because of our low level of living.

In recent years, certain simpler methods, such as cotton or rubber tampons, foam powder and tablets and salt water solution have been used. But they have proved to be of little use because Indian mothers found them messy and cumbersome.

What is needed, therefore, is a method which is simple, safe, cheap, effective, acceptable culturally and last but not least, good for numerous exposures. The oral contraceptive would be ideal for India, but what is available now is too expensive and its frequent use is beyond the average Indian mother's abilities. Only one method meets most of the requirements: sterilization (vasectomy for fathers or salpingectomy for mothers).

Sterilization is being done by the Government of Madras and other States. Any father of three or four children can undergo this operation. The Madras government has been offering a small bonus of 30 rupees (\$6.50) to any father who has this opera-

tion. The operation is done free of charge in a government hospital and if the father happens to be a government employee, he is entitled to a day's leave.

The government of India has approved this scheme. When I asked Prime Minister Nehru about sterilization, he expressed himself in favour of it so long as it is voluntary. It is needless to add that in India's democratic frame work, sterilization would be done only on a voluntary basis.

There are, of course, certain objections to sterilization. There is superstition concerning vasectomy among some Indians. The villager considers any operation dangerous and some fathers look upon the operation as a form of castration. But Madras experience shows that fathers can be educated to understand that it does not rob them of sex impulse or pleasure.

Secondly, there is the objection that it is irreversible. This is true, but it may be possible to evolve a reversible operation. A further objection is that the operation and the bonus are expensive, but they are very much less expensive than an unwanted baby. No matter what the total amount involved, a national scheme of subsidized sterilization would be cheaper to the nation in the long run.

Those states which are trying this approach to conception control are doing so mainly on account of the time factor. At the present slow pace and with the existing weak motivations and difficult methods, it could take 20 to 30 years before the decline in the birth rate was realized. Can India afford to wait?

—*The Washington Post*,
(Washington, D.C.),
2nd May, 1961.

POPULATION RISE WORRIES INDIA

The population of India has registered what is officially called an "unprecedented increase" of 21.5 per cent from 359 million to about 438 million during the last decade, according to the provisional census figures presented to Parliament last week.

Doubtless, as *The Statesman of Calcutta* points out, "sociologists, economists, neo-Malthusians and other experts are getting

ready for the fray," for the figure is in excess of the upper limit of all the recent projections and is seven million more than the projected population of 431 million in 1961 on which India's Third Five Year Plan is based.

PLAN IMPLEMENTATION

Implementation of the Third Five Year Plan began on April 1. Economists faced with the perennial problems of providing food and jobs, expressed concern with the figures.

India's rapid growth is illustrated by the fact that in 1901 her population (excluding areas that since 1947 have comprised Pakistan) was 235 million.

Early last month Pakistan announced that her population was estimated at 93,800,000, a rise of 23.7 per cent over a decade ago. Demographic experts have called the rate of increase in both countries "alarming."

Some other figures besides sheer numbers of people, are more heartening to observers of the Indian scene. Literacy, for example, has registered an increase from 16.6 per cent in 1951 to 23.7 per cent in 1961. This rate would be higher if the 0-4 age group were excluded as is customary. This has not been possible at this stage as the age composition of the population has yet to be computed.

LITERACY RATES

The state with the highest literacy rate is Kerala, with 46.2 per cent. The cities of Calcutta and Bombay show 58 per cent, and Bangalore records 53.4 per cent. The Indian held part of Jammu and Kashmir, possession of which is disputed with Pakistan, has the lowest, 10.7 per cent.

Males outnumber females at the rate of about 1,000 to 940, as compared to 1,000 to 946 a decade ago. This disparity has been consistent and growing since 1901.

The density of population works out to 384 per square mile as against 316 in 1951. The highest urban density is found in Calcutta city with 75,038. This compares with 22,293 in Greater Bombay and 35,208 in Madras.

The most heavily populated cities are Greater Bombay with 4.15 million and Calcutta second with 2.93 million. Delhi (including New Delhi, Shahdara and the Cantonment) is third with 2.34 million, Madras fourth with 1.73 million, Hyderabad fifth with 1.25 million, and Ahmedabad sixth with 1.15 million.

A total of 82.16 per cent of the population is rural compared with 82.62 per cent in 1951.

INCOME AND PRODUCTION

National income has risen 40 per cent and per capita income 19 per cent in India's first decade of economic planning. Industrial production was up 70 per cent and agricultural output up more than 33 per cent.

The life expectancy in India has increased from 32 years in 1950 to 42. One reason given was the near eradication of malaria.

The coming months will undoubtedly see the publication of many learned demographic theses on the reasons for this and that in the Indian census.

At this moment the only generalization possible is that there are a lot of Indians in the world. Second only to the Chinese, whose numbers are estimated at 600 million.

—*The Asian Student*,
(San Francisco),
8th April, 1961.

Population Pressure and Aggression

"What will happen if the underdeveloped areas in Asia are frustrated in their efforts to attain a higher standard of living?"

The larger of these nations are not apt to remain hungry and frustrated without noting the relatively sparsely settled areas in their vicinities—the nations in the Southeast Asian peninsula: Burma, Thailand, and the newly formed free countries of Indo-China, Laos, Cambodia, and Vietnam. (Vietminh, that is North Vietnam, is already engulfed by Communist China.) Even parts of thinly settled Africa may be subject to the aggressions of the larger and hungrier nations as population pressures mount. Moreover, Communist China, the largest nation in the world by far, faced with the greatest absolute population increases to add to her already heavy burdens in her efforts toward economic development, may not confine her attention to the smaller nations within her reach. Her actions relative to her boundaries with India and possible tensions over her boundaries with the U.S.S.R. contain explosive possibilities."

—PHILIP M. HAUSER, *Population Perspectives*,
(New Brunswick, Rutgers University
Press, 1961.) p. 23.

Institute's Activities

International Conference on Migration

Dr. S. Chandrasekhar, Director of the Indian Institute for Population Studies, was invited to address the International Conference on Migration to be held in Leysin, Switzerland, during the first two weeks of June 1961.

The Conference is sponsored by the World Council of Churches, which has been concerned for many years with the problem of refugees and migrants. The Conference will explore the World Churches' long range concern and responsibilities in the broad field of international migration.

This is the first time for the world body to discuss the migration problems of Asians and Africans. The text of Dr. Chandrasekhar's address to the assembly on Asian population problems and the need for migration opportunities for overpopulated Asian countries, is reproduced elsewhere in this issue.

Pacific Science Congress

Dr. S. Chandrasekhar, Director, Indian Institute for Population Studies, Madras, has been invited to be the President of the Demographic Section of the Tenth Pacific Science Congress to be held in Honolulu at the University of Hawaii in August. Though India is not a member of the Pacific region, individual scientists outside the region are invited on the basis of their work. Dr. Chandrasekhar is the first Indian to be made a sectional president.

International Industrial Conference

The International Industrial Conference, which is a meeting of world business and industrial leaders, will be held in San Francisco from September 11-15, 1961. This meeting will bring together by personal invitation about 500 executive officers of the world's major business, industrial, financial and development organizations from 60 nations.

The Conference organizers have invited Shri H. V. R. Iengar, Governor of the

Reserve Bank of India, Bombay and Dr. S. Chandrasekhar, Director of the Indian Institute for Population Studies, Madras, to address the conference.

University of Pittsburgh

Professor S. Chandrasekhar has been appointed Visiting Professor of Economics in the Division of Social Sciences at the University of Pittsburgh, U.S.A. for the Fall Semester. Dr. Chandrasekhar, who has accepted the appointment, will be in Pittsburgh from 1st September 1961. He is expected to return to Madras during the last week of December 1961.

Research Fellowship in Demography

Shri S. Krishnan, a statistician of the Institute, has been awarded a Research Fellowship in Demography by the Government of India, tenable in the Indian Institute for Population Studies.

Communist China's Population Problems

A study dealing with Communist China's population problems and policies since the Communist revolution in 1948 to the present day has been completed. The book is expected to be published in London sometime in 1962.

International Union for the Scientific Study of Population

The biannual meeting of the International Union for the Scientific Study of Population will be held at New York University from September 11th to 16th, 1961. Professor Chandrasekhar, who has been invited to attend the meetings of the Union, has submitted a paper on "Population Growth and Economic Development in India."

Dr. Chandrasekhar, who has been invited to address the Eighth Conference of Non-Governmental Organizations interested in Migration at Geneva from August 7-11, 1961, has submitted a paper on "Voluntary Agencies and Asian Refugees".

Book Reviews

MYRDAL ON METHODOLOGY

MYRDAL, GUNNAR. Edited by PAUL STREETEN. *Value in Social Theory: A Selection of Essays on Methodology*: (London. Routledge and Kegan Paul. 1958) pp. 269. Price 32 shillings.

Dr. Gunnar Myrdal, distinguished Swedish social scientist who is at present travelling in India and elsewhere as Director of Asian Studies for an American Foundation, has been successively University Professor of Economics, in Stockholm, Cabinet Minister of Trade, Chairman of Planning Commission, Bank director and Executive Secretary of the United Nations Economic Commission for Europe. But there have been others in many countries who have held similar responsible positions. But the particular distinction of Myrdal is that, unlike most people who attain important positions, he has not stopped reading and thinking. He has remained a curious observer in the intellectual sense and asked himself certain fundamental questions:

Can one be at the same time practical, objective and idealistic? What is the relation between wanting to understand and wanting to change society? How can we free ourselves from thinking in terms, possibly appropriate to an earlier age, but no longer appropriate to ours, though still powerful in our intellectual tradition? What are the new presuppositions of social thought which can do justice to the changes in social organisation? Dr. Myrdal asked himself these and other questions. The present volume of essays written at different periods is the result of his explorations. In a sense this book may be treated as a companion to his earlier book *Political Element in the Development of Economic Theory*. There are also excerpts, which form half of the present volume, from his massive study on the American Negro titled *An American Dilemma*, as well as from his more recent work *An International Economy: Problems and Prospects*. Here

is also an article originally published in German and hitherto unavailable in English.

Mr. Streeten writes a readable, and thoughtful 40 page introduction and offers the book as a "justification for collecting these scattered reflections. . . . that the reader interested in the relation between values and analysis of facts in social theory might not look for its treatment in the sources on which this volume draws."

It is difficult to summarise the contents of this book for it is full of thought provoking, original and unconventional excursions and reflections.

A major concern of Myrdal is with the conflict between the idealistic, the objective and the practical. For a century economists have asserted that Economics is concerned only with observing, describing, analysing and predicting and never with recommending, prescribing, or offering advice. And yet, despite this academic neutrality, there have always been economic advisers who have recommended, exhorted, pleaded and warned concerning particular economic policies. The question is whether an economist should simply state the problem and leave the policy to the Government or should he tell the Government what ought to be done. In other words, we go back to the text book discussion whether economics is a science (dealing with facts) or an art (dealing with policies).

Then there is the question of *laissez-faire*. Myrdal feels that the Western academic world is over-attached to the do-nothing *laissez-faire* policy. He maintains that economists and other social scientists show "a systematic tendency to ignore practically all possibilities of modifying — by conscious effort — the social effects of natural forces". He does not like a social science which is divorced from the ability to change society. Science should never be cultivated for the sake of science but for what it can do to further the progress of humanity. He writes: "Disinterested social science is

pure nonsense. It never existed and never will exist. We can make our thinking strictly rational in spite of this, but only by facing the valuations, not by evading them". In other words, mere objective observation is not enough. It should form the basis of subjective goals and desirable political and social ends.

There are numerous other topics on which Myrdal writes with intellectual vigour and iconoclastic fervour. Some of these topics are: the relation between social theory and social policy; American ideals and American conscience, Valuations and beliefs, Facts and Valuations, Facets of the American Negro problem, the Principle of Cumulation, the logical crux of all science; and last a new autobiographical Postscript.

Whether one agrees or not with Myrdal's views, these essays are bound to stimulate and reward the reader. It is to be hoped that this book will be widely used in classes on Methodology in the postgraduate economics department of our colleges and universities. Highly recommended.

THE UNCHANGING VILLAGE

HASHIM AMIR ALI, assisted by TARA KRISHNA BASU and JITTEN TALUKDAR, *Then And Now: A Study of Socio-Economic Structure and Change in Some Villages Near Visvabharati University, Bengal*. (Bombay. Asia Publishing House. 1960) Pages 123. Price Rs. 10.50.

This study deals with a socio-economic survey of a group of Bengali villages near Santiniketan at two points of time, 1933 and 1958. Fortunately, the data of the earlier survey, though unpublished, was available and not destroyed. What is more, Dr. Ali, who conducted the earlier survey, was able to carry out the resurvey, and that with the same colleagues he had twenty-five years earlier. And as all three were away from the villages for a quarter century they could really compare conditions today with the earlier situation with a fresh and objective outlook. This is, then, a special study, in the sense that sociological studies of the same villages comparing conditions over a period of many years are rather rare.

According to Professor Mahalanobis, who contributes a brief foreword, Dr. Amir Ali was reluctant to publish the data, for he "was afraid that he might be misunderstood in pointing out the stronghold which caste still has in our rural society." This is, unfortunately, an unscientific confession and goes against all canons of scientific research. A social scientist must present his facts and figures without fear or favour. From the author's point of view it should not matter whether the findings justify the status quo or demand a radical alteration of the existing order.

The study deals with the demographic and economic structure of the four villages then (1933) and now (1956-57). The demographic data include age groups, sex ratio, size and types of households, civil condition, occupational composition and caste distribution. As for the rural economic structure, the material covers land and livestock, other assets and income, family expenditure and the extent of indebtedness.

In the light of the overall evidence in the villages, Dr. Amir Ali concludes: "The pathetic rate of economic progress which we found in the foregoing analysis of data pertaining to these four villages should have a sobering effect on our post-independence enthusiasm. All that we have succeeded in achieving so far is to bring down the proportion of households in indigence from 80 per cent to 72 per cent. While 98 per cent of our low caste population were in indigence 25 years ago, 92 per cent are still in indigence. This is not a rate of economic growth which may justify us in preening our feathers." In a word, the incidence of poverty in Bengali villages (or perhaps all over India) has not been lessened during these twenty-five years either by our political freedom or economic planning.

There are three appendices by Tara Krishna Basu, Jiten Talukdar and the third, presumably, by Dr. Amir Ali. They make fascinating reading and every rural worker ought to read them, for the rural problem is the same all over India and has not substantially changed in many years.

But on the whole, the book is disappointing, for while Dr. Amir Ali writes with perception and concern, he does not say much.

He has, we are told, this enormous amount of material of the earlier and the present survey, and yet the organization and presentation of material is pedestrian. He does not go deep enough. Despite the many advantages the author had in writing this book, the result is, unfortunately, just one more socio-economic survey of some villages.

MALTHUS

MALTHUS, THOMAS ROBERT, *Population: The First Essay*, with a Foreword by Kenneth E. Boulding. (Ann Arbor Paperbacks. The University of Michigan Press. 1960) Higginbothams. Madras.

The University of Michigan Press has brought out various works of enduring interest in cheap paperback editions. The celebrated *ESSAY ON POPULATION* by Malthus, as it appeared in the first edition in 1798, is now presented here with a brief but interesting introduction by the American economist, Professor Boulding.

There is no need to review at length here the well known facts of the life of Malthus, his writings on population and economics, what his first essay on population really contained and the far-reaching repercussions of its publication. But a few relevant facts may be recalled.

Thomas Robert Malthus was born in 1766, one of eight children of a country gentleman of modest means. He was educated privately and at Jesus College, Cambridge, where he read English and French literature and won prizes in Latin and English declamation. When he was twenty-two years old he took orders and became for sometime a curate. His main intellectual interest was, however, Political Economy. In 1804, the year of his marriage, he was appointed Professor of History and Political Economy at the newly founded East India College in Hertford where young Englishmen destined for service in India were trained.

In 1798, when he was thirty-two years old, he published anonymously his *ESSAY ON THE PRINCIPLE OF POPULATION*. The book brought the author both fame and notoriety, but many who condemned his views had not read the book! He died in 1834.

Only four points need to be mentioned here. The Essay was not original and yet he presented his views in such a manner that the book has come down to this day and his name has given an adjective to many languages. Secondly, though much water has flowed down many rivers, his views, carefully considered, are as relevant today as when he wrote them. Thirdly, despite the modern connotation of the term "neo-Malthusianism", Malthus was opposed to birth control in principle. And last, contrary to popular impression (due to the canard spread by Karl Marx) Malthus was not a celibate but was married and had three children.

Professor Boulding writes a balanced and at places illuminating, but unfortunately all too brief, Foreword.

CHINA BY DAYLIGHT

CHANDRASEKHAR, S., *Communist China Today* (Bombay and London. Asia Publishing House. 1961) pp. 200. Price Rs. 9/-, 21 shillings.

— *Red China: An Asian View* (New York. Frederick A. Praeger. 1961) pp. 230. Price \$ 4.00.

"I must also confess that I went to China curious, excited and ready to be impressed, but that I came back sad, stifled and disenchanted." These words from Professor Chandrasekhar's Introduction typify the disillusionment of Indian public opinion regarding Communist China during the last few years. For nearly ten years India befriended and assisted China and championed her case for admission into the United Nations. Communist China showed her gratitude to India by a campaign of violent recrimination and claims for large chunks of Indian territory on the Sino-Indian frontier. While all the troubles over the Tibetan uprising and the Sino-Indian border dispute receive attention in the book, Dr. Chandrasekhar goes deeper into the problem of China and finds disillusionment in Communist society and its denial of the basic freedom which India, on the lines of Western liberal democracy, so rightly guarantees to her citizens. While the author records objectively the impressive material progress registered by the Communists in a decade, he points out the

tremendous human cost at which the progress has been achieved.

In the dozen years since the Communist take-over, China's centuries old culture has been replaced by a Marxism perhaps more orthodox than that of the Soviet Union, and the Peking regime now looms increasingly as a challenge not only to the West but to its Communist mentor. Dr. Chandrasekhar examines many aspects of life in contemporary China. From his shrewd and perceptive observations the reader will gain new insight into the operations of the Communes, now under revision, the far-reaching industrialization programme and the radically altered position of women in China. The effects of Communist instruction in the schools and universities and the Communist indoctrination in all educational institutions receive special attention.

One of the most interesting discussions in the book deals with China's population problems and the Communist about-face on the question of population control. China

embarked on an intensive campaign of family planning and then the entire programme was suddenly reversed. The author was unable to discover the reasons for the reversal of policy. Perhaps this is an ideological secret. However, the author's demographic picture of China makes alarming reading although he uses only the official Chinese figures. China's population is apparently Asia's problem.

The American edition of the book, under the title *Red China: An Asian View*, contains an extra chapter titled "India, China and Asia" in which the author compares the progress registered by democratic and free India with that of totalitarian China. This well written book deserves to be read by all, particularly by Asians who favour Communism as a solution to Asian problems of poverty and low living standards. This book, it is to be hoped, will disabuse their minds of any belief in Communism as a cure-all for Asian economic and social problems.

Love

Love presents, in intensive form, man's central and perennial problem—how to reconcile the aims of the individual and of society, personal desires with social aims. The problem is perhaps most acute in adolescence, for this involves a disharmony of timing: our sexual desires arise, and in males arise in fullest force, several years before marriage is desirable or possible. Different cultures have met this problem in very different ways. Thus in eighteenth-century England and nineteenth-century France it was the acknowledged thing for upper-class young men to take a mistress, while this was frowned on in Geneva and New England. In twentieth-century America, dating and petting have superseded "bundling" as the recognized formula.

In modern civilization the problem is very real and very serious. On the one hand, clearly both undisciplined indulgence and complete promiscuity in love are individually damaging, or anti-social, or both; but on the other hand, complete repression of this most powerful of impulses is equally damaging, and so is the self-reproach that the indulgence or even the mere manifestation of the impulse arouses in sensitive adolescents who have had an exaggerated sense of sin imposed on them. From another angle, it is tragic to think of millions of human beings denied the full beauty and exaltation of love precisely while their impulses are strongest and their sensibilities at their highest pitch.

—SIR JULIAN HUXLEY, *New Bottles for New Wine* (New York. Harper and Brothers. 1957) p. 227.

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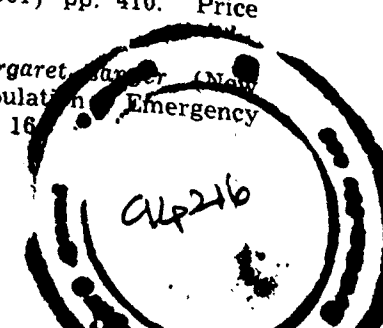
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