

CHAPTER 3

Global Population

By the end of World War II, the Allied powers had begun to reimagine the world as a large collection of sovereign and coequal nation-states rather than a small club of Europe-based empires. In this aspirational new postwar order, each nation-state would be responsible for governing its population (the people counted by its censuses) and managing its economy (the transactions occurring within its borders). This emergent international community of nation-states was at the heart of the Bretton Woods vision of an interconnected global economy meant to ensure worldwide peace and prosperity.¹ Instantiating that vision would be the job of the new United Nations.

Transforming the world into a series of populations and economies required that each country bring its population into being through a census and bring its economy into being through national income accounting. The idea that each country had a population was not new, though methods of counting and constituting populations varied widely. The idea that each country had an economy *was* new, having emerged between the wars with the invention of macroeconomic statistics.² In the decades following World War II, scientists would recommend family planning as a means of keeping national populations in balance with national economies and global population in balance with the Earth's resources. That story will be the subject of the next three chapters. This chapter tells the story that is missing from existing accounts of postwar population control and economic planning, examining how scientists and policymakers transformed the world into a collection of national populations that could be harnessed to economies in new per capita measures and aggregated to produce population estimates

for the world as a whole. It was not until national populations could be measured and global population calculated that scientists could project their futures and declare them a problem to be solved. That is, populations had to be constructed quantitatively before they could be construed as problematic.

Demography played a starring role in the generation of population numbers. In the decades following World War II, the UN established a Population Division, charged with collecting and publishing population data for every country of the world, and a Population Commission, which oversaw that work. Its demographers encouraged each country to establish standard mechanisms for census-making that would produce internationally comparable data. This project faltered, however, as the politics of demographic data collection proved inseparable from struggles over sovereignty at national and international levels. Populations are constituted through technologies of governance. Censuses therefore do more than simply count noses: they also assert and reflect the power of states over bodies. Where that power is contested, so too are the numbers produced by censuses. The process of converting the world into a community of populations was therefore inextricably bound up with imperial, anticolonial, and nationalist projects at a variety of scales.

When counting the world's populations proved to be anything but straightforward, the Population Division turned to demographic theory and models to fill in the persistent gaps in its statistical tables. With these techniques, demography was finally able to statistically represent the world as an international community of populations that could be planned and planned for. Yet the scientific rather than governmental constitution of the international community replaced the actual histories of the world's countries with the timeless past assumed by modernization theory and transformed the world's populations from political entities that would govern themselves democratically into natural objects that would be managed scientifically from outside.

A DEARTH OF DEMOGRAPHIC DATA

Prior to World War II, American demographers had focused primarily on the population of the United States and had worked almost exclusively with U.S. data.³ During the war, however, OPR became the epicenter of global population analysis. Princeton's Institute for Advanced Study provided a haven for émigré intellectuals fleeing Europe, including economists and

statisticians from the League of Nations secretariat.⁴ As the League turned its attention to the inevitable challenge of postwar reconstruction, it asked Frank Notestein and his team to project population growth in Europe for the remainder of the century. Fred Osborn secured funding for this project from the Carnegie Corporation. After the United States entered the war, the Department of State also turned to OPR for population estimates and projections in the rest of the world. The Carnegie Corporation paid for these as well.⁵

Notestein and his team were able to obtain most of the data they needed to project the future population of Europe. When they looked to other continents, however, they found that, in many places, the requisite demographic data simply did not exist. Midcentury demographers had previously given little thought to why states collect demographic data. They were therefore surprised, when they tried to estimate and project population in the rest of the world, to find that the data they could easily acquire for the United States were not available everywhere. They do not seem to have realized that the institutions that produced the data they took for granted were products of liberal democracy, so it did not occur to them that societies with other forms of government would collect different kinds of population data, or perhaps would not collect population data at all.

The metrics American demographers had developed to estimate population size and project population growth relied on the data that were close to hand for them: information about population stock (the number of people in a specific place at a specific moment) from censuses and information about population flow (the number of births, deaths, immigrations, and emigrations) from vital registration. These data were produced not primarily for demographic analysis but for the purposes of democratic self-government and public health. In the United States, the first country to institute a regular census, population enumeration determined how seats in the House of Representatives would be allocated among the states. Enumeration and vital registration (which began later for public health purposes) enrolled the citizens of democratic countries in the project of self-government. As other countries in Western Europe and the Americas established liberal democratic governments, they also built the institutions responsible for population enumeration and vital registration. These institutions were expensive to maintain, however, and they relied on powerful states with territories well-connected by communication and transportation infrastructures. States that lacked resources, infrastructure, or authority were unable to carry out regular censuses. Therefore, when OPR demographers began to look for data in Latin America, they found that

Bolivia had not had a census since 1900, Uruguay had not had one since 1908, and Argentina had not had one since 1914.⁶

Many countries that did not have liberal democratic traditions—including Afghanistan, Bhutan, Ethiopia, Iraq, Kuwait, Nepal, Saudi Arabia, and Yemen—had no need for censuses and did not carry them out.⁷ In 1940 the vital statistician Walter Willcox estimated that approximately one-third of all people in the world had not been counted by a census, though he did not elaborate on his method of quantifying the uncounted portion of the world's population.⁸ China was, by far, the largest country that lacked a census. Several estimates of China's population size were floating around at the end of World War II; Notestein admitted in 1944, "opinions concerning the size of the present population [of China] differ by more than the total population of the United States."⁹

The governments of many French, British, and Dutch colonies in Asia, Africa, and the Caribbean did carry out censuses, but they were very different from the detailed individual enumerations that had become routine in France, Great Britain, and the Netherlands. Midcentury demographers simply deemed them bad censuses, but they should instead be recognized as censuses designed for the purpose of colonial administration rather than democratic self-government. European censuses established and reflected dynamic political relationships between states and citizens. Colonial censuses were more like inventories of the overseas human resources available to European empires. They counted population unevenly, covering urban areas in more detail than rural areas and enumerating expatriates more precisely than indigenes. It has been estimated that the 1931 censuses in Anglophone West Africa counted nearly all Europeans and Asians but only about 4% of Africans.¹⁰ The sizes of indigenous populations were often simply estimated on the basis of tax or employment records.¹¹

Who counted as African, Asian, or European differed from place to place and was highly contested within any given place, reflecting local social, economic, and political conditions. Analysis of the 1931 census of British Malaya found that

of the 2,376 non-British Europeans, 825 were returned as "Dutch," but it is probable that many of these should have been included under Eurasians, the same being true in the case of the 117 "Portuguese." As to the Dutch, it must be borne in mind that, in the Netherlands Indies, whence comes the great majority of these people, the distinction between European and Eurasian is not maintained as we maintain it, and for census and other administrative purposes, the two classes are grouped together as "Europeans and those assimilated with them" or "Europeans" simply.¹²

Colonial censuses were themselves one of the mechanisms through which racial distinctions were established, maintained, and negotiated.¹³

Colonial censuses produced vague figures for total population. Nigeria's 1931 census, for example, concluded that "the population was probably not under 18,500,000 and not over 22,000,000."¹⁴ Colonial censuses also lacked the detail necessary to determine the population's age-sex structure, a key input to the cohort component projection method. In contrast to censuses in North America and Western Europe, which enumerated each person individually, colonial censuses often simply returned the estimated number of adult men, adult women, and children. This tripartite division facilitated colonial rule and the extraction of labor and taxes, but not population projection.

Where colonial censuses happened at all, they did not necessarily occur on a regular basis. In many parts of the British Empire, the 1931 census had been postponed indefinitely as a result of the global economic depression. The 1941 round was scrapped entirely when World War II broke out. Vital statistics (birth and death rates) in colonial territories were even less complete than were censuses. Despite the fact that registration of births and deaths was, by 1926, compulsory throughout the British Colonial Empire (the British Empire, minus India and the self-governing Dominions), it actually covered only a small fraction of the population. Vital registration systems in West Africa included about 6% of the African population in Sierra Leone, 7% in Gambia, 1% in Nigeria and the Cameroons, and 9% in Gold Coast and Togoland (now Ghana and Togo).¹⁵

Colonial governments may simply have been too weak and underfunded to produce more detailed population data. They may have been unable to locate all of the people in the territory they controlled on paper, and they may have encountered resistance to enumeration that was done for the purposes of taxation or extraction but not representation. It is also possible that colonial governments simply had no need for the kind of detailed population data produced by metropolitan-style censuses and vital registers and therefore devoted to the task only the financial and human resources necessary to produce data relevant to colonial administration. Metropolitan censuses forged a direct relationship between individuals and governments, simultaneously constituting the state as a legitimate representation of the nation and its subjects as citizens of a democratic state. In contrast, colonial censuses facilitated the management of populations en masse.¹⁶ Frederick Cooper has argued that colonial power was "more arterial than capillary," contrasting the macro scale of colonial rule to the micro-level diffusion of power throughout European and North American societies that Michel Foucault attributed to such forms

of discipline as prisons, clinics, educational institutions, and statistics.¹⁷ Colonial censuses, in fact, resembled methods of political arithmetic that early modern European governments had used to estimate the population that was available to a sovereign for labor or military conscription more than they resembled the censuses that produced modern self-governing metropolitan citizens.¹⁸ The data they generated may have worked for colonial purposes but were not adequate to the task of estimating or projecting global population.

A WORLD OF POPULATIONS

When Notestein arrived the UN Population Division in 1947 as its first (interim) director, he brought this problem with him. The technical work of the Population Division was overseen by the Population Commission, which comprised delegates from twelve UN member countries. It was expected that membership would rotate, but the United States ended up maintaining a permanent presence, and thereby exercising considerable influence, initially focusing the work of the Population Commission and Population Division on demographic data collection.

The first U.S. representative to the Population Commission was a demographer, Philip Hauser.¹⁹ At the time he took on this role, Hauser had just accepted a faculty position in the Sociology Department at the University of Chicago, where he had completed his Ph.D. in 1938. In between, Hauser served the New Deal state, first in the Federal Emergency Relief Administration and then in the Census Bureau. He worked in the Research Branch of the Information-Education Division of the army during World War II,²⁰ after which he returned to the Census Bureau as deputy director. There he established rapport with Secretary of Commerce and former vice president Henry A. Wallace, becoming Wallace's personal assistant.²¹ Although he had job offers in academia, Hauser remained at the Census Bureau until Wallace was pushed out of Commerce, after which Hauser took the job at the University of Chicago.²² He returned to the Census Bureau to direct the 1950 Census in an interim capacity, commuting back to Chicago every weekend to teach.²³

As a result of his association with Wallace, Hauser came under the suspicion of the Loyalty Board of the Department of Commerce in the lead-up to the 1950 Census and was informed that "reasonable grounds may exist to believe that you are disloyal to the Government of the United States and therefore unsuited for Federal employment."²⁴ At Hauser's request, Notestein filed a sworn affidavit recounting Hauser's demonstrations

of loyalty, particularly in his activities as U.S. representative to the UN Population Commission, where Hauser dutifully carried out directions supplied by the State Department.²⁵ Hauser was permitted to continue his work with the Census Bureau and remain on the UN Population Commission, but other demographers who came under suspicion were not so lucky. Hope Eldridge, who had volunteered in Wallace's 1948 presidential campaign, was dismissed from her position in the UN Food and Agriculture Organization for invoking the Fifth Amendment when questioned by the Internal Security Subcommittee of the U.S. Senate.²⁶

Hauser and his advisors in the U.S. government saw in the UN a vehicle for the global extension of the New Deal and viewed the collection of population data as key to the social and economic planning that would be required to effect economic development worldwide.²⁷ They therefore envisioned the UN Population Division as a hub for the collection and dissemination of global population data, what Bruno Latour has termed a "center of calculation."²⁸ Hauser described the other delegates to the Population Commission as "mature demographers, sociologists, economists or statisticians, well aware of the world population situation at the time and of the gaps in demographic statistics and knowledge," suggesting that they had a similar focus on data collection and were more interested in planning for population than in planning population itself.²⁹ Malthusianism was not absent from the UN, however. Its main champion there was biologist Julian Huxley, first director of the UN Educational, Scientific, and Cultural Organization.³⁰ But the Population Commission paid him little attention. When Huxley proposed a world population conference in 1949, demographers Dudley Kirk of the U.S. State Department and Abram Jaffe of the U.S. Census Bureau advised Hauser that "it is not desired to have a conference simply for the sake of having one, or for the purpose of broadcasting Malthusian prophecies or birth control propaganda."³¹ The primary concern of the U.S. Department of State and the UN Population Commission was with collecting population data from the countries of the world on a regular basis and compiling them into tables that would be published annually in the *UN Demographic Yearbook*. Doing so would accomplish three objectives.

First, it would encourage the governments of the world, especially those of new postcolonial states, to make censuses and thereby constitute the populations for which they were responsible. Once the UN began to request population data from member states, census-making became a norm of the international community, and governments that wanted to be recognized as part of that community obliged. Following Nigerian independence

in 1960, the federal minister of economic development acknowledged Nigeria's obligation to provide population data to international agencies in a 1962 statement:

It is our duty as a nation to see to it that we produce population census results which have been thoroughly conducted, verified and appraised, and [are] therefore acceptable, without any shadow of doubt, to all governments of the world and to all international bodies such as the United Nations and its agencies, the World Bank, etc. . . . The impressions of the manner in which a country conducts its affairs are one of the factors which earn for it the respect or disrespect of the rest of the world.³²

For newly established countries, census-making facilitated internal authority by locating, counting, and classifying subjects and citizens; reporting the results secured external legitimacy with respect to international institutions.

Second, the publication of population data from each country of the world would make those countries legible to one another, to the multinational businesses that sought to coordinate labor and markets, and to the international agencies and nongovernmental organizations that hoped to promote reconstruction in Europe and economic development in Africa, Asia, and Latin America. The concept of economic development had two meanings that began to converge after World War II. The older meaning, typically applied to colonial territories, was the extraction and marketing of raw materials.³³ The newer meaning was modernization and the improvements to the human condition that were expected to accompany modernization. The two definitions of development intersected in response to calls for decolonization after World War II, when colonial and postcolonial governments began to promote economic development in the older sense (extraction of natural resources) as a route to economic development in the newer sense (modernization). The two meanings of development were connected by novel methods of national income accounting that constituted national economies as objects of sociotechnical expertise or, as Timothy Mitchell puts it, "effects" of "a series of iterated calculations."³⁴ With these new calculations, national economies could be measured, either in absolute terms (gross national product; GNP, a forerunner to today's gross domestic product) or relative to population (GNP per capita). Development in the older sense increased GNP, which was understood to index development in the newer sense. The possibility of economic growth offered the promise of prosperity without redistribution, either within or between countries.³⁵ Measuring GNP per capita required both national

income accounting and population enumeration. Stimulating its increase required projection and planning, either for or of population.

Third, the aggregation of data from each country of the world would constitute the global population. Unlike national populations, global population couldn't be counted. Even the UN lacked the resources and authority to carry out a global census. Because the UN's framers had envisioned the world as a community of sovereign nation-states, each responsible for constituting its own population through enumeration, no entity had the authority to count the population of the world as a whole. Global population could therefore only be constituted through calculation.

Calculating and projecting global population required standard and commensurable data for all countries of the world. Notestein first attempted to acquire these by circulating paper forms that solicited vital rates and total population figures classified by age and sex from each government. He expected that statistical agencies in each country would simply fill in the forms with what Latour calls "immutable and combinable mobiles," or stable, portable, and commensurable numeric data.³⁶ The UN Population Division would then compile the data into what Ted Porter calls a "thin description" of global population: a set of numbers that is supposedly self-explanatory and value-free.³⁷ UN demographers quickly realized, however, that population data from various parts of the world bore the indelible imprint of the political purposes for which they were collected, making them irreducibly "thick" in the sense that comparing or aggregating them, if possible at all, required detailed explanation of how the data for each country had been collected and reported. In other words, the data compiled by the Population Division resisted comparison and aggregation because they were not commensurate.

Demographers often describe census-making as "counting noses," an exercise that enumerates population in a standard unit: people (since most people have exactly one nose). Comparing and aggregating the resulting data should therefore not require an act of commensuration, which sociologists Wendy Espeland and Mitchell Stevens define as "the expression or measurement of characteristics normally represented by different units according to a common metric."³⁸ Commensuration is necessary only for the *quantitative* aggregation or comparison of things that are *qualitatively* different, as "commensuration transforms qualities into quantities, difference into magnitude."³⁹ For example, in animal husbandry, the number of animals that can be stocked on a given plot of land is calculated in terms of animal units, which quantitatively convert the grazing land required by any given animal to that required by a cow with a calf, which is the point of reference. That is, if a plot of land can support five animal units, that

means it can support either five cows with calves or any numerical equivalent, where a horse is 1.25 animal units, a lamb is 0.15 animal units, and a mature elk is 0.6 animal units. Animal units facilitate commensuration because they allow the quantitative aggregation and comparison of animals that are qualitatively different.

If all humans are assumed to be equivalent for the purpose of population enumeration, then aggregating and comparing human populations does not require commensuration. Commensuration can, however, be used to assert human nonequivalence and to naturalize social inequality. For example, Article 1, Section 2 of the U.S. Constitution, which mandates a decennial census, establishes the numerical nonequivalence of “free Persons” and “all other Persons” by specifying a formula for their commensuration. For purposes of representational apportionment, enslaved persons were to count as three-fifths of free persons. In this case, specifying a quantitative formula for commensuration asserted the human nonequivalence of free and enslaved persons and naturalized the legal inequality that underpinned the system of racial slavery. Less explicitly, governments establish systems of human commensuration by determining who will be counted in a census and how they will be classified.⁴⁰

Censuses are tools of governance that count people in ways that facilitate specific policies. Different policies translate into a variety of census methods; the data these methods produce often cannot be directly compared or aggregated between countries. For example, some countries have *de jure* censuses, which count the legally resident population, while others have *de facto* censuses, counting the population physically present on census day.⁴¹ In regions with high rates of temporary international labor migration, these methods could produce very different results that are legitimate on their own but become misleading when compared or aggregated.⁴² Censuses in different countries also resisted aggregation and comparison because they had been taken at different dates, had varying levels of detail, and employed disparate methods of estimating population where complete enumerations were not carried out. Vital statistics, produced by the governmental registration of births and deaths, were even sketchier, their variation often reflecting differences in the completeness of registration systems rather than differences in actual rates and trends therein.

As a result of this data friction, the UN Population Division was simply not able to produce the thin statistical tables its leadership envisioned.⁴³ The first issue of the *Demographic Yearbook* was delayed more than a year and included a considerable amount of text explaining the data it presented.⁴⁴ Nonetheless it was still deemed to include “patently defective data about

which the consumer is not adequately warned.” The Population Commission lamented that “the reproduction of these figures by the United Nations Statistical Office gives an aura of spurious authenticity, which has given rise to misinterpretation and misuse of these data by unwary readers.”⁴⁵

COUNTING THE WORLD'S POPULATIONS

The Population Commission's first attempt to elicit thinner and more comparable data from constituent countries was the 1950 World Census Program. This program piggybacked on the Census of the Americas, a project led by the Inter American Statistical Institute that was heavily subsidized by the U.S. government.⁴⁶ The Census of the Americas aimed to produce a coordinated 1950 census among all Western Hemisphere countries that would generate standardized data. Backers in the United States expected that it would produce valuable information for the Department of State and for American businesses. State Department staff imagined World War III looming just over the horizon. They expected it would be another total war, with enemies targeting the civilian populations of the United States and its satellites.⁴⁷ Keeping track of those populations was therefore critical to hemispheric defense. American businesses were heavily invested in Latin America as a source of materials and labor and as a market for manufactures, and hoped that censuses in Latin American countries could guide business strategy. The Census of the Americas program itself was a boon to U.S. companies that produced business equipment, as it increased international demand for tabulating machines, filing cabinets, and other requisite gear for the collection, analysis, and storage of large quantities of data.⁴⁸ The U.S. Census Bureau provided training in data collection and analysis to statistical personnel from the other countries of the Western Hemisphere, and an international committee planned census questionnaires that it hoped would produce synoptic and commensurate data. The experts involved were not optimistic, however. Some of the concepts used in the U.S. Census had no Spanish-language equivalent.⁴⁹

Despite this wariness, the UN Population Commission extended the Census of the Americas program worldwide, recommending “that all such member states as are proposing to take censuses in or around 1950 use comparable schedules.”⁵⁰ The language “in or around 1950” acknowledged that, while some countries, notably the United States and France and its colonies, typically conducted censuses in years ending with zero (1940, 1950, etc.), the U.K. and its colonies typically took theirs in years ending with one (1941, 1951, etc.). The UN lacked the power to compel any country

to change its census date. The date also had to be approximate because, in countries that did not have a tradition of census-making and therefore did not already have the necessary infrastructure in place, a census planned for 1950 might not actually happen until a later year or might take longer than a year to complete.

The Population Commission emphasized to member states the importance of producing internationally comparable data. All countries were instructed to collect information about each person's sex, age, marital status, place of birth, citizenship, native language, educational attainment, fertility, economic characteristics, and relationship to household head, and to count the total population and the number living in rural and urban areas.⁵¹ But, as the leaders of the Census of the Americas anticipated, the Population Commission found it difficult to create a schedule that would work for all countries.⁵² Commission members also recognized that, within the list of information it requested, definitions and categories were not obvious. It is perhaps unsurprising that marital status might be divided into different categories under different legal and religious systems, or that the distinction between employment and unemployment might have little relevance in subsistence economies.⁵³ But even "total population," seemingly the most straightforward measure, was not unambiguous. The UN lacked the authority to impose a definition on member states, but it did recommend one: everyone resident in a country on census day, excluding foreign military and diplomatic personnel and including the country's own military and diplomatic personnel living abroad.⁵⁴ Censuses were to include everyone subject to the authority of the state carrying it out—that is, everyone who could be compelled to submit to enumeration—thereby constituting the population to be governed.

The Population Commission acknowledged that member states might want information about their residents that was not included in the standard schedules, but implored them not to sacrifice international comparability in these areas for the sake of country-specific information.⁵⁵ The World Census Program therefore asked countries to privilege international legibility over national governance. Accordingly, member states were asked to collect information desired by UN demographers that may not have been relevant to their own governmental purposes. One such example is age, another seemingly straightforward category that proved more difficult to standardize than the Population Commission expected.

The quantification of age is a cultural practice. The same person can be a year older or younger depending on which country they are in. Moreover people tend to know their exact age only when age is relevant for social, cultural, economic, or political reasons.⁵⁶ In some places where people

typically didn't know their age, census enumerators used the appearance of respondents or their marital status and childbearing histories to guess, though such methods often imposed the enumerators' ideas and values—regarding, for example, how old a married woman “must” be—onto the people they recorded. Nigeria took another approach. In preparation for its 1962 census, the Census Office asked each local and district council to set up a Historical Events Committee, which would submit to the Census Office lists of local historical events that could be used to estimate individual ages. Such events included the deaths of prominent citizens; the building of roads, hospitals, schools, and other public institutions; disasters, riots, and murders; spectacular social events, such as weddings and funerals; and memorable political events such as independence.⁵⁷ The Census Office compiled and standardized the list for each locality and for the country as a whole. Census enumerators then used the list to calculate respondents' ages based on their memories of these events.

Following the 1950(ish) round of censuses, the UN developed special training programs to guide government statisticians in the analysis of their new data.⁵⁸ Censuses are, by nature, big data affairs.⁵⁹ They have four defining characteristics, which distinguish censuses from other surveys and enumerations. Censuses are universal, individual, instantaneous, and periodic. That is, a census records information about each person resident in a country on a specified “census day” at regular intervals, usually every ten years. The 1950 U.S. Census asked approximately twenty questions of each of the 150,697,361 individuals resident in the United States on April 1,⁶⁰ generating billions of data points. Today, seventy years later, a data set this large still cannot be readily analyzed using a single computer. But even this massive trove of data constituted a highly stylized image of the U.S. population, one that reduced an infinite diversity of human ways of life to a set of categories that could fit on a punch card.

Census returns had been tabulated mechanically using Hollerith machines and similar devices since the late nineteenth century. To tabulate the 1950 data, the U.S. Census Bureau leased thirty-two of IBM's newest device, the Model 101.⁶¹ In most other countries, this kind of tabulating machinery was well out of reach. The UN planned to help government statistical agencies by establishing permanent centers for training in demographic data collection and analysis in Chembur, India, Santiago, Chile, and Cairo, Egypt, though putting these in place would require external funding that the UN did not acquire until later in the decade. In the interim, the Population Commission and Population Division loaned personnel to member states to train the staffs of their statistical agencies. In

this capacity, Philip Hauser spent fifteen months in Burma immediately after completing the 1950 U.S. Census.⁶²

Nearly all Western Hemisphere countries took censuses in 1950 (1951 in Canada), and some countries in other parts of the world carried out their first censuses as part of the 1950 UN World Census Program. By 1954 the Population Division had released estimates of the population of each continent for each decade from 1920 to 1950 and had projected the population of each continent to 1980. The numbers the Population Division published, however, including those for *past* dates, came with strong qualifications. Text accompanying the data tables warned that “many of these estimates [of population in the past] are subject to various errors and . . . even the resulting continental totals are not entirely trustworthy.”⁶³ Challenges to generating “trustworthy” estimates stemmed both from the complications of producing comparable censuses between countries and from the difficulty in carrying out national censuses in countries that lacked transportation and communication infrastructure. Censuses are also expensive propositions; the 1950 U.S. Census was estimated to cost \$85 million.⁶⁴ The UN recognized that the price tags on the censuses it requested were large compared to the financial resources of many member states, particularly those that had just wrested their independence from imperial powers.

The uses to which censuses were put domestically at times inhibited their utility as an international source of data. People often evaded enumeration by colonial censuses, fearing that results would be used for taxation or for labor or military conscription. In some newly independent countries, citizens sought to inflate census counts when the results were to be used for political representation.⁶⁵ In Nigeria, for example, experts believed that the 1951 census, the last under colonial rule, undercounted the population, while the 1962 census, the first under independent self-government, overcounted it.⁶⁶ Nigeria’s prime minister nullified the 1962 census, repeating the whole process in 1963. Tabulations of the 1962 data were never officially released. The 1963 census was just as controversial as the 1962 census had been, but the Nigerian government published it and sent tabulations to the UN and other international agencies, despite the fact that many Nigerian experts themselves rejected the figure for total population, which was 55.7 million, up from the 42 million counted in the 1962 census and the 36.5 million estimated just before.⁶⁷ Nigeria’s 1973 census was also disputed, so the 1963 figures remained in use for official national and international purposes until the next census, in 1991.⁶⁸

Other countries had their own political circumstances that affected census-making and the reporting of results. Lebanon did not take a census after 1932 because the ruling Christian majority in government (where

representation was allocated on the basis of religion) feared revealing the emergence of a Muslim majority in the population.⁶⁹ After its revolution, China disallowed the publication of separate population data for Taiwan, claiming Taiwan as part of the People's Republic. In such situations, delegates to the UN decided that they "had to give priority to the political reality and not in the field of demography."⁷⁰ Just as censuses made citizens legible to states, they also made states legible to the UN and other international organizations, and some states resisted aspects of that legibility or used it strategically to assert their sovereignty.

Many of the 186 censuses that occurred as part of the 1950 UN World Census Program were incomplete.⁷¹ By the time preparations began for the 1960 World Census Program, it had become clear that a considerable number of the world's countries would still be unable to enumerate the entirety of their populations. As an alternative, the UN Population Division began to encourage sample surveys.⁷² Sampling is a statistical technique, developed in the first half of the twentieth century, whereby a small part of a population of interest—a sample—stands in for the whole.⁷³ Sampling was introduced into the U.S. Census in 1940 to ask questions about things like fertility and parental birthplace that were not feasible to inquire after for the entire population but could be asked of every twentieth person.⁷⁴ Early forms of sampling relied on supposedly representative populations, such as Muncie, Indiana, in Robert and Helen Lynd's famous *Middletown* studies, and Indianapolis in *Social and Psychological Factors Affecting Fertility*.⁷⁵ Because such studies as *Middletown* and Indianapolis aimed to identify the typical, however, they did not facilitate the study of systematic variation or deviation from the norm. To remedy this shortcoming, survey researchers developed methods of nationwide random sampling, reasoning that, when each member of a target population has an equal chance of being selected, the sample has the potential to capture the diversity of the larger population.

Random sampling made frequent nationally representative surveys feasible in countries whose populations were generally known and locatable, such as the United States. Under such conditions, statisticians could quantify the generalizability of results obtained from a sample and thereby optimize the trade-off between cost and quality in advance and return results with a quantitative estimate of their inferential validity. Random sampling, however, requires that samples be drawn from a known sampling frame comprising prior information about all potential sample units, whether those units are individuals, households, cities, or villages. A complete enumeration of sample units is therefore a prerequisite for a statistically valid sample. In countries that had not established this kind of statistical

infrastructure, samples were usually determined “by the personnel available to analyze the results, the available transport, and by the money which a particular country is prepared to spend,” rather than by calculations of statistical power.⁷⁶ Samples drawn using such methods were anything but random, representative, or generalizable, as they typically covered only the segments of the population that were particularly tractable to enumeration, such as those living in urban areas. UN demographers recognized that sample surveys were an inadequate substitute for complete enumeration but suggested that they could fill in temporarily and could “serve as an experimental census paving the way to a complete census to be executed in the near future.”⁷⁷

However, if census-making strengthened a country’s sovereignty over its population, both practically and symbolically, the failure of census-making in many countries and the consequent need to substitute sample surveys challenged national sovereignty. Censuses are a governmental activity that can be completed only by states and that make populations tractable to governance in the process of constituting them. In contrast, sample surveys can be done by anyone with the requisite resources, and they produce the information desired by those who do the survey rather than information that might facilitate governance. Those who run the surveys control the dissemination of that information. By including the collation and publication of population data for every country of the world within its mandate, the UN opened up countries that could not complete their own censuses—or that could not provide data that were sufficiently convincing—to sample surveys conducted by private organizations or even by the governments of other countries. Over the next several decades, the failure of national censuses in many countries to meet the demands of the UN and other international agencies and nongovernmental organizations would justify the production of what Michelle Murphy has termed “post-colonial thick data” by the “thousands of NGOs that shadow the state” throughout the Global South.⁷⁸ Whereas censuses facilitated the planning for and planning of population by the governments that constituted those populations, sample surveys facilitated the planning for and planning of population by U.S.-based scientists and philanthropists, and eventually by the U.S. government and the UN.

You may stop here if you wish.

MODELING THE WORLD’S POPULATIONS

As it became apparent that a world of national populations could not be instantiated through censuses alone, the UN Population Division turned

to modeling as an alternative way to fill the remaining blanks in the *UN Demographic Yearbook*, at least until censuses and vital registration became more robust. For assistance, the Population Division called on OPR, where demographers were beginning to utilize demographic theory and models to develop sophisticated mathematical methods for smoothing the unruly data produced by sample surveys and incomplete censuses. Their primary tools for this project were the stable population model, which had been developed by Jim Lotka in the first half of the century, and demographic transition theory, which OPR demographers first articulated during World War II.

Notestein and his OPR colleagues developed demographic transition theory in response to the wartime challenge of predicting an unknown future on a much larger scale than they had ever done before. Their solution to this problem was a demographic corollary of modernization theory. Although it existed in many forms, modernization theory began to coalesce as a unifying social scientific principle in the United States during the war and served as a blueprint for the postwar world order.⁷⁹ It grew out of the stadial view of human progress that had originated two centuries earlier in the Scottish Enlightenment. Stadial theory conceptualized cultural difference as societal evolution, arraying the peoples of the world on a continuum from “advanced” (Western Europe) to “primitive” (those societies most different from Western Europe). Eighteenth-century conjectural historians looked to the present of non-European societies for evidence of the past of European societies. In the twentieth century, American social scientists flattened this continuum into a binary distinction between modern societies, those characterized by industrial economies, secular education, urban agglomerations, and specialization of functions, and traditional societies, those characterized by agricultural economies and kinship-based social institutions. Through this binary modernization paradigm, intellectuals understood the American present as the future of non-Western countries.

Although demographic transition theory was a collective accomplishment of the OPR team,⁸⁰ its initial articulation is often credited to Kingsley Davis, a sociologist recruited to OPR in 1942. Davis had completed his Ph.D. at Harvard University in 1936, working mainly with Talcott Parsons and Pitirim Sorokin. His background was therefore a bit different from that of other sociologists who were coming to identify as demographers between the wars, heavier on social theory and lighter on quantitative methods.

Demographic transition is a description of the demographic consequences of modernization in England. Demographic transition *theory*

posits that modernization will have the same demographic implications everywhere. According to demographic transition theory, traditional societies have high rates of birth and death, with little overall population growth. Mortality is high because food is scarce, sanitation is rudimentary, antibiotics and vaccines are not available, and life is dangerous. Fertility is high because social institutions have evolved to promote large families. Davis reasoned that societies that did not privilege large families may have existed in the past, but only those in which high fertility balanced high mortality could have survived into the twentieth century. He had few empirical details about the specific institutions that fostered high fertility, but he nonetheless assumed that the family was the basic unit for most social and economic functions in all traditional societies, and that childbearing and childrearing were critical sources of power and prosperity.⁸¹

On the basis of England's history, Davis theorized that the early stages of the modernization process would reduce death rates as food became more secure, as new sanitation practices lessened the incidence of infectious disease, and as medical innovation made diseases less deadly, disrupting the pretransitional equilibrium between high fertility and high mortality and stimulating rapid population growth. The later stages of modernization would transform the social institutions that had promoted high birth rates, leading to smaller and smaller families, until low fertility balanced low mortality, restoring population equilibrium, but with lower birth and death rates and more people overall.⁸²

The synthetic trajectory of demographic transition represented a kind of societal life cycle analogous to the human life cycle. Together these two life cycles facilitated population projection. The human life cycle represented age-specific rates of mortality and fertility (generally higher mortality at the beginning and end of life; higher fertility in the middle). The societal life cycle represented secular decline in mortality and fertility rates as a society underwent the transformation from tradition to modernity. The idea of a societal life cycle remained implicit rather than explicit in the work of OPR demographers, likely because it had been associated with the Italian statistician Corrado Gini between the wars or perhaps because American demographers did not want to suggest that posttransitional populations were nearing any kind of societal death. Rather, these were the societies that were to lead the rest of the world into the demographic future. The implication of a societal life cycle nonetheless naturalized the nation-state as the appropriate container within which population was to be measured, planned, and planned for. It also naturalized modernization and the demographic transition that was assumed to result, divorcing these processes from the material changes that were thought to drive them and casting

demographic change purely as a function of time, just as the human life cycle was a function of advancing age.

Demographic transition theory suggested that national populations would grow along S-shaped trajectories similar to Pearl's logistic curve. When Notestein made his first global population projection in 1944, data for most of the world were so scarce that he derived future population numbers almost entirely from the stylized curve of demographic transition.⁸³ Conceptually, however, demographic transition theory diverged radically from Pearl's logistic law. It relied on the aggregate ontology of population that underpinned vital rate indices and the cohort component projection method rather than the organic ontology that drove the logistic law. Moreover, while Pearl's model was Malthusian—assuming that population growth is entirely driven by food availability or scarcity—demographic transition theory is post-Malthusian. It posits that modernization begins a process by which societies are freed from the so-called Malthusian trap. Modernization simultaneously allows for rapid population growth and severs the connection between population growth and resource availability, such that population growth can slow even as resources remain abundant. Demographic transition theory rested on the belief that modernization would overcome any natural limits on the number of people a territory could support and that the population growth it engendered was self-regulating, producing a new equilibrium as social institutions adjusted to technological advance. The end result was not the “saturation” Pearl had predicted but the stationarity demographers had anticipated between the wars for the countries of North America and Western Europe. Demographic transition theory reinterpreted that stationarity as the pinnacle of modernization rather than Malthusian overpopulation or mercantilist stagnation.

Demographic transition theory, like modernization theory, was grounded in the cultural racism that supplanted biological racism in the United States and Europe after World War II.⁸⁴ By 1945, when Davis edited a collection of essays titled *World Population in Transition*, mortality had begun to decline in parts of Asia, stimulating the rapid population growth associated with demographic transition. Davis assured readers who feared this growth that it did not spell the end of Euro-American world hegemony. He explained that “the existing civilization of the Orient is not fixed in the genes of the Asiatic races” but “is rather a historical stage resembling in some respects the medieval civilization of Europe,” that would “pass irretrievably as the Asiatic peoples become westernized.”⁸⁵ Asians were not biologically different from Europeans, he argued; they were just living in an archaic society. Although people of Asian descent might outnumber those

of European descent at the global level, Davis predicted that European institutions and practices would still predominate. OPR demographers understood demographic transition to be inseparable from “the nexus of cultural traits that are valued as ‘progress.’” They believed these “traits” were in the process of diffusing from Northwest Europe to the rest of the world “along the lines of communication . . . assisted by the presence of natural resources appropriate to industrialization, and . . . checked by natural and cultural barriers” but having “gained a solid foothold even among non-European peoples.”⁸⁶

Demographic transition theory explained the patterns that population observers had begun to identify between the wars: slowing population growth in Western Europe, North America, and Oceania, coinciding with accelerating population growth in Southern and Eastern Europe and South and East Asia. It predicted that population growth would abate in Eastern Europe and Asia as advancing modernity remade social institutions in the North American and Western European image. It also predicted that, as modernization spread to other parts of the world, they too would break free from the Malthusian trap and experience a brief period of rapid population growth before the assimilation process brought with it the values that had produced small family norms in Western Europe and North America.⁸⁷

Davis illustrated this prediction by explaining that Japan had gone “farther than any other Oriental people in borrowing Western culture and thus increasing her power; but, as a consequence, her fertility also began to drop, so that, although her population will grow very rapidly for a while, she too will eventually approach a stationary population.”⁸⁸ Demographers gave no indication that this expected growth would strain global resources or present any other problems. They viewed it simply as part of what they considered the natural and beneficial modernization process. Any population growth stimulated by modernization was temporary by definition. It would be halted not by rising mortality (the Malthusian trap) but by falling fertility (the demographic hallmark of modernity). In contrast to interwar observers, who feared that supposedly inferior nonwhite populations would replace supposedly superior white populations,⁸⁹ the racism of OPR demographers during World War II was a cultural racism that predicted and celebrated Westernization. According to this racial logic, nonwhite people might exceed white people numerically, but European culture would remain hegemonic.

Demographic transition theory was operationalized by Ansley Coale, a wartime graduate student at OPR whose mathematical capabilities exceeded those of his mentors. It was Coale who figured out how to apply demographic transition theory to practical demographic problems: projecting

future population where current population was known and estimating current population where it was unknown. Coale had been an undergraduate economics major at Princeton during the Depression, waiting tables in the dining hall to pay living expenses that were not covered by his scholarship.⁹⁰ After graduating in 1939, he stayed to complete a Ph.D. in economics under Notestein's direction at OPR as the second Milbank Fellow.

During the war Coale worked with Notestein's team on the European population projections commissioned by the League of Nations, formalizing demographic transition theory as a practical guide to forecasting future changes in fertility and mortality rates. To do so, he reconceptualized cross-sectional variation (geographic difference) in fertility and mortality rates as a universal longitudinal trajectory (change over time).⁹¹ Demographic transition theory cast the world as "anachronistic space" and the demographic variation within it as "panoptical time," terms coined by the post-colonial literary scholar Anne McClintock to describe a vantage point from which the whole of human history—in this case the history of human population—can be read in a single glance, either on a map or from a statistical table.⁹² Coale assumed that countries with higher rates of mortality and fertility were at an earlier stage of demographic transition, and those with lower rates of mortality and fertility were at a later stage, arranging contemporary vital rates into synthetic trajectories of a supposedly universal demographic process. Those at the higher end of the continuum represented the past of those at the lower end, and those at the lower end represented the future of those at the higher end.

Once Coale had constructed these synthetic trajectories, Notestein and his colleagues could predict future mortality and fertility for any country by locating its current vital rates on the synthetic trajectory and reading from left to right,⁹³ a nearly literal example of what demographer Arland Thornton has termed "reading history sideways": the practice of interpreting cross-sectional variation as chronological progress through a universal human history.⁹⁴ Vital rates came to stand in for levels of progress, so demographers could predict future population change without requiring a prediction of any of the other supposed signals of modernization. This approach naturalized demographic transition and modernization itself as universal processes that were already in motion everywhere, however latent they may have been in some places, and that could be expected to unfold apace. OPR demographers of this period never attempted to correlate mortality or fertility with any other markers of modernization. Their population projections took as inputs only population and time, making superfluous the social and economic transformations that were thought to bring about demographic transition.⁹⁵

Demographic transition theory served an important wartime purpose for OPR demographers, providing them with a systematic method of predicting future mortality and fertility rates for the countries of Europe, where current rates were well documented. Data from censuses and vital registration provided baselines from which demographers could project population change on the basis of demographic transition theory. But while baseline data were readily available for the United States and much of Europe, the failure of the UN's efforts to promote censuses and vital registration worldwide meant that, even two decades after the end of World War II, demographers did not have appropriate baselines for projecting population in many countries of the world. Coale would eventually develop solutions to that problem as well.

In the midst of projecting Europe's demographic future, Coale paused his graduate education to join the war effort. He had received a low draft number, but morally objected to serving in combat or using his mathematical training for ballistic purposes. Notestein turned to Osborn for advice about what his student should do, assuring Osborn that Coale was "quite willing, even glad to serve in the medical corps of the army" or in any other capacity "directed to saving rather than taking life."⁹⁶ Likely following advice from Osborn and Notestein, Coale didn't wait to be drafted. Instead he volunteered for a scientific position in the navy and ended up in the Radiation Laboratory at MIT, where his research focused on reducing vulnerability to atomic warfare. In 1947 Princeton accepted Coale's wartime research on atomic vulnerability as his dissertation and hired him as an assistant professor of economics.⁹⁷

Over the next decade, Coale focused on the relationship between population growth and economic development, producing evidence—which will be discussed at greater length in the next chapter—suggesting that rapid population growth inhibited economic growth.⁹⁸ But just as Coale's research was generating anxiety about population growth rates in developing countries, the UN's efforts to promote census-making and vital registration were failing to produce the data demographers needed even to generate a picture of the current population of many developing countries, much less to project future growth. To create this baseline, or at least a working facsimile of a baseline, Coale began to develop mathematical methods for synthesizing data to fill the gaps in the UN's statistical tables, culminating in the 1967 publication of the UN's *Manual IV: Methods of Estimating Basic Demographic Measures from Incomplete Data*.⁹⁹ *Manual IV* provided demographers with tools to estimate current vital rates, calculate net reproduction rates and total fertility rates (a summary of age-specific fertility rates indicating the total number of children the average woman is

expected to bear over her lifetime),¹⁰⁰ and project future population growth from the sparse data available in sample surveys or partial censuses.

The methods described in *Manual IV* emerged from two large-scale projects Coale carried out simultaneously during the 1960s. The first, known as the Princeton European Fertility Project, was a seminal study in the then-emerging subfield of historical demography.¹⁰¹ Inverting conjectural history, which had looked to non-Western societies to fill in for the unknown European past, historical demography looked to the European historical record to better understand contemporary population dynamics in countries that lacked data but were thought to be pretransitional, an epistemological move made possible by demographic transition theory. Historical data for some parts of Europe were more complete than were contemporary data for many countries in Africa, Asia, and Latin America, and they covered a much longer time span.¹⁰² On the basis of historical data, mostly from Europe, Coale created model life tables and model stable populations that could be used to estimate vital rates in countries that lacked adequate data of their own.¹⁰³

Model life tables are premised on the observation that life tables made from detailed empirical data show strong regularities in the age patterns of mortality. That is, the curve of age-specific mortality in a high-mortality population has the same shape as the curve of age-specific mortality in a low-mortality population, as shown in Figure 3.1. With the historical data he was able to find, Coale developed model life tables representing all levels of mortality from expectation of life at birth of twenty years to seventy-five years, in five-year increments.¹⁰⁴ If a sample survey determined mortality rates among a subset of a given population, a demographer could identify the appropriate model life table and thereby estimate the overall mortality level of the population in question.

Closely related to model life tables are model stable populations. The concept of a stable population was developed by Lotka between 1907 and 1925 to describe “a material system in which the physical conditions vary with time” such that “certain individual constituent elements may have a transitory existence *as such*, each lasting just so long as its conditions and those of its neighborhood continue within certain limits.”¹⁰⁵ Lotka’s language was deliberately vague, as he intended his stable population model to describe any set of living or nonliving things where the individual things—whether people or industrial components—are subject to wear and eventual retirement (or death). A stable population is one that is subject to constant rates of addition (fertility) and subtraction (mortality) and is closed to migration (or, in the industrial example, does not permit the addition of used components or the removal of components that are still functional). When

Figure II. Deviations of developing country patterns from Coale and demeny West region (females)

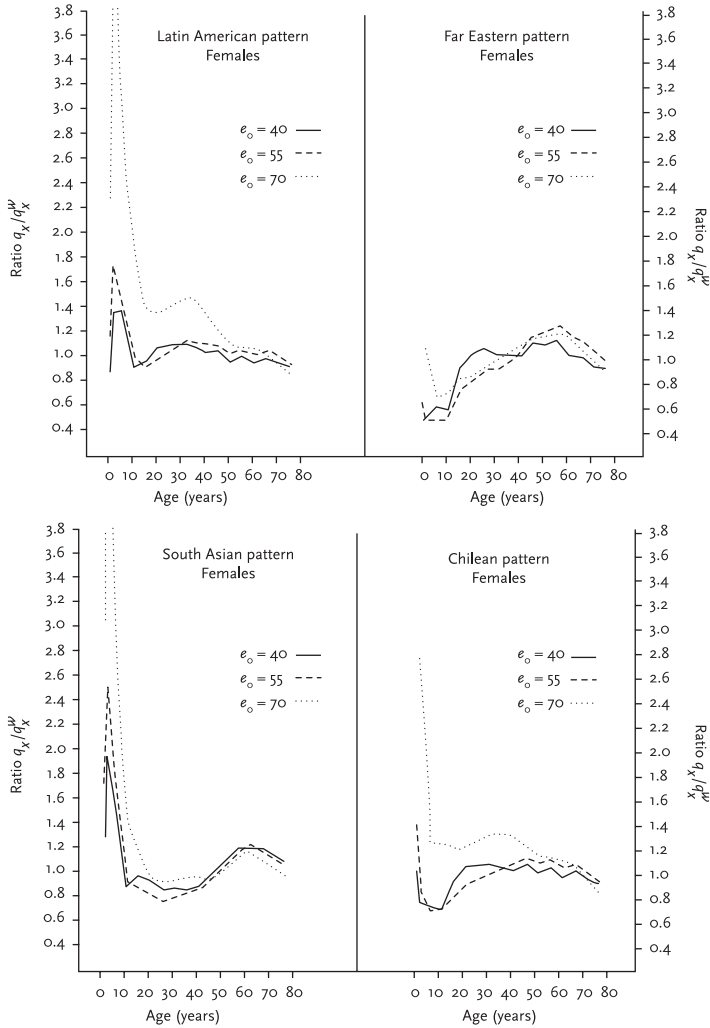


Figure 3.1 Model age-specific mortality curves for females in Latin America, East Asia, South Asia, and Chile, expectation of life at birth forty years (high mortality), fifty-five years (medium mortality), and seventy years (low mortality).

Source: *Model Life Tables for Developing Countries*, by UN Department of International Economic and Social Affairs, © United Nations 1982. Reprinted with the permission of the United Nations.

rates of fertility and mortality remain constant over long periods of time, in the absence of migration, populations grow at a constant rate (which may be positive, negative, or zero), and the proportions in each age group remain constant (stable). The stable population model therefore links the mortality, fertility, and age structure of a population, such that any two of these pieces of information are sufficient to calculate the third.¹⁰⁶ For any

given population that can be presumed stable, once a model life table has been selected, the analyst needs only a sense of the fertility rate or rate of natural increase to select the appropriate model stable population, which provides age-specific fertility rates. Coale's collaborator and former student Paul Demeny later described this work as figuring out "how to make silk out of [a] sow's ears, namely, how to do demographic estimates from limited bad data."¹⁰⁷ With model life tables and model stable populations, the determination of vital rates no longer depended on governmental surveillance practices. Instead it could be done by foreign demographers using very limited samples.

The Princeton European Fertility Project provided Coale with the raw materials for model life tables and model stable populations. Simultaneously with that project, Coale led a large-scale study in sub-Saharan Africa that investigated the application of model life tables, model stable populations, and other methods to derive detailed age-sex distributions and vital rates from the sparse data produced by sample surveys and partial censuses. Published in 1968 as *The Demography of Tropical Africa*, the project was instigated by Frank Lorimer, who had already done substantial research in Africa and established institutional connections there.¹⁰⁸ Preliminary analysis had "indicate[d] the exciting possibility that African fertility is higher than that observed in any other large population in the past," suggesting that Africa's demographic trajectory might differ from that of Europe, which had previously been presumed universal.¹⁰⁹ The 1960(ish) round of censuses appeared to show high rates of population growth in African countries over the previous decade, but census coverage and enumeration methods had also improved. It was therefore likely that larger proportions of the populations of African countries were being counted in 1960 than in 1950.¹¹⁰ Determining actual growth over the decade would thus require some knowledge of vital rates. Coale explained to the project's funders that, in the near absence of vital registration in Africa, demographers needed alternative methods "for obtaining reliable information on fertility, mortality and migration in situations where one cannot reasonably expect a rapid development of effective vital registration systems of a classic type in the near future."¹¹¹ The project was not simply about Africa; the countries it examined were to stand in for uncounted and unregistered populations in general.

William Brass, a medical demographer at the London School of Hygiene and Tropical Medicine who had previously worked in the British Colonial Service's East African Statistical Office, took the lead on developing methods of "abstracting valid information from bad data."¹¹² The methods he devised, now known as indirect estimation methods or simply

Brass methods, relied on a small set of questions that could be asked of a sample of women to identify the appropriate model life tables and stable populations for the countries they were thought to represent.¹¹³ By 1988 Brass had become so well-known for having developed a method to estimate just about any measure for which data were lacking that, when rain broke out at an OPR picnic, one student joked that they “should use the Brass method for keeping off the rain drops.”¹¹⁴ Even then, two decades after the publication of *The Demography of Tropical Africa*, many developing countries still lacked reliable censuses and vital registration systems.

Model life tables and model stable populations described what demographers considered to be every possible demographic regime from the high mortality and high fertility of pretransitional traditional societies to the low mortality and low fertility of posttransitional modern societies. With just a few data points—a small number of questions asked of a small sample of people—indirect estimation methods allowed demographers to place any country along the model trajectory, using demographic transition theory to fill in its current age-sex structure and vital rates. Demographic transition theory suggested that model life tables and model stable populations are sequential, so an analyst could move through the synthetic series—from high to low mortality and fertility—to imagine a population’s past and predict its future. Demographers thereby estimated the demographic present and projected the demographic future in a single step.

Demographers could use model stable populations to estimate unknown population figures because demographic transition theory cast the populations of developing countries as pretransitional and therefore stable (closed to migration and having constant age-specific rates of fertility and mortality) or quasi-stable (fertility still constant, but mortality beginning to decline). By characterizing these societies as being in a natural or primordial state of high fertility and high (or recently-high) mortality, demographic transition theory and the stable population model wiped away hundreds of years of history—including histories of colonization, which often involved tremendous demographic upheaval—and positioned the countries of the Global South as ready to embark, unencumbered by the past, on the universal path to demographic, economic, social, and political modernity paved by the countries of the Global North.

The numbers produced by sample surveys and model stable populations were intended as a stopgap, filling statistical tables until all of the world’s populations had become countable. They were thus what Martha Lampland terms “provisional numbers”: numbers that stand in for unknown values to facilitate “formalizing practices,”¹¹⁵ such as the publication of the *UN Demographic Yearbook*. Lampland argues that provisional numbers are

often used when an actual value is unknown but some number is needed to get on with the task at hand. In the case of population data in the early postwar period, the task at hand was the administrative organization of an international community comprising sovereign states governing national populations and managing national economies. These “provisional numbers” facilitated the calculation of per capita GNP and allowed national governments, international agencies, and nongovernmental organizations to get on with efforts to plan for population or to promote economic development through population control.

With demographic transition theory, the stable population model, and indirect estimation methods, UN demographers could finally represent the world as a community of national populations. Yet they had also fundamentally changed the nature of population. The demographers of the UN Population Commission had initially conceived of populations as objects of governance, constituted through the governmental practices of census-making and vital registration, which would in turn produce national sovereignty over populations. In reality, however, the postwar world of populations came into view not through the establishment of liberal democratic governments worldwide but through the development and application of demographic theory and methods. Populations were thus constituted as natural objects of science rather than political objects of governance. Accounting for population with demographic models rather than national censuses challenged the sovereignty of governments over their populations and legitimated international intervention into their management.