POPULATION PATTERNS

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Significance of Demography. Population patterns form a key aspect of world history, both causing and reflecting major changes. The subject receives insufficient attention in many standard treatments. But population developments are a key measure of other types of change, most obviously the rise of agriculture and then the complex impact of industrialization. They also underlie other phenomena, such as migration. While some general global trends are particularly significant, regional differences – flowing into the contemporary period – require attention as well.

Hunting and Gathering. Hunting and gathering societies were lightly populated. Small hunting and gathering bands – typically, 60-80 people – required considerable space, lest available game be exhausted. Migration was essential to respond to even modest population growth, but this recourse also had limited impact if confined to a single region. By 10,000 BCE, with homo sapiens sapiens spread to most of the currently-inhabited spaces on earth (including Australia and the Americas), total human population reached only about 10 million. Hunting and gathering groups worked to limit their birth rates, among other things through prolonged lactation of infants, to restrict local population pressure and to reflect the fact that children could contribute no really useful labor until they reached their teens.

Impact of Agriculture. The introduction of agriculture dramatically altered this context. Agriculture itself may have developed in response to local reductions in available animals, as well as greater knowledge of plants – it may have been intended, in other words, to respond to a new population challenge. Once introduced, however, it greatly increased the capacity for population support and, by making children an essential part of the family labor force, had a direct impact on the birth rate. Indeed, better support for larger families (which meant also more sexual activity) was a key gain from agriculture (despite a number of accompanying disadvantages, including harder work), though how quickly and explicitly this was realized is not certain.

Basic Patterns. On average, agricultural societies generated 6-8 children per family, as opposed to the 4 common in hunting and gathering contexts. This was not a biological maximum: with no constraints on sexual activity or birth control, human families will generate 14-16 children on average over a full fertility period. Concern for adequate support, and for avoiding overburdening landed property, continued to impose restrictions, despite the fact that 30-50% of all children born would die in early childhood. Poorer families, particularly, had to moderate their birth rate by some combination of measures; rates were higher in the upper classes, who could support, and might need, more surviving offspring. Sexual restraint, some efforts at "artificial" birth control including huge of herbal abortifacients, plus in many societies substantial infanticide combined in this process. Still, there was margin for significant population growth in this new pattern. Within 2000 years after the advent of agriculture, world population had soared to 150 million.

Further Growth. The process persisted as agriculture continued to gain and as some societies established new political and economic structures. Population rose substantially in classical China, to 56 million, and in the Roman Empire (at 54 million); levels in India are not so clearly known. During the classical period overall, population rose to 250 million. Regions with more challenging agriculture, because of less fertile land on average or other factors, saw less rapid growth. Still, careful organization could generate impressive population levels: when the Spanish arrived in Mexico at the end of the 15th century, the central Mexican plateau contained 25 million people despite the limits on available tools and domesticated animals.

Postclassical Oscillation. The end of the classical period saw significant population reductions, above all caused by new levels of epidemic disease. The global figure of 250 million would not be regained until about 1000 CE. Middle Eastern populations stabilized by the 9th or 10th centuries under Arab rule, for the region had reached maximum sustainability until after the Agricultural Age. Growth now came particularly in East Asia and in Western Europe, though the spread of agriculture in sub-Saharan Africa also had an impact.

Early Modern Patterns. The Columbian exchange of foods, diseases and migrants set up another population pattern during the early modern period. Overall, world populations grew, in part on the strength of further

agricultural improvements (better rice strains in China, for example) including the incorporation of New World foods. Western Europe, slower to adopt new foods like the potato, saw slower growth until the 18th century, when a huge boom occurred that would see populations double, in many cases, in just a few decades. But American populations declined dramatically until the 18th century, thanks to the impact of imported diseases; and overall African populations stabilized, with some gains on the basis of using New World foods, but also losses thanks to the new slave trade and the removal of many adults of childbearing age.

Long 19th century. Population gains were more widespread during the long 19th century. Western growth continued to be particularly rapid until the final decades of the century. Initial gains thanks to new foods were amplified as more adults, surviving to sexual maturity, were available to conceive children. Later in the century food imports and more scientific agriculture helped sustain the trend, and then after 1880s, particularly, infant deaths rates began to drop dramatically. Russian population quadrupled in the same period, and Asian populations rose substantially as well. Japan, copying Western public health measures after 1868, showed rapid gains. African rates were a bit more modest, but substantial, and American populations soared thanks to immigration and natural increase. Overall, world populations rose 110% during the period. In some cases, as in China, rapid growth constrained larger economic gains, for the burden of supporting a larger population consumed disproportionate resources. Social unrest in many places, including China, reflected growing pressure on the land.

Demographic Transition. The first radical response to new population levels took shape in the West, both Europe and North America. Many families, headed by the urban middle class, began to reduce birth rates well below characteristic agricultural levels. Sexual restraint plus, gradually, the availability and reluctant respectability of new birth control devices, notably condoms and diaphragms both based on the vulcanization of rubber in the 1840s, did the trick. Working classes and peasants gradually followed suit, for otherwise population growth threatened to overwhelm family resources. Then, particularly after 1880, new sanitation measures and medical advice combined to reduce infant death rates – to an unprecedented 5% of all children born by 1920. Population growth slowed rapidly, as this revolutionary "demographic transition" produced a new pattern of relatively few births per family, but few deaths as well before later age.

Regional Variation. One result of differentials during the later 19th century was substantial regional differentiation. As Western populations stabilized – except for a brief and fairly modest baby boom after World War II – most other regions displayed more rapid growth, thanks above all to new public health measures that reduced infant mortality. Asian and Latin American levels gained substantially, and then by the late 20th century sub-Saharan Africa joined in. As before in the West, lower infant death rates increased population but also generated more potential parents, a double impact that would continue for a time even when birth rates began to drop on a per-family basis.

Global Increase. During the 20th century as a whole world populations tripled, from about 2.5 billion to over 6 billion, an unprecedented development in world history and a substantial strain on available resources and on the environment. Life expectancy rose in almost all regions, above all because of the lower infant death rates but also, in many cases, because of some improvements in adult longevity as well, thanks in part to some medical improvements and (in some cases but not all) better living standards. Not surprisingly, pressure on the land increased in many areas, prompting further deforestation and other changes. But in most regions rapidly growing cities absorbed even more of the growth.

Demographic Transitions. At various points in the 20th century many regions began to experience the demographic transition, adding new levels of birth control to the drop in infant mortality. This occurred in the Soviet Union despite government efforts to encourage growth. Japan saw birth rates drop rapidly after World War II, with South Korea not far behind. In these cases, by 2000, population rates dropped below replacement levels, particularly in Japan, with rapid ageing of the population another key result. China introduced its famous one-child policy in 1978, with similar though slightly later results. Latin America's demographic transition occurred by the 1970s, though overall population continued to rise for several decades. Birth rate reductions in the Middle East, though slower in part because of Islamic resistance to artificial birth control, began to take hold as well, with severe cuts in places like Iran by the 2000s. India's population, despite ineffective government attempts to reduce birth rates, also gradually began to stabilize, though at overall levels well above those in East Asia. Africa probably headed in the same direction but much later, and African populations were projected to grow very rapidly well through much of the 21st century. Globally, however, the population surge slowed considerably, and was expected to stabilize by

2050. In many parts of the world – as already in the West and Japan – issues of population ageing began to win unprecedented importance as a result.

Sources

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Suggested Reading:

Hot, Flat, and Crowded: Why We Need a Green Revolution--and How It Can Renew America. By Thomas L. Friedman (Farrar, Straus and Giroux, 2008).

A Concise History of World Population. By Massimo Livi Bacci (Wiley-Blackwell, 1997).

Experiencing World History. By Paul Adams, Erick Langer, Peter Stearns, Merry Wiesner-Hanks, Lily Hwa (New York University Press, 2000).

Discussion:

1. In what major ways did the Neolithic Revolution change population patterns?

2. At what points has global population growth particularly accelerated, since the advent of agriculture, and what have been the main causes?

3. What impact did war have on demography in the early modern world?

4. What were the main differences in regional population patterns in the early modern period, and what factors were involved?

5. What was the "demographic transition", and how has it played out in world history over the past 150 years?

6. What demographic changes occurred in the 20th century? How is the 20th century unprecedented compared to early periods?

7. Does world history usually devote enough attention to demography? Are there ways to highlight this factor more adequately?

8. What are the main features of a world history of birth control, and what are the main problems in developing such a history?