

A Malthusian-Frontier Interpretation of United States Demographic History Before c. 1815

Daniel Scott Smith

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Résumé de l'article

Deux éléments fondamentaux ont marqué l'histoire des colonies britanniques en Amérique du Nord et des premiers temps des États-Unis : une poussée démographique de l'ordre de 3 p. 100, une croissance économique per capita inexistante. Ces caractéristiques diffèrent nettement des données économiques et démographiques des États-Unis du XIX^e siècle et de l'expérience qu'ont connue d'autres sociétés. Ces particularités ont eu des conséquences importantes : le régime de type « Malthusian-frontier » explique en partie le rythme très lent de l'urbanisation, la stabilité de la disparité des revenus et le caractère conflictuel et élitiste de la vie politique. Malgré la cadence rapide de l'accroissement naturel, source de difficultés économiques, sociales et politiques, la migration vers les régions frontalières a contribué à maintenir l'équilibre du système. L'exposé montre, à l'aide de données sur les villes de la Nouvelle-Angleterre à la fin du XVIII^e siècle, comment la migration a pu avoir un effet de régulation homéostatique, mais soutient aussi que les émigrants venus de régions plus peuplées ont été davantage repoussés qu'attirés. Plusieurs facteurs permettent d'expliquer cette « rigidité » du processus migratoire. Tout dans cet exposé démontre l'utilité d'une approche systématique de l'histoire démographique.

A Malthusian-Frontier Interpretation of United States Demographic History Before c. 1815*

Daniel Scott Smith

Résumé/Abstract

Deux éléments fondamentaux ont marqué l'histoire des colonies britanniques en Amérique du Nord et des premiers temps des États-Unis: une poussée démographique de l'ordre de 3 p. 100, une croissance économique per capita inexistante. Ces caractéristiques diffèrent nettement des données économiques et démographiques des États-Unis du XIX^e siècle et de l'expérience qu'ont connue d'autres sociétés. Ces particularités ont eu des conséquences importantes: le régime de type «Malthusian-frontier» explique en partie le rythme très lent de l'urbanisation, la stabilité de la disparité des revenus et le caractère conflictuel et élitiste de la vie politique. Malgré la cadence rapide de l'accroissement naturel, source de difficultés économiques, sociales et politiques, la migration vers les régions frontalières a contribué à maintenir l'équilibre du système. L'exposé montre, à l'aide de données sur les villes de la Nouvelle-Angleterre à la fin du XVIII^e siècle, comment la migration a pu avoir un effet de régulation homéostatique, mais soutient aussi que les émigrants venus de régions plus peuplées ont été davantage repoussés qu'attirés. Plusieurs facteurs permettent d'expliquer cette «rigidité» du processus migratoire. Tout dans cet exposé démontre l'utilité d'une approche systématique de l'histoire démographique.

The combination of a three per cent rate of population growth and an absence of per capita economic growth was fundamental to the history of the British colonies in North America and the early United States. These characteristics sharply differed from the economy and demography of the nineteenth century United States and from the experience of other societies. These distinctive features had significant consequences; the "Malthusian-frontier" regime helps to explain the extremely slow pace of urbanization, the stability in the inequality of wealth, and the pattern of conflict and elite domination in politics. Although rapid natural increase created economic, social, and political difficulties, migration toward the frontier served to equilibrate the system. Using data from late eighteenth century New England towns, the paper demonstrates how migration tended to act as a homeostatic mechanism but also argues that out-migrants from more densely-settled areas were pushed rather than pulled. Several factors account for the "stickiness" of the migration process. Throughout, the essay illustrates the utility of a systemic approach to demographic history.

This paper contends that the demographic experience of the British North American colonies and the early United States conformed to a distinctive pattern which had important ramifications. The distinctiveness is evident by comparison with later periods in American history and with the demographic record of other societies. Periodization of the historical record is not an arbitrary procedure; the two centuries of demographic experience following the settlement of Jamestown in 1607 and Plymouth in 1620 deserve recognition as a singular epoch. Specification of the basic patterns of this era immediately suggests the areas of consequence. Of most obvious importance are the mechanisms of adjustment which tend to maintain the underlying distinctive structure.

The title indicates that the main contentions of this essay are not novel. Using the historical exception of the United States to illustrate his theory of population, the Reverend Thomas Malthus summarized the essential facts in a brief passage:

Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. . . . In the United States of America, where the means of subsistence have been more ample . . . the population has been found to double in twenty-five years.¹

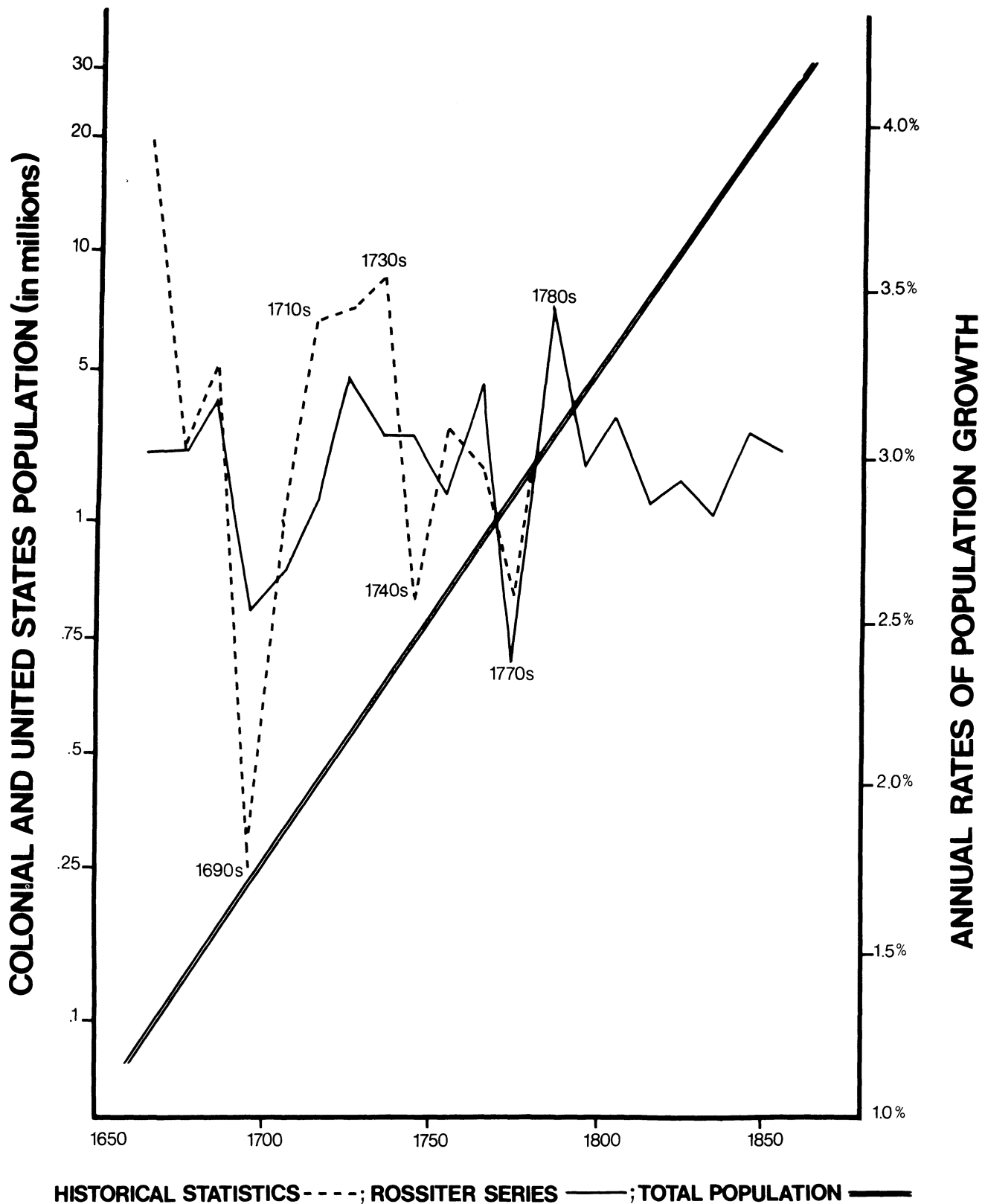
Three crucial attributes emerge from this discussion in the *First Essay on the Principle of Population*. Most apparent and of primary importance was the extremely rapid rate of population growth. Although this explosive demographic expansion was not accidental, population increase acted as an agent of change in this era. The Malthusian phrase, "means of subsistence,"

defines the second feature of the framework. In his model Malthus assumed an economic steady-state in the long run, a system involving only population and agricultural land in a world with essentially fixed techniques of production. There was no "modern economic growth," defined by Simon Kuznets as the sustained increase in per capita output.² Since there was neither a sustained decline in output per capita, Malthus correctly emphasized the exceptional character of the American environment. In America, the means of subsistence were "ample," the final element in the structure. Ampleness refers to the possibility of a concomitant geometric increase in availability of agricultural land, the factor later made famous in the frontier theory of Frederick Jackson Turner.³

Addressing two audiences, this essay has two broad purposes. By highlighting the distinctive features of the British colonial and early U.S. experience, those studying other New World societies may juxtapose this pattern to the record elsewhere. Specialists on United States demographic history will be familiar with the main lines of my interpretation; it remains useful, however, to re-emphasize broad patterns in a field, such as historical demography, in which researchers necessarily focus on the analysis of smaller aggregates. Since the discussion of the ramifications of population patterns has been neglected, U.S. historians will find some novelty in the essay. The structure of the paper is straightforward. The first section outlines the record of rapid population increase and reviews the literature on economic change before 1815. The second section examines three important ramifications of the Malthusian system — the extent of urbanization, the effect of population on economic inequality, and the ways by which demographic change affected political structure and behavior. Throughout, the argument will be qualified when necessary and integrated when appropriate with other aspects of the history of this period.

* I am indebted to David Hackett Fischer, David Galenson, Kenneth Lockridge, Russell Menard, and Darrett Rutman for comments on the conference paper.

U.S. POPULATION AND GROWTH RATES, 1660-1860



Sources: U.S. Bureau of the Census, *Historical Statistics, Series Z 1-20*, p.756.
W.S. Rossiter, *A Century of Population Growth* (Washington, 1909), Table I, p.9.

THE MALTHUSIAN SYSTEM

(A) *Rapid Population Growth:*

Positive rates of population growth over extended periods are exceptional phenomena in human history. The three per cent growth rate in the United States in the two centuries before 1860, outlined in the graph below, is extraordinary by any standard. Between 1750 and 1850 the population of Central and South America, by contrast, grew by 0.9 per cent per annum; during what is often called the demographic explosion of the Industrial Revolution, the population of the United Kingdom increased at a rate just over one per cent per year. If the 1660-1860 growth rate had continued, the population of the U.S. in 1980 would exceed 1.14 billion.⁴

Not only was growth extremely rapid but it also appears to have been relatively constant. Although the rates of growth plotted from decennial figures fluctuate, especially before the national census begins in 1790, some of the variation is an artifact. Understatement of population size in one year results in slower measured growth in the previous decade and higher growth in the next. Over intervals longer than a decade, the growth rate over two centuries closely approximated the long-term three per cent average.

Although it is the most important characteristic of the Malthusian system, the high and relatively constant growth rate is, after all, only the sum of variable demographic components — immigration, mortality, nuptiality patterns, and marital fertility — of the population equation. The continuation of rapid population growth after 1820 obscures changes in the underlying components of the demographic identity. Fertility, as measured by census child-to-woman ratios, declined in all regions of the country after 1820 and immigration increased in the final decades of the ante-bellum period. Rapid urbanization was also underway; the percentage living in places over 8,000 increased from five to twenty-one between 1820 and 1860. If a firm discontinuity may be located in rates of per capita economic growth, that transition also occurred in this era.⁵ Even though the three per cent rate of population growth continued until 1860, these differences point to the obsolescence of the Malthusian framework after c. 1815.

The timing of the emergence of the regime of rapid population growth and geographical expansion varied regionally. A prerequisite everywhere was the decimation of native-American populations by disease. Despite their early losses along the Atlantic seaboard, however, Indians and their French allies slowed the advance of English settlement before 1763.⁶

The English population of New England very rapidly attained the demographic characteristics of the Malthusian frontier system — early marriage for women, low mortality by west-European standards, and a high, west-European level of marital fertility. Only the first year in Plymouth Colony, when one-half died, was exceptional. When the sex ratio, which family-based immigration had moderated, became completely balanced, female age at first marriage settled around 22 or 23 years. Mortality was low, with life expectation at birth nearly fifty years in most decades. Mortality appears to have increased during the second quarter of the eighteenth century, but no secular trend emerged before the last two decades of the nineteenth century.⁷

In the Chesapeake region, on the other hand, the white population did not experience natural increase until the first decade of the eighteenth century. A severe disease environment, similar to that in the British West Indies, devastated immigrants into Virginia and Maryland in the seventeenth century. During the eighteenth century, however, natural increase

was very rapid, as high or higher than that of New England. Although mortality probably remained higher in the Chesapeake, females there married earlier than their New England sisters. The slave population of the Chesapeake also expanded rapidly through natural increase during the eighteenth century. This demographic success of the slave population on the mainland, a well-established fact with important consequences, was based on demographic behavior similar to that evident in the southern white population. Although mortality was higher for slaves, slave women began childbearing at very early ages (by west-European, not African standards) and spaced their children at intervals which were customary in west-European populations.⁸

The demographic history of the Middle Colonies is less well known. Proportionately more immigrants came to the middle region in the eighteenth century than to New England or the South. Following a general maxim in colonial historiography, one is tempted to put their mortality and nuptiality patterns midway between those of New England and the Chesapeake.⁹

By far the larger part of the three per cent growth rate derived from natural increase, not immigration. Rapid natural increase depended primarily on the high fertility produced by an early and near-universal marriage pattern for women. Early marriage in turn rested on the widespread availability and consequent cheapness of land. Despite the differences between British North America and western Europe, demographic behavior represented a modification of, not a departure from, Old World patterns. Marriage for males in both worlds required enough resources to support a family. This requirement has been demonstrated in empirical studies by the positive correlation between age at death of a father and the ages at marriage of his sons; earlier inheritance led to earlier marriage.¹⁰

Although rooted in the economic circumstances of the colonies and the early United States, rapid population growth was fortuitous to some extent and can be viewed as a process with a momentum of its own. The relatively low level of mortality was partially accidental, as the terrible death rates of the Chesapeake region in the seventeenth century illustrate. A well-fed population scattered across the land also contributed to the comparatively low level of mortality in the eighteenth century. Although exceptions may be found, fertility within marriage was not reduced by contraception; detailed analysis reveals the characteristic features of uncontrolled or "natural" fertility.¹¹ Given the record of comparative demography both for the history of western countries and high fertility countries today, one should not expect the population to reduce its fertility quickly in response to a change in economic circumstances. Although the continuation of rapid population growth was contingent on the geographical expansion of the means of subsistence, the extension of the frontier was not automatic, cost-free, or even especially desirable for potential migrants at some times.

(B) *The Approximation of the Economic Steady-State:*

The economic history of the British mainland colonies and the early United States is best defined as extensive economic growth. There was little, or even no economic growth in per capita terms, at least after the colonies found their economic base in the early decades of settlement. The economy grew rapidly, of course, but so did population. The principal reason for a ceiling on per-capita output or income is ironic and directly related to the Malthusian frontier man-to-land ratio; the ceiling was also a very high floor. The resource richness of the economy explains the paradox that while U.S. per-capita economic growth rates in the nineteenth and twentieth centuries were only average compared to European rates of economic growth, the incomes of Americans were higher than those of Europeans at every date until recently.

The international trade sector is the only adequately documented aspect of eighteenth-century economic activity. Although short-run fluctuations are more noteworthy than trend, the decline in per capita exports between 1700 and 1770 is consistent with some improvement in productivity in the market sector. One economist has estimated that the share of exports in gross national product declined from 20-30 per cent in 1710-1720 to 15-20 per cent in 1770 and to 10-15 per cent in 1790-1800.¹² If this logic is correct, a corollary is that a higher fraction of the population was living outside the region of easy (essentially water) transportation in 1770 than in 1700. Recently scholars have emphasized the importance of staple production for the structuring of the colonial economy. Although they dominated the market sector, staples were not an engine of economic transformation in the Malthusian era.¹²

Adam Smith himself noted that the colonists lacked a comparative advantage in manufacturing. Wages were too high in the colonies and farming was attractive for both economic and cultural reasons. The failure of manufacturing attempts between 1776 and 1820 indicates that political independence did not alter American advantage. Since the agricultural sector was so large before 1810 (80-90 percent of the work force by most estimates), any substantial per capita economic growth had to derive from that primary sector. Local studies of agricultural productivity, based on probate inventories, reveal fluctuations but no certain trends. Further, since the geographical scope of the economy continuously expanded, local studies inevitably capture a different and smaller fraction to total economic activity over time.¹³

The rough conclusion that economic progress more-or-less kept pace with the rapid march of population growth in the Malthusian era is difficult to refute. A constant long-term per capita income is actually a considerable achievement by the standards of comparative economic history and its attainment underscores the peculiar environmental circumstances of North America.¹⁴ Probably there were no inherent obstacles to modern economic growth in the Malthusian era. Although early marriage and high fertility generated a very young population and a high dependency ratio, this demographic feature was also present after 1820. If the international economy had not been intermittently disrupted by war between 1689 and 1815, the staples-based market sector might have been more dynamic. The advent of modern economic growth in the United States also depended on new techniques of industrial production. Between 1810 and 1840, for example, a significant part of per capita growth in the whole economy can be attributed to the shift of labour from lower productivity agriculture to the more productive new industrial sector.¹⁵ Given the fact that the United States was a follower of Britain in the Industrial Revolution and given the timing of that process in Britain, one should not be surprised by the approximation of the economic steady-state in the colonies and the early United States.

THE RAMIFICATIONS

(A) *The Absence of Urbanization:*

The non-specialist on U.S. history should be perplexed by the literature on urbanization before 1815. No doubt colonial and early U.S. cities had their significance; one would have difficulty narrating the outbreak of hostilities with Great Britain in the 1760s and 1770s if events in Boston were omitted. Urban historians perhaps naturally tend to think not only that cities are important, but that they are important for everything else and that they continuously become even more so. They thus have tended to exaggerate both the level and growth of urbanization before 1820. For this discussion one must carefully distinguish among the growth of urban population (increase in total num-

bers living in urban places), urbanization (change in the percentage living in cities), and urban functions (the market, trade, and even industrial activities, which were often performed in tiny places in the pre-industrial era).

Scholars often cite Carl Bridenbaugh's erroneous contention that Philadelphia was the second city of the British Empire in the era of the American Revolution. Even if Philadelphia were second largest, London, the primate city in the imperial system, was twenty to thirty times more populous. To interpret the 5.4 per cent of the southern population in 262 "urban places" (having a mean size of only 382 persons) in the 1790s as "an astonishing urban transformation" reveals only a low threshold of astonishment. No stable rank-ordering of city sizes developed in the South, and scholars continue to debate the question of plantation self-sufficiency in ante-bellum southern agriculture.¹⁶

Although urban populations were increasing, urbanization was slow and irregular. In 1820 only 7.2 per cent of the population lived in the 61 places with more than 2,500 persons, compared to 5.1 per cent in 24 such places in 1790. All of the largest places — Salem, Boston, Newport, New York, Philadelphia, Baltimore, and Charleston — were seaports. A contemporary observer noted that "the size of all towns in America has hitherto been proportionate to their trade."¹⁷ Since foreign-trade per capita did not increase over time, the stagnation of seaport urbanization follows from this crude principle.

Even though urban-enthusiasts may reluctantly concur with these facts, they imply that a focus on the clearly urbanized seaport tail of the size-distribution of places is misleading. Two alternatives — the analysis of the spatial structure of relative population size and the study of occupational distributions — provide potential tools for the assessment of urban functions in society. I have calculated an index of relative population concentration per political unit (the coefficient of variation, the ratio of the standard deviation to the mean) for towns in New England and counties of New York in the eighteenth and early nineteenth centuries. Although political subdivision may obscure a tendency toward more uneven *density*, no change is apparent over time in the relative concentration of populations in towns or counties before 1820. Available local and regional studies also suggest an absence of a sustained increase in urban functions. In an Anne Arundel County, Maryland parish, the proportion of potentially urban persons (those with non-agricultural occupations fluctuated without trend between 1685 and 1765. In southeastern Pennsylvania, towns grew more rapidly between 1730 and 1765 compared to a quiescent period in the first three decades of the eighteenth century and a post-1765 phase of urban stabilization.¹⁸

The hypothesis of a relative expansion of urban functions in colonial and early U.S. society thus remains unproven at present. Scholars who emphasize progressive urbanization (and who thus implicitly disagree with my "Malthusian" argument) have argued that the pattern of the distribution of population over space may be illuminated by central place theory, a geographical construct based on intensive integration over the landscape. Although there must be some truth in this paradigm, it has only been casually demonstrated. In his study of southeastern Pennsylvania, James Lemon noted only that towns varied in size, a fact merely suggestive of central place theory. Edward M. Cook, Jr. also invoked the metaphor of a hierarchy of central places in his massive study of the officeholders of 74 New England towns in the eighteenth century. The crucial category in his typology for the central place argument is the "major county town," one of the places that were "local social and economic centers, and often county seats, but that were not large enough to have definite urban character." Cook's typology was examined with the aid of the statistical technique of discriminant analysis. Agreement of the statistical technique

with Cook's ordering was generally impressive. All five of the cities, 20 of 25 suburban towns, 10 of 14 rural towns, and 11 of 13 frontier towns were placed in the same category that Cook designated. With the exception of the urban type, these categories are regional rather than hierarchical. However, the discriminant analysis placed only seven of Cook's 16 county-level towns into that category; three of these were classified as urban, five as suburban or secondary, and one as a rural town. This disagreement about categorization arises because different phenomena are being explored. Cook showed that numerous officeholders, particularly justices of the peace, tended to live in county seats, whereas this analysis gives more weight to population and economic factors.¹⁹

What emerges from this statistical exercise is a renewed stress on the tyranny of distance between places connected only by overland transportation. Cost deterred the establishment of a hierarchy of places in the Malthusian era. The three-region framework of Jackson Turner Main — commercial areas (with water connections to markets), subsistence areas (understood, obviously, to include at least a modicum of trade and production for the market), and the frontier — succinctly maps the economy of the Malthusian era.²⁰ The population history of particular towns is to be explained through a diversity of factors — location, competition from other cities, the volume of trade, the cost of transportation from the environs to the city, and the type of crop in the hinterland. The production of wheat, for example, was much more conducive to urbanization than tobacco.²¹

The overall level and rate of urbanization in the entire society also depended on several factors. In the context of settlement in the New World by Europeans, high levels did not represent economic success. During the whole period of French control in Canada, Québec City, Montréal and Trois Rivières comprised a quarter of the total population. Despite a Malthusian frontier rate of demographic increase in French Canada, the total immigration was so small that almost all of the European-origin population lived along the St. Lawrence River. It was not until the first seventy years of British rule that Québec de-urbanized, with only ten per cent living in cities in 1825. New Orleans also comprised a large fraction of the tiny population of Louisiana during the eighteenth century.²² The British mainland colonies experienced a different pattern of urbanization in the eighteenth century. The shares of Boston, Philadelphia, and New York City in the total populations of Massachusetts, Pennsylvania, and New York colony respectively were larger at the end of the seventeenth century than later.²³

Like maintaining a relatively constant level of per capita output over many decades, the slow, irregular, and often absent course of urbanization before 1820 does not signify failure. Cities had to grow very rapidly just to keep up with the rate of population growth. Since only a finite part of each colony had access to water transportation, continued geographic expansion — the realization of the “ample means of subsistence” — removed larger proportions of the total population from urban hinterlands. Population expansion over space thus involved ruralization or decommercialization during the Malthusian era. The population was not tightly integrated into a hierarchy of trading centres but instead divided into three types of regions with weak links between commercialized areas and both settled-subsistence and frontier areas.

(B) Population and the Stability of Wealth Inequality:

The Malthusian frontier system implies a constancy in the extent of wealth inequality over time. The obvious exception, the growth of slavery during the eighteenth century, paradoxically conforms to the model. A precondition for the exploitation of unfree workers is the combination of cheap land and expensive

labour; hiring free laborers would not make sense for a land-owner if their wages equalled their output.²⁴ There are several mechanisms by which wealth inequality can increase. In the Malthusian era, however, we can rule out the entrepreneurial profits accruing to innovators in the first phase of modern economic growth or an increasing volume of government largess distributed to a few fortunate individuals and families. The relevant scenario is as follows: After a particular area was settled within a colony, its population grew rapidly and, at some point, its agricultural land approached full utilization. A variety of factors — differentials in the numbers of surviving heirs, advantages resulting from the performance of specialized functions which depended on the larger population, differential skill, or even luck — allowed some families to increase their share of the wealth. A group of losers, landless men, were similarly generated at the bottom of the economic structure. Continuation of population growth maintained the process of differentiation.²⁵

The most effective short-run equilibrating mechanism in the Malthusian system was out-migration from the fully-settled area to the frontier. Sufficient out-migration would thus reduce inequality (in income if not wealth) by raising wages and lowering land prices in the settled region. The population would also be redistributed toward the relatively more egalitarian frontier, an environment of lower land prices and higher wages.

Did the real world of eighteenth-century America conform to the model? Two recent surveys of wealth inequality, with samples drawn from broad geographical areas, have reached conclusions in conformity with the Malthusian argument. The results parallel my discussion of economic development and urbanization — the absence of a secular trend between the late seventeenth and early nineteenth centuries, important fluctuations depending on the state of the international economy, and a sharp upward trend in inequality in the antebellum era. Inequality among whites was greatest in the South, larger in New England than in the Middle Colonies, and greater in commercial areas, especially cities, than in subsistence and frontier regions.²⁶

The model thus provides an excellent first approximation. The changing geographical composition of the population from settled areas to the frontier resolves the discrepancy between the secular stability of wealth, inequality for broad areas, and the substantial increase in inequality in communities studied over long periods.²⁷ More direct information may be obtained from Cook's study of New England towns (Table 1). Although the data are limited to the 45 of 74 towns which did not experience a change in boundaries between 1766 and 1790 and although the number of towns in some cells of the table is too small, the results support the argument. Population grew most rapidly in towns with the lowest density (under 25 persons per square mile). Further, growth rates tended to be more rapid in the less wealthy towns within particular density groups; differential rates of net migration were the main cause of the differences in growth rates. Migration tended to act, as Darrett Rutman has carefully demonstrated for the effect of density on the population growth of New Hampshire agricultural towns between 1767 and 1790, as a homeostatic balancing mechanism retarding the expansion of wealth inequality.²⁸

The investigation, however, is not closed. In the first place, there is a range of suggestive evidence pointing to “overcrowding” in the towns of eastern New England during the second half of the eighteenth century.²⁹ Second, the literature on wealth inequality over time and space in this era is relatively sketchy and imperfect. Finally, out-migration often is a “sticky” process for “migrants find their way to areas where labor is in demand but they may not always leave places where labor is in oversupply.”³⁰

TABLE 1. — ANNUAL POPULATION GROWTH RATES IN NEW ENGLAND TOWNS BETWEEN 1766 AND 1790, BY DENSITY AND COMMERCIAL WEALTH GROUP IN 1766.

Density per square Mile in 1766	Commercial Wealth Group of Town in 1766			
	Wealthiest 30%	Middle 30%	Poorest 40%	Total sample
Under 25.0 persons	— (0)	2.78%(4)	4.74%(8)	4.09%(12)
25.0 to 49.9 persons	0.78%(6)	1.38 (10)	1.73 (3)	1.24 (19)
50.0 and more persons	1.04 (11)	2.21 (2)	1.15 (1)	1.21 (14)
Totals	0.95%(17)	1.83%(16)	3.69%(12)	1.99%(45)

Source: Edward M. Cook, Jr., *The Fathers of the Towns: Leadership and Community Structure in Eighteenth-Century New England* (Baltimore, 1976). The table is restricted to those towns which did not experience a subdivision between 1766 and 1790; I am indebted to Professor Cook for information on town division in New England.

Note: Sample sizes reported in parentheses. A square mile equals 2.59 square kilometres.

Table 2 summarizes the available information for this era relating wealth inequality to both population and the extent of commercialization. No single pattern is evident, although the discrepancies may be explained. The rate of population growth was clearly related to the rate of growth in wealth inequality over the long term in Hingham, Massachusetts (Line A). The correlation here derives from their mutual relationship to economic advances. Progress, poverty, and population increase were interrelated. No such correlation appears in eleven pairs of New England towns or for Chester County, Pennsylvania, in the seventeenth and eighteenth centuries (Lines B and C). If places grew rapidly both in the initial frontier stage (a phase with stability in wealth inequality) and also during much later phases of non-agricultural commercial development (when inequality increased sharply), then no correlation would result.

If out-migration functioned perfectly as a balancing mechanism, then the greater inequality of high density areas derives from the job opportunities afforded by commercialization. That New England towns with more rapid prior increases in wealth inequality in 1766 tended to be more densely populated (Line D) is consistent with both the commercialization and the labour oversupply hypotheses. Cross-sectional correlations between size or density measures and inequality in New England in 1766 and 1771 are lessened, but not eliminated, (Lines I, J, M, and O) by controls for the extent of commercial development; these partial correlations support the overcrowding hypotheses.

Why more people did not move to the frontier may be understood if that phenomenon is perceived not as a constant factor but a process varying among specific cultures at particular times. In his classic formulation of the frontier thesis, Frederick Jackson Turner pointed to its precipitate closing in 1890.³¹ One may contemplate, if not measure at this point, the ratio of population in settled areas to the population which potentially could be located on the frontier at different dates in colonial and United States history. Over time, all else equal, this ratio must inevitably increase; indeed, the interval from date of first settlement to date of maximum population in a frontier area did shrink over time.³² With three per cent Malthusian rates of population growth, the frontier — not unlike the economy and urban growth — had to expand rapidly just to stay even.

The frontier may be conceptualized as either a safety-valve or as positive economic opportunities. To use the terminology of migration, were people “pushed” or “pulled” to the frontier? A comparison of eighteenth and nineteenth century persistence ratios suggests that there was a shift from the former mechanism to the latter. Although there are numerous empirical

difficulties in deriving and comparing persistence (defined as the presence of an individual on successive nominal lists), geographical mobility apparently increased in the nineteenth century.³³ Comparing migration differentials helps to explain why overall rates of migration increased. Although the propertyless and young were more likely to depart from nineteenth-century communities than the propertied and older, wealth and age differentials narrowed. The narrowing of the differential reflects the fact that, for example, nineteenth-century Illinois was a more desirable frontier than eighteenth-century New Hampshire. The railroad and access to international markets would be along in a few years in the Midwestern case.³⁴ The more dynamic economy of the nineteenth century pulled people not only to the frontier but to opportunities in rapidly growing cities.

Young New England men thus had not much to gain by moving to the frontier in the second half of the eighteenth century. They also had a little to lose. The beneficiaries of partible inheritance, New Englanders tended to settle near their parents. Some 38.4 per cent (N = 698) of non-urban household heads in southern New England in 1790 lived within five households of a person with the same surname. In northern New England this crude index of kin propinquity was 34.0 per cent (N = 368). Only 27.8 per cent (N = 716) in the middle states, 23.2 per cent (N = 775) in Maryland and Virginia, and 29.3 per cent (N = 434) in the Carolinas lived near patrilineal kin in the year of the first national census. The stickiness of the out-migration mechanism was also recognized by contemporaries. The authors of the conservative 1780 Massachusetts Constitution appealed to those “Persons who are Twenty-one Years of age, and have no Property (who) live upon part of a Paternal estate, expecting the Fee thereof” to postpone voting privileges in order to disenfranchise “those whose Idleness of Life and profligacy of manners will forever bar them from acquiring and possessing Property . . . (and who therefore) regard to the Rights of Property because they have nothing to lose.”³⁵

The homeostatic mechanism of out-migration thus functioned imperfectly in limiting the population sizes of settled towns in New England in the second half of the eighteenth century. The second approximation involving a relatively unattractive frontier and a sticky inheritance pattern modifies but does not replace the original model. Indeed we make maximum sense out of the historical record through their joint application. Specification of an expected pattern for the Malthusian era also clarifies the relationship of that period with the post-Malthusian world of the antebellum period. If out-migration worked imperfectly, New Englanders led the country in the control of fertility within marriage, the “neo-Malthusian” solution to the problem of excessive numbers.

TABLE 2 — CORRELATION BETWEEN POPULATION SIZE, DENSITY, AND GROWTH, AND INDICATORS OF WEALTH INEQUALITY.

	Variables	Correlation Coefficient	N
A)	Between the rate of change in the index of inequality (Schutz coefficient) and the rate of growth in Hingham, Mass. 1647-80/1850-1880	0.75	14
B)	Between the rate of change in the Schutz coefficient for wealth inequality and rate of population growth in Chester County, Pa., 1693-1715 to 1782-1802	0.08	6
C)	Between rate of change in Schutz coefficient and rate of population change in New England town 1663-81/1759-1776	0.19	11
D)	Between the annual change in the size share of the top 10% (SSTT) (1725-49/1750-c. 1775) and logarithm of density in 1766 in Cook sample of New England towns.	0.50	20
E)	Between logarithm of population in SSTT in New England towns between 1659 and 1712	0.57	14
F)	Between logarithm of population and SSTT in Massachusetts towns in 1771	0.63	24
G)	Same as above, wealth from inventories and money at interest excluded from distribution	0.32	24
H)	Between logarithm of population and SSTT in Cook sample of New England towns.	0.54	49
I)	Partial correlation as (H), controlling for intra-colony commercial decile.	0.26	49
J)	Between logarithm of population and SSTT in Massachusetts towns in Cook sample.	0.63	24
K)	Partial correlation as (J), controlling for Van Beck Hall index of commercialization (1784).	0.26	24
L)	Between logarithm of density in Cook sample of New England towns and SSTT in 1766.	0.71	49
M)	Partial correlation as (L), controlling for intra-colony commercial decile.	0.60	49
N)	Between logarithm of density in Mass. towns in 1766 and SSTT.	0.67	24
O)	Partial correlation as (N), controlling for Van Beck Hall index of commercialization (1784).	0.46	24

Sources: Data are summarized in Daniel Scott Smith, "Population, Family, and Society in Hingham, Mass., 1635-1880." (Unpublished Ph.D. dissertation, Univ. of California, 1973), 187-189. Cook, *Fathers of the Towns*.

(C) Population and Political Structure:

What influences did the three percent rate of population increase and the absence of modern economic growth have on the political organization of colonial and early United States society? Avoiding reductionism, these ramifications must be considered within the context of a political culture defined by transatlantic ideas. This short sketch can only provide suggestions concerning regional patterns, competition for office, and the size of communities.

Geographical expansion produced three distinct types of regions — commercial areas; subsistence, settled agricultural area; and the frontier. Excluding battles between loyalists and patriots during the American Revolution, the episodes that resulted in actual or potential conflict involved protests by persons from the latter two regions — the march of the Paxton Boys on Philadelphia, the Regulator movement in Western North Carolina, the Green Mountain Rebellion in Vermont, and Shay's Rebellion in Massachusetts.³⁶ Regional problems were thus serious but rather easily solved. They did not threaten the

tradition of political representation by an elite, since constituents in each region tended to elect their most qualified gentlemen to office. The extension of institutions of local government to new areas and the reapportionment of state legislatures after the Revolution eased regional tensions within states.³⁷ The struggle over ratification of the United States Constitution of 1787 also followed regional lines. "Commercial-cosmopolitans," and delegates from some frontier areas had needs that a stronger national government could supply. "Agrarian-localists" from subsistence agricultural areas predominated on the Anti-Federalist side. For persons living in places not accessible to the market, non-local government meant only taxes and outside control, not services.³⁸

Despite the violent incidents and the division over the Constitution and other economic issues, commercial, subsistence, and frontier regions were neither competitive nor complementary — only different. The exceptional case of Rhode Island illustrates the political importance of the non-integration of regions. During the third quarter of the eighteenth century, the established city of Newport and its hinterland in the southern part of the colony contended with a burgeoning northern rival, Providence, for commercial supremacy. Led respectively by Samuel Ward and Stephen Hopkins, the Newport and Providence factions created remarkably advanced political organizations and stimulated high levels of participation by voters, despite the near-universal condemnation of partisanship by all involved. Developmental politics in eighteenth-century Rhode Island presaged the issues and associated partisanship of the 1830s, when canals and railroads were dissolving the boundaries of traditional hinterland. The stakes in the Malthusian era were higher than in nineteenth century for losing to a contending city resulted in absolute, not merely relative, declines in population and trade. Newport withered as an urban and trade centre after the Revolution.³⁹

That the principal economic areas in the colonies and early states were only different helped to sustain the elite mode of politics. Contending for office was an affair restricted to gentlemen from families that were qualified by their economic, social, and cultural standing. Americans sometimes used the same theoretical framework to comprehend ecological and elite politics. Spokesmen for subsistence areas linked commerce to corruption and agrarianism to virtue. The court-country dichotomy, however, pertained more precisely to the elite struggle between "ins" and "outs", since it was the patronage of the executive which was the direct source of political corruption. Rapid population growth did threaten the status of individual families within the political elite. The number of desirable positions grew more slowly than the population and, one presumes, more slowly than the pool of potential incumbents. This shrinkage was probably most marked at the top level of colonial politics, with the outrage of the Otis family at the selection of Thomas Hutchinson as the chief justice of the superior court of judicature of Massachusetts in 1760 being the most cited example.⁴⁰ The same phenomenon was evident at the local level. In the nineteen towns supplying data in the Cook sample, the percentage of important leaders in the population declined from 5.5 to 2.9 percent between 1700-1724 and 1750-1774. A trend toward oligarchy, independent of increasing populations in the towns, was also evident during the eighteenth century in New England.⁴¹

The cultural perception of the political actors translated the structural problem of a diminution of the relative size of the elite into an actual one. In the eighteenth century, gentlemen thought they should hold positions of political leadership. They did not desire merely to have their interests represented by others, particularly by professional politicians. Although structural and cultural elements should not be merged in analysis, they

intertwined in politics. Constituents, for example, placed relatively few demands on their leaders compared to later eras in American politics. Since followers had relatively few actual needs from government, leaders from the elite could favour both their personal concerns and the interests of their localities. In recent years political historians have attempted to understand differences between political parties and factions in American history in terms of the collective biographical characteristics of their leaders. This research has proved unrevealing for studies of nineteenth and twentieth century politicians. In the early twentieth century, for example, both Progressive reform politicians and their conservative opponents had nearly identical profiles of biographical characteristics. In the late eighteenth century, however, personal social and economic attributes of leaders were associated with positions on political issues.⁴² Holding office was substantively as well as symbolically important for members of the elite. The Whig notion of separation of powers after the American Revolution banned plural office-holding. This eased the relative shrinkage of elite positions. The Revolutionary theorists also feared that the executive would use offers of desirable positions to corrupt members of legislatures. Cultural and structural factors thus often reinforced each other.

A broader definition of politics goes beyond offices, potential leaders, and constituents to the structuring of a range of relationships within communities. Early in the twentieth century the German sociologist Georg Simmel starkly outlined the conflict between the maintenance of a normative community and a large population. Sustaining large numbers of persons in a social system requires differentiation for unity. This specialization inevitably leads to conflict and to the attenuation of communitarian sentiment; utopian communities appear to have a maximum size for viability. A good standard is provided by the computation of the Mormon Church that 750 people is the ideal size for a ward or congregation. Beyond that size an increasing portion of the members become mere onlookers and not active participants.⁴³

The outcome of rapid rates of population growth would appear thus straightforward — a progressive declension of community sentiment. Although growth in numbers did strain community, the example of New England communities demonstrates that people can be the masters of population processes. In both 1700 and 1750 there were 785 persons per clergyman in New England; interestingly, the figures for the U.S. in 1910 and 1950 were 783 and 887 persons per clergyman.⁴⁴ To be sure, the formation of a second or third church in a New England town often involved conflict. The resulting churches, even for splits which had a theological dimension, were typically geographically distinct within towns. The religious parish became a more important entity in New England during the eighteenth century and, not coincidentally, so did the county.⁴⁵

SUMMARY

If the growth and fission of New England communities did not precisely parallel the reproduction of amoeba, the example illustrates a major theme of this paper: the lives of people are shaped by aggregative processes and they, in turn, attempt to solve, sometimes imperfectly, the problems produced by the processes created originally by the collective effect of their individual actions. During the Malthusian era the extremely rapid rate of population growth and the relatively constant level of per capita output were the fundamental factors. The Malthusian epoch was extraordinary in comparison to the demographic histories of other premodern societies and its features sharply differentiate it from the post-1815 experience of the United States. Urbanization, the extension of the frontier, and the

growth in the number of political offices had difficulty matching the pace of demographic expansion. Rapid population growth created problems for individuals, families, elites, communities, and regions. The patterns of response were distinctive and must be understood in the context of the Malthusian era.

NOTES

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