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5 Consumer Behavior, Diet, and the Standard of Living in Late Colonial and Early Antebellum America, 1770–1840

Lorena S. Walsh

Did living standards as measured by trends in consumption patterns improve, remain static, or decline in the decades following the American Revolution? My aim in this paper is to survey what we know and what we don't know about patterns of consumer behavior as these may have influenced the diet of inhabitants of the early republic. The sources included in the survey are probate inventories, widows' allowances, culinary history, archaeology, and account books. While these sources—especially in combination, since each by itself supplies an incomplete picture—hold great promise for future research, none offer quick or easy answers about continuity and change in diet.

Conclusions that can be drawn from recent research in several disciplines are more tentative than one would wish, but nonetheless suggest that in the early nineteenth century many Americans maintained the levels of consumption of household goods and of foods that they had achieved at the end of the colonial era. Moreover, for wealthy and middle classes in both rural and urban areas, household amenities, variety in diet, and the means to prepare foods increased, while seasonal variations in the foods available diminished. Among the groups that we know the least about—those at the bottom of the income distribution, and especially the urban poor—living standards most likely did

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not improve, and may have declined. Unfortunately, evidence about levels of consumption among households of varying wealth are firmest for the late colonial period. Thereafter, results become increasingly more tentative, and the years after 1830 are truly a "dark age." This results not from lack of relevant materials but from failure to study them. Here is a major area for future research.

I'll begin with a series of gross generalizations that seem warranted from the available materials. These will be treated in greater detail in later discussions of the different sources. (1) Living standards, as measured by quantity and variety of household equipment, appear to have improved for the urban middle classes and for farmers who had access to hired or bound labor between 1790 and 1830. The situation of urban poor, of farmers without extra labor, and of landless rural residents is uncertain; there were clearly no major improvements. (2) The life styles of the urban and rural upper and middle classes followed increasingly diverging paths. (3) Cooking and food preservation technology remained basically unchanged everywhere for all groups until the 1830s and, for many places and groups, did not change significantly until after the Civil War. (4) Systems of food distribution may have changed (or failed to do so) in ways that affected both urban and rural diets. Too little research has been done on this topic to permit generalization. This is an area that deserves particular attention in future. (5) Consumption of vegetables increased throughout the population. (6) Consumption of alcohol rose dramatically between 1790 and 1820, then declined markedly after 1830, especially in New England among all consumers, and probably among women and children elsewhere. (7) Coffee drinking increased, while tea drinking remained relatively constant. The social connotations of use of these beverages (especially tea) continued to be a prime consideration for their adoption, separate from their nutritional role. (8) Despite many assertions to the contrary, people of all classes ate at least as much beef as they did pork. Because beef was generally eaten as fresh rather than preserved meat, it is seldom mentioned in some kinds of sources, and its importance in the diet has been greatly underestimated. (9) Food supplies became somewhat less dependent on season as improved systems of harvesting and distribution and marginally improved preservation techniques afforded a greater range of foods across the calendar year. (10) Consumption of fish and to a lesser extent shellfish increased above levels prevailing between circa 1725 and 1775 throughout older parts of the country. (11) Wheat flour was increasingly substituted for other cereal grains, especially in New England. (12) Production of dairy products, especially butter, rose substantially in New England, the Middle Atlantic, the Midwest, and the Upper South.

I wish also to raise at the outset two other considerations. First, evaluation of the production, procurement, preparation, preservation, and consumption of food must take into account changing roles and responsibilities by gender. Expectations for women's role in the family, in the general society, and in

opportunities or necessities for various kinds of work in or outside the home were changing at least as quickly as were those of men, and perhaps more quickly. Women were almost exclusively responsible for preparing and serving meals, along with numerous other productive and reproductive responsibilities. Changes in the time women had available for raising, processing, and cooking food as opposed to other pursuits had significant impact on what families ate. From the mid-eighteenth century, women who wished their families to adopt genteel manners and genteel styles of taking meals effected changes in their home environments and in mealtime content and rituals. By the early nineteenth century, the ideology of domesticity enjoined a limited and sex-specific role for women, primarily in the sphere of the home (as opposed to the outside world of waged work and commerce), with particular emphasis on wives' and mothers' roles in nurturing children, and in uplifting society through private moral influence and religious example exercised largely within the family. Homemaking and housekeeping acquired an enhanced and sentimentalized role. Urban middle-class women, most influenced by domestic ideology, certainly devoted more time to the preparation of increasingly complex and elaborate meals, and some to fashionable entertainments. Rural women used their time differently, but the major shift seems to have been to other commercial pursuits, rather than to significantly increased time in the kitchen and about the table. In New England and the middle states, many rural women shifted out of textile production shortly after the close of the Revolution, devoting more of their time instead to dairying or various sorts of craft outwork. In the South, textile production gained in importance in all but the wealthiest households through the War of 1812. (I'm uncertain as to the dating of a downturn in household production.) Women from poor urban and rural families devoted increasing time to a variety of wage labor or outwork in order to supplement family incomes. These competing demands cut into the time available to produce or procure and to prepare and preserve foodstuffs. Women's income from such activities as factory work; spinning; weaving; knitting; sewing; washing; taking in boarders; making buttons, shoe parts, or palm hats; dairying; and the like were often critical to maintaining family income. Opportunities for such work were surely increasing during this period, just as those for gardening, animal raising, gathering wild foods, and scavenging firewood were diminishing (Blackmar 1989, chap. 4; Clark 1990, chaps. 4, 8; Geib 1981, chaps. 3, 6; Hood 1988, chaps. 1, 4; Jensen 1986, chap. 3; Larkin 1988, chap. 1; McMahan 1981, introduction, chaps. 5, 6, 1989b; Matthews 1987, chap. 1; Shammass 1990, 186–88; Williams 1985). To date, European historians have paid more attention to the implications of such changes, especially among marginal groups. American historians might profit from their example (Boserup 1985; Goody 1982; Humphries 1990; Mintz 1985, chap. 3; Tilly 1985).

Second, the myth of self-sufficiency, while attenuated by recent research, still exerts a powerful and often deadening influence on inquiries into diet.

Many studies of rural foodways based either on probate inventories or archaeology tend to assume that observed foodstuffs were produced by the individual household for private consumption. This assumption is demonstrably false for households both at the top of the wealth structure and at the lower end. Only the more substantial farmers achieved self-sufficiency in food and, in the process of achieving this goal, produced a superfluity of at least some foodstuffs that were either sold or expended in entertaining. Nonlandowners, along with some tenant farmers and freeholders with minimal acreage, had to purchase some foods. Freeholding farmers of middling economic and social status may have been more self-sufficient, but this is much more bold assumption than certain knowledge. Given the amount of work required to raise, prepare, and cook food and otherwise to maintain a home, for an individual to live in accord with prevailing standards of decency in the early nineteenth century, he or she needed to be a member of a larger, cooperating household. The strategies households at varying levels of wealth adopted for making a living were increasingly varied; most involved either greater dependence on wage labor or on market exchange than had been the norm in the colonial period. Changes in the labor system, especially in New England and the middle colonies, brought about changes in household subsistence strategies. In the South, labor systems changed somewhat less dramatically, but alterations in crop mix and commodity markets also encouraged change in household production and consumption strategies (Bowen 1990, chaps. 2, 3; Clark 1990, chap. 1; Clemens and Simler 1988; Gross 1982; Pruitt 1984; Shammass 1990, chap. 3).

5.1 General Trends in Material Culture Gleaned from Probate Inventories

5.1.1 Inventory Studies, circa 1770 to 1789

Studies of probate inventories are most plentiful for the colonial era. Many of them have benefited from long-term, cooperative research strategies including the sharing of promising analytical categories and information on varying colonial monetary systems. These suggest a slowly rising standard of living from the middle of the eighteenth century. By circa 1770 colonial elites owned a number of household amenities and had the equipment to prepare a varied and rich dietary fare. Those of middling wealth had also acquired more household comforts, along with a few amenities that had formerly been luxury items available only to the elite. The rural poor functioned with much less in the way of household goods, continuing styles of life that had changed only incrementally since the seventeenth century. Still, they made some progress over time in acquiring a somewhat broader range of cooking and dining equipment, preserved foods, bedding, chairs, and tables. Status-laden foods, especially tea and sugar, exerted an ever-increasing appeal among all wealth groups. In general, most households achieved a slowly rising level of comfort

without spending a greater proportion of family wealth on home furnishings (Carr and Walsh 1978, 1980, 1988b, n.d.; Carson and Walsh n.d.; Jones, 1980; Main 1988; Main and Main 1988; Shammas 1980, 1982, 1990; Walsh 1983, 1988).

5.1.2 Inventory Studies, 1790–1830

An initial caution on the quality of the data is in order. Inventory studies for this period are few and far between and are sometimes difficult to compare. Most are based on relatively small numbers of decedents. Biases in coverage are seldom tested rigorously, if tested at all. Both the categories chosen for scrutiny and the methods of analysis vary widely. As the national economy grew in size and complexity, it becomes increasingly difficult to place the relative standing and economic roles of particular localities within the context of the wider regions of which they were a part, at least until national agricultural censuses are available. Few studies assess the proportion of personal wealth devoted to household equipment and furnishings, so possible shifts in allocations between producer and consumer goods cannot be evaluated. In addition, a bewildering variety of currencies of account—pounds, shillings, and pence in pre- or postwar state currencies of differing and shifting values against sterling and/or the Spanish dollar, coexisting with, but not supplanted by, U.S. dollars and cents before 1820—present individual scholars with exceedingly difficult problems in making inventory values comparable over time within a locality, much less within a region.¹

Probate record series are scanty and sometimes nonexistent for many states during the later years of the American Revolution. Rapid inflation of the multiple currencies of account between 1777 and 1781 render stated values in existing inventories exceedingly difficult to interpret. Other sources such as account books and private correspondence make clear, however, that general living standards declined during the war, and that postwar economic recovery was slow and halting (McCusker and Menard 1985, chap. 17; Clemens 1990; Walsh n.d.). Fuller runs of inventories are available in most places from the mid- to late 1780s, coinciding with the onset of better times and with various localities stabilizing their postindependence court and probate systems.

Among studies of inventoried decedents in the colonial period, the proportion of households judged to be among the elite usually range between 5 and 10 percent of those inventoried and, in some places where reporting rates are low, as many as 20 percent. Middling farmer, planter, and artisan households are usually between 30 and 45 percent, and the poor (those at or below the median inventory value) 30 to 40 percent (Carr and Walsh 1988b; Main 1988).

1. John J. McCusker (1978) has provided students of colonial history with an invaluable resource that permits comprehensive standardization of monetary values over place and time. Students of the early national period are not so fortunate. Some specialists in price history are attempting to standardize currencies of the colonial and early national periods, at least for some states, but not all the results are yet published.

Roughly similar proportions appear in some postrevolutionary inventory studies. However, reporting rates appear to have declined in many places after independence, with the poor increasingly less well represented. Given the biases of inventories toward richer and older households, these proportions do not reflect the distribution of wealth among all free households in the living population. There the poor made up a much higher proportion. The paucity of information on wealth distributions among the living population in the colonial period requires that scholars make heroic assumptions in order to generalize from the decedent to the living population. Sources for the living population are more plentiful for the early national period. Unfortunately, to date, comparisons of probated to general populations after the Revolution are too few to permit meaningful comparisons.

The available studies from circa 1790 to 1830 show a modest increase in the standard of living in older areas, especially among landowning farmers and more-propriety tenants. Such improvements, however, must be interpreted in the context of substantial outmigration that removed many families with lesser prospects from older areas. The migrants had greater chances for improving their fortunes through farm building or wage labor in newer areas, but at the price of lower levels of material comfort for some years after they moved. Some eastern tenant farmers also improved their fortunes, but it is likely that the social and economic characteristics of tenants changed. Many post-Revolutionary War tenants had access to greater resources than did the typical prewar tenant farmer, but most of them were children of landowners or immigrants who arrived with some capital (Clemens 1990; Marks 1979; Walsh 1985).

While subject to the limitations noted above, the findings for older areas are surprisingly consistent. Farm families appear to have achieved some improvements in levels of domestic comfort. Most postwar households, in contrast to the earlier years, were equipped with at least one table, one wooden bedstead, several chairs, and some ceramic or pewter plates. Most houses, however, were still often dark (given the expense of candles) and cold (given the rising price of firewood). Middling rural households were also more likely to boast a piece or two of case furniture, a timepiece, a looking glass, some ceramic table- and teawares, and a few more kitchen conveniences, especially Dutch kettles and roasting ovens that facilitated preparation of quick hot breads, whole fowls, and larger cuts of meat. At lower levels of wealth, householders concentrated on building up basic furnishings—chairs, tables, and bedsteads (Bushman 1987; Clemens 1990; Cook 1989, chap. 4; Jensen 1986, 219–20; Kessel 1981, 14–59; Larkin 1988, 132–38; Martin 1989; Sweeney 1984; Walsh 1982).

Differences in household arrangements between urban and rural areas, already noted for the colonial period, became ever more pronounced in the early republic. Most elite and a goodly proportion of upper-middle-class town dwellers accumulated a burgeoning array of mahogany furnishings, side-

boards, silver plate, decorative items, musical instruments, and elaborate dining and cooking equipment designed for entertainment and display. Lower-middle-class urbanites, along with a lesser proportion of poor urban property-holders, followed suit, to the extent that resources permitted or aspirations supported. For example, in York County, Virginia, in 1815 the poorest ratepayers in the town of Williamsburg—those with assessed property below the median value—paid thirteen times the taxes on luxury goods as did rural taxpayers of equivalent assessed wealth. Two-thirds of all Williamsburg taxpayers had at least one luxurious household furnishing (as defined by current law), but only a quarter of rural families were so assessed. Rural households, with the exception of a few extraordinarily rich planters or merchants, almost never adopted the extravagant display characteristic of urban elites (Smart 1986).² Even in a frontier state such as Tennessee in the 1790s, the state capital of Knoxville was the scene of genteel entertainments, while most rural residents were subsisting with little more than the bare essentials of decent but unpretentious living (Gump 1989, chap. 1).

However, scholars, who have relied more on prescriptive literature than on inventory analysis, have often overstated the levels of display that urban families adopted. A new study of dining in Washington, D.C., between 1818 and 1826 shows that few urban households had full sets of equipment for serving high-style dinners for as many as ten guests. Only 13 percent of inventoried households possessed all the furniture, serving equipment, cutlery, and sets of plates and glasses that the prescriptive literature suggested was necessary for such a meal, and only 4 percent of these decedents could entertain twenty or more in style. Such entertainments also required more space in the house and increasingly took place in separate dining rooms. Many urban homes were simply too small. Below these privileged few, 48 percent of the inventoried households could dine decently but unpretentiously with individual knives, forks, and plates, put a cloth on the table, and present several dishes in appropriate serving wares. Most couples may have decided not to acquire all the props needed for stylish dining because, rather than serving as a focus for family interaction, high-style urban dinners were often virtually all-male affairs, with the hostess the only woman present. Many upper-class women questioned the rewards for themselves of such entertainments and got more enjoyment from less formal teas and evening suppers that required less elaborate preparations (Carson 1990; cf. Smart 1986; Martin 1987b; Wenger 1991; the male-dominated high-style dinner became a fashionable form of entertainment in most larger cities, not just in the nation's capital).

Families who moved west to build farms on the frontier suffered a decline in comfort as well as in quality of diet, at least in the initial years. Houses were small and crude, with little in the way of furnishings. In places where

2. Smart's data base is a tax list rather than probate inventories, but her findings are similar to those from inventory studies.

there were few established farms, few foods were available year-round aside from corn, salt pork, coffee, tea, and alcohol. The length of time an area remained a frontier (in terms of limited availability and high costs of consumer goods) varied, depending on such factors as pace of in-migration, development of cheap transport, and discovery and development of cash crops or other marketable natural resources (Arnow 1960, chap. 14; Miller and Hurry 1983). Frontier housewives, lacking both equipment and ingredients, prepared simple meals—mostly boiled or fried dishes accompanied by quick breads baked on the hearth. Few frontier cabins had built-in ovens or roasting spits and at least half also lacked ceramic or pewter plates, cutlery, serving dishes, or for that matter, chairs and tables. Migrant women could not take with them the cooking and dining equipment necessary to create a separate sphere of feminine influence. On the whole, frontier women seem to have attached more importance than men did to such amenities as plates, teaware, and ingredients that added variety to diet, as well as to civilized table manners. According to McMahon's recent analysis of settlers' later recollections of their daily fare, most men who moved West did not care much about what they ate or the circumstances in which they consumed their meals, so long as their stomachs were full (McMahon 1989b; cf. Arnow 1960, chaps. 13, 14; Gump 1989, chap. 5). As frontier areas matured, better-off residents achieved a life style (and presumably diet) similar to that common in older areas. Perkins's study (1991) contrasting Kentucky inventories of 1801–4 with those of 1781–83 shows that by the turn of the century the majority of decedents in the upper two-thirds of the wealth distribution had acquired the sorts of furniture, ceramics, cutlery, teawares, and other amenities popular in the East. However, while decedents in the bottom third were better equipped than most of the poorest early settlers, at the turn of the century fewer than half of such households had tables, chairs, bedsteads, crude ceramics, or knives and forks. Their style of life was similar to that of poorer eastern households fifty years earlier.

Findings that relate specifically to diet in the early republic include the following. In New England and the Upper South, corn was the primary breadstuff, while wheat predominated in the middle colonies. Rye was the second most important grain in New England and in parts of the middle colonies where German immigrants were influential. In most households of median wealth, boiling and frying (rather than baking and roasting) were the predominant methods of food preparation. The lower the household's wealth, the more limited were stocks of preserved food and food storage equipment, indicating a need for frequent purchase of some foodstuffs, especially meat. Stocks of preserved meat increased in late-eighteenth-century Massachusetts inventories. Period account books, however, suggest that poor householders still turned to the market for some or perhaps the bulk of their meats. While most poor rural households kept a cow for milk, few engaged in butter or cheese making. Most family farms produced sufficient grains to meet the family's minimum yearly caloric requirements. If the family wished to eat a rea-

sonable quantity of meat, however, they had to obtain it from more prosperous farmers. Qualitative sources imply that poor and lower middling households opted for more meat instead of a more varied fare. True consumption patterns remain undocumented.

Households above median wealth were more self-sufficient in foodstuffs. The greater the household's wealth, the greater the quantity and variety of preserved meat, grain, cider, fruit, and vegetables. Equipment for preserving, pickling, and dairying was also more often available, as were utensils for roasting and oven baking. Elite and some middling householders also purchased imported items, such as spices, dried fruits, sugar, rum, and wines, and sold much of the grain and meat they produced either to neighbors, in towns, or for the coastwise and export trades. A proliferation of country stores that accepted payment in locally raised produce such as butter, eggs, poultry, and vegetables made these items, as well as imported groceries, more widely available to rural consumers of lesser status (Geib 1981, chap. 3; McMahon 1981).

Overall, the composition of most Americans' diets changed in two major ways between the late 1780s and the 1830s. First, vegetable consumption appears to have risen for all groups, with increasing evidence after about 1790 of more widespread use of white potatoes and more careful preservation of root crops and greens. Greater frequency of appearance of vegetable stocks in inventories overall, accompanied by more careful enumeration by variety (rather than lumping all as "sauce"), suggests vegetables were more often prepared as individual dishes, rather than just boiled together as a secondary ingredient in a one-pot meal. This development was probably confined largely to upper and middling wealth groups, where inventoried vegetable listings (aside from potatoes) were concentrated. A limited number of cooking vessels and limited preparation time probably precluded serving vegetables as a separate dish among the poor. Period garden and farm diaries suggest that both elite and middle-class families began to value greater variety in their diet more highly, and were willing to invest considerable effort in truck gardening for household use, as well as purchasing more fruits and vegetables either in town markets or from rural peddlers. Poorer folk may have eaten more vegetables out of necessity. Rising grain prices at the turn of the century made cereals less affordable for independent households, farm size decreased among landowners, fewer tenants had access to rented farms of a viable size, and managers of city hospitals, rural almshouses, and local jails needed to cut the costs of inmate's meals (Marks 1979, chap. 3; McMahon 1981, chap. 3, 1985, 1989a, 1989b; Sarudy 1989, 1990; Ulrich 1990, 323–29; Walsh n.d.).

Second, meal ingredients varied less by season than in the mid-eighteenth century. Stocks of preserved meat, vegetables, and cider, where present at all, lasted through most of the year, and springtime shortages became less evident than in the seventeenth and early eighteenth centuries. The scheduling of the harvesting of meat and dairy resources was so arranged that fresh meat was

available nearly year-round. (See section 5.5.) Dairy products, vegetables, and fruits were preserved more often and more carefully. The number of inventories with vinegar and pickles increased dramatically by the 1830s, as did the amount of space cookbooks devoted to preservation instructions for meats, vegetables, and fruits (McMahon 1981, 1989a, 1989c). McMahon concluded that “households with the most ample resources broke through the previous plateaus in dietary standards as they produced both an abundant and increasingly varied yearly diet” (1981, 305).

Evidence for increasing interest in obtaining a more varied, attractively presented fare among middling and elite households (and, by implication, in acquisition of genteel manners appropriate to the equipment) appears in the majority of period eastern United States inventories. Families who could live in some degree of comfort acquired more dining ware, including individual plates, knives and forks, and specialized serving pieces. Change was most pronounced in urban areas, but appeared also in lesser degree throughout the countryside. The ability to entertain with some style, long critical to gentry culture, became an increasingly important goal of middle-class respectability as well, and the knowledge of how to eat properly became essential. Rituals of dining and taking tea among the upper classes became more complicated and formalized in the early republic. For people hoping to enhance social status, appropriate manners and knowledge of how to properly use increasingly specialized dining and drinking wares and cutlery were critical to success. As politics became more democratic, education more widespread, and more middling folk aspired to gentility, the old social and economic elite closed ranks. They developed more intricate rituals and rules of etiquette centered on dinners and other entertainments involving the serving of foods that were designed to exclude aspiring social climbers with new wealth or new political position but less than gentle upbringing. The act of dining carried increasingly high ritual stakes, and advice manuals proliferated beginning in the 1830s to instruct the aspiring in the rudiments and a few of the intricacies of civilized behavior. Carson’s (1990) relation of the hazards and triumphs of “power dining” in the nation’s capital reveals that such apparently insignificant details as whether one used two-tined or multitined forks had real social significance that could even, on occasion, affect political standing. Changes in some aspects of diet among the better-off were intricately linked to social and political changes (Bushman 1987; Carson 1990; Kasson 1987; Williams 1985, chap. 1).

Contrasts in living standards between the urban rich and reasonably well-off and the urban poor were greater than between poor and most middling folk in the countryside. Even though many rural poor failed to leave probate records, sufficient numbers of inventories survive to provide an approximation of their living conditions, if not of their true proportion among all decedents. This seems not to have been the case in larger towns. In his study of Philadel-

phia's laboring classes between 1750 and 1800, Billy Smith found almost no probate records for lesser artisans, manual laborers, and mariners. In order to assess their living standards, he had to construct likely household budgets using records of daily purchases by the Pennsylvania Hospital to provide retail prices, proportions of foods eaten by hospital inmates for weighting those prices, and assumptions about necessary caloric intakes to establish average family needs and their relative costs. Expenditures for rum, taxes, medical services, burial fees, and household furnishings were not considered. Extant wage series for the various groups supplied information on income. This exercise demonstrated that for families of unskilled and lesser-skilled Philadelphia workers the expense of living independently in rented quarters with a diet similar to that of prisoners and clothing equivalent to that of almshouse inmates usually exceeded the likely annual income of the primary wage-earner. The costs of food, fuel, and rent escalated in the 1790s, and while wages rose, they did not rise as much (Smith 1990, chap. 4, appendix F).

In Carson's study of inventoried Washington, D.C., residents between 1818 and 1826, free blacks (who were between 10 and 17 percent of the free population between 1810 and 1830) were virtually unrepresented, as were an unknown percentage of poor white decedents. Consequently, many of the poorest town dwellers are missing from the analysis. Still, Carson found that 20 percent of the householders (most of them at the lowest level of portable inventoried wealth) ate without benefit of knives, forks, or even spoons, had no table linen, and owned few ceramics of any kind; possibly they may have been sitting on the floor eating out of the cooking pot with their hands.³ (Surveys of available housing indicate that many families were crowded into one- or two-room temporary shanties, or in slightly more permanent dwellings that offered little more space.) Another 19 percent of District householders (many also poor, but others with sufficient assets to make a choice) ate their meals seated at a table with individual spoons, but eschewed knives and forks and had only a minimal assemblage of tablewares. These findings too suggest that in larger towns the very poor, as well as some of those a rung or two up from the bottom, continued to live in impoverished conditions where simply finding sufficient food was a constant struggle. Lack of fuel, as well as of time and cooking equipment, may have forced poor townfolk to rely primarily on cold meals—bread, cheese, and when they could afford them, carryout pies supplied by early purveyors of fast food (Carson 1990). Blackmar (1979, 1989) presents a similarly dismal survey of lower-class housing in New York City between 1780 and 1850.

3. The criterion employed for differentiating a householder from a boarder or lodger is the presence in the inventory of both one or more beds and one or more cooking vessels, indicating that the owner could fulfill both of the functions basic to any household of sleeping and cooking.

5.1.3 1830 and After

Inventory studies for the period after 1830 are even fewer in number and more limited in the time covered, and almost none have been published.⁴ No general conclusions about living standards for various groups are yet possible. Consequently, some of the more likely trends in consumer behavior and diet will be discussed instead in section 5.3 as part of culinary history. A major unresolved question concerns the influence of the cult of domesticity on family life styles. To what extent did new perceptions of women's roles bring about a reallocation of their labor time within the household? Did new attitudes about the cultural importance of the home cause families to allocate their resources differently? Larkin (1988, 138–48) reports that in rural New England further improvements in domestic comforts appeared in the 1830s and 1840s.⁵ These include improved lighting, more on-the-road vehicles, greater segregation of sleeping from daytime living facilities, and elements of the parlor culture associated with the cult of domesticity—window curtains, wallpaper, carpets, clocks, musical instruments, sofas, heating stoves, and the like. Cook (1989, chap. 6) provides corroborating, albeit less detailed, evidence for New Hampshire. Acquisition of these goods was presumably accompanied by changes in the diet and in women's roles in the household, and by a drop in the size of completed families.

Blumin (1989, 183), among others, finds a similar “more refined middle-class culture revolving around the well-furnished, female-directed middle-class home” in northeastern cities by midcentury. This development was, however, limited to nonmanual middle-class families. Urban middle-class housing seems to have improved by the 1830s, facilitating many of the changes associated with the cult of domesticity, for example, more space for entertaining and display and more elegant entrances. But housing standards changed little if at all for less privileged workers, and many of the very poor still subsisted with little or no furniture, no artificial light, no indoor toilets or running water, and presumably little change in women's work in the home and no better diets (cf. Blackmar 1989; C. E. Clark 1987; Larkin 1988; Williams 1985; Wright 1981, 34–40). Middle-class families in the rural Middle Atlantic and southern states and in newer areas of the West were much slower to adopt these trends, if at all, if household possessions provide evidence (Fox-Genovese 1988, 61–82, chap. 2; Jensen 1986, chap. 7). Links between

4. Part of this lacuna doubtless flows from my lack of familiarity with both the published literature and works in progress for this period. The material culture specialists whom I consulted reported few studies in progress, however, and bibliographies from period studies provided few additional references. Several of the analyses cited by scholars come from ongoing working files assembled by historical museums, not yet complete enough for publication. In addition, recent programs of the Economic History Association and Social Science History Association, among others, showed little current work in the field.

5. A study of prescriptive literature (Matthews 1987) suggests the same timing for rural New England as Larkin found in inventories. Jaffee (1991) and Garrison (1991) are also suggestive.

changes in domestic equipment, family size, perceptions of women's roles, and social emulation require further study.

Mass production of some household goods lowered costs of such items as chairs, window glass, textiles, clocks, ceramics, pressed glassware, and electroplated silver utensils between 1790 and 1850, and especially between 1830 and 1850 (Larkin 1988, chap. 5; Martin 1942, chap. 4; Jaffee 1991; G. L. Miller 1980, 1984a, 1984b, 1990; Shammass 1990; Williams 1985, chap. 3). Price and purchasing trends in ceramics are the most thoroughly studied. As prices declined, consumers substituted ceramics for more expensive metalwares, upgraded the type of ceramics they purchased, and bought more kinds of vessels in a greater variety of sizes. While families devoted only a minuscule fraction of their household expenditures to ceramics, tablewares are important indicators of more significant changes in consumption patterns of foods and beverages (G. L. Miller 1984a, 1984b, 1990; Miller, Martin, and Dickinson n.d.; Shammass 1990).

Some families may have been able to raise standards of comfort without spending more on household goods, a pattern that began in the mid-eighteenth century⁶ (Carr and Walsh 1988b, n.d.; Main 1988; Shammass 1990, chap. 4). Spending more, less, or the same of course depended not just on changing costs of goods but also on competing uses of income, including the costs of rent, fuel, and food. Studies of postrevolutionary inventories do not consider the question of allocations of portable wealth among various capital and non-capital uses; hence it is impossible to determine whether these shifted over time.⁷

For the urban poor, the ability to keep poultry, a pig, or a cow or to raise garden vegetables doubtless often made the difference between sufficient food or scanty fare. These opportunities were diminishing in larger cities after 1830, but there is little firm evidence on the extent of the practice (Bushman 1981; Levenstein 1988, chap. 2; Marks 1979, 130; McMahan 1981, chap. 3; Strasser 1982, chap. 1).

Some rudiments of cleanliness, like polite table manners, were also becoming part of gentry and to some extent of middle-class respectability between 1800 and 1850. Some families, mostly gentry and middle-class professionals, took up routine washing of at least faces and hands. A few rural householders began to dump refuse in pits rather than scattering it broadcast, and the market

6. Shammass (1990, chap. 4) found few changes in spending on consumer durables from the eighteenth century to the present. These accounted for about 25 percent of inventoried movable wealth in eighteenth-century inventories, as they did in a 1979 survey of household wealth in America.

7. Marks (1979, chap. 6) is an exception. She found that inventoried decedents in rural southern Maryland spent a slightly lower percentage of portable wealth on household furnishings between 1821 and 1840 than they had between 1790 and 1820. Intended allocations may have changed little, however, as rising slave values alone accounted for the alteration. Colonial spending patterns demonstrated very little change over time (Carr and Walsh 1988b, n.d.; Main 1988).

for mass-produced Connecticut Valley brooms grew phenomenally. Storekeepers carried more ceramic toilet wares by the 1850s. Household advice books began to include more information on cleaning houses and kitchen utensils. On the other hand, widespread tolerance for dirt, both in homes and on bodies, remained the norm rather than the exception. Improvements in personal hygiene and household sanitation were probably insufficient to improve prospects for better health for most families. (Bushman and Bushman 1988; Larkin 1988, 127–32; G. L. Miller 1990, 6). (But see section 5.4.)

5.1.4 Opportunities and Limitations

As McMahon's pioneering work demonstrates, probate inventories are indeed valuable for establishing general trends in diet over time, especially what types of foods were produced or could be purchased by families of varying wealth, and changing seasonal patterns of scarcity or plenty. On the other hand, I conclude that inventories are of limited use for estimating per capita consumption of foodstuffs. For a number of reasons, listings of stocks of food are sporadic, and information on potential consumers of the enumerated stock inadequate.

First, there is the problem of what was recorded and what was omitted. Stocks of preserved foods vary greatly by the season in which the inventory was made, and these variations must be taken into account. Second, there were often unwritten local practices for excluding from an inventory a portion of the stocks required for family consumption. One cannot be certain to what extent recording practices varied from one locality to another, nor for that matter, from one appraisal to another. Some estate creditors may have insisted that the appraisers include all assets in the inventory, while others may have agreed to leave some food stocks aside for the subsistence of distressed widows and orphans. Thus, listings for small estates are more likely to be incomplete than those for large ones. Third, the crops produced in the year the decedent died may not be included in the inventory, or may be reported only in subsequent estate accounts, a record type that is preserved less systematically than inventories. And the more the family depended on the efforts of the primary breadwinner alone, the more year-of-death output may have been diminished by the increasing incapacitation of the farmer. Crop production as reported in inventories, especially on farms with little additional labor, may represent minimal yields. Fourth, perishables were usually omitted from inventories in all seasons. Consequently, generalizations about the monotony of daily fare based on analysis of stocks of preserved foods may be exaggerated. For fruits and vegetables that were available only for a limited season this is not a major distortion, but not so for meat. Beef (and, to a much lesser degree, mutton) was almost always eaten fresh and hence does not appear in inventories except as livestock. Archaeological studies and studies based on account books introduce a major modification to findings from inventories. Sites from

a variety of regions and classes all show consumption of beef and pork to have been roughly equal. (See, for example, H. M. Miller 1988; Bowen 1990.)

The second problem in using inventories to estimate consumption involves the composition of the consuming household. One seldom knows the numbers and ages of family members, whether or not all were present in the household throughout the year, or alternatively whether nonfamily boarders or found workers were present for all or part of the year. Neither does one know whether the foodstuffs were intended for family consumption, for entertainment of others, or for sale. Where slaves were present, it is sheer guesswork to allocate food stocks among them in the absence of knowledge of the particular rationing practices of the owners.

On the other hand, inventories have some underexploited strengths. While enumerations of stored foods vary by season, listings of equipment for food storage, preservation, preparation, and service appear consistently. Analysis of available kitchen equipment by time, place, and wealth group can provide much information about the most common methods of cooking and likely components of the diets of various groups. The presence of more specialized cooking and serving ware can supplement information from cookbooks to better define which groups were adding variety to their meals and adopting new foods (especially non-European grocery items) and new methods of preparation and preservation, and were placing more emphasis on presentation and display (cf. Martin 1987a, 1988; Shammass 1990, chap. 4). The increasing presence of tea and coffee pots, kettles, and wares, for example, helps to trace differing households' adoption of imported beverages with status connotations. High desirability of these caffeinated beverages is underscored in that wares for serving them made up over half of all ceramic vessels imported from England by American merchants between 1783 and 1855, and in that consumers tended to purchase more costly teawares than tablewares (Miller, Martin, and Dickinson n.d.). Finally, presence or absence of food storage and dairying equipment helps to determine levels of self-sufficiency or necessary recourse to frequent small purchases of foodstuffs. While inventories are not likely to yield reliable estimates of per capita consumption, they do provide the greatest amount of information for a broad range of families consistent over time and place.

5.2 Consumption Estimates from Widows' Allowances and Institutional Records

Widows' allowances, occasionally stated in wills, are a more promising source for measuring actual levels of consumption of various foodstuffs. Amounts of major foods intended for one person are clearly stated, as well as rights of access to less readily quantified produce from gardens and orchards. Lemon, McMahon, and Kessel report an average yearly consumption between

circa 1750 and circa 1830 of 150 to 200 pounds of meat, 13 to 23 bushels of the most commonly consumed grains, and some vegetables and dairy products or pasturage for a cow and ground for a garden (Kessel 1981, 242–47; Klingaman 1971; Lemon 1967, 1972, chap. 6; McMahon 1981, chap. 1).

Unfortunately, this source has its limitations. The custom was a restricted one, pertaining mainly to older wives of farmers of middling status in parts of New England and the Middle Atlantic states. The practice was not very common until the last half of the eighteenth century, and it is not clear how long it continued into the nineteenth century; so far analyses end in 1830. The numbers cited in studies to date are so small that one is uncertain how far to stretch generalizations, especially if the observations are broken down over time, as they must be to isolate potential change (Klingaman 1971; Pruitt 1984). In addition, widows' allowances, especially of grain, may have included some surplus that could be traded for other goods or to fatten livestock. (The higher grain allowances include more than anyone was likely to have consumed.)⁸ Preserved meat allowances may reflect minimal rather than normal consumption patterns, which almost certainly included some fresh as well as salted meats.

In a related study, estimates of per capita food consumption derived from estate administration accounts and from the 1840 agricultural census were compared for a rural southern Maryland county. While calculations from the agricultural production and population schedules indicated 300 pounds of meat were available per capita in 1840, administration accounts dating from 1798 to 1839 (which record the foods actually consumed by widows, dependent children, and slaves of deceased farmers) showed a much lower consumption of only 70 pounds of meat per capita plus some salt fish. The accounts also showed per capita consumption of 15 bushels of corn, the traditional standard allowance, supplemented with 2.7 bushels of wheat and 1 of potatoes. Farmers' inventories for the same county presented a different picture, with listings of food stocks increasing after the 1780s, and especially between 1820 and 1840. Increases in vegetables, poultry, and dairy products were most pronounced. This may reflect both increased on-farm consumption and the greater likelihood of such produce being included in an inventory, as possibilities for selling to country stores raised the value of perishables. As in New England, however, wealthy farmers were the ones improving their diets. Food items other than poultry, corn, bacon, and pork were largely absent in inventories worth less than \$500 and increased greatly in those worth over \$2,000. The allowances in the administration accounts suggest the diet of poor farmers was similar to that of area slaves who generally consumed rations of two pounds of meat (or occasional salt fish) and one peck of cornmeal per week, supplemented with poultry and garden produce they raised themselves (Marks 1979, 113–33).

8. Not all of the studies clearly report average total allowances of all grains.

Institutional records, in addition to estate administration accounts, are another promising but so far little used source for estimating per capita consumption of various foods. Detailed records of the amounts and types of foods purchased by almshouses, hospitals, and colleges are available, along with information on individual rations allotted to prisoners, seamen, and men in military service. These merit systematic study (cf. Shammas 1990, 134–45).

Most British American colonists clearly had an advantage over their English contemporaries both in access to staple foods and in the proportion of family income needed to secure a calorically adequate diet. Many more colonial families owned cattle and hogs than did contemporary English families, insuring some supply of meat and dairy products. And the proportion of household income colonists spent on food was probably about 10 percent less than that spent by English families (Shammas 1990, chaps. 2, 3, 5, 10). It now seems likely that relatively high standards of consumption for grains and meat were established in the Chesapeake colonies in the seventeenth century and in New England and the Middle Atlantic by the early eighteenth century (Carr, Menard, and Walsh 1991; McMahon 1981). From then until 1840, as the following sections elaborate, wealthy households made some further gains in dietary quantity and especially in dietary variety. Dependent laborers and slaves in particular were allotted much less generous fare, a shortfall they worked diligently, if not always successfully, to rectify. As the American population expanded and urbanization increased, it is doubtful that earlier standards were surpassed for the average American, and many individuals were hard-pressed to maintain them.

5.3 Culinary History

In the category of culinary history, I have included literature on cookbooks, culinary history, vernacular cookery, kitchen and dining equipment, contemporary travellers' accounts and diaries, and miscellaneous general sources on foodways and diet.

Bibliographies and analysis of published cookbooks reveal a shift during the mid-eighteenth century, especially in Britain, from cookbooks describing court cookery to cookbooks increasingly written by and directed to upper-middle-class women. These works provide directions for gentry and upper-middle-class family meals and company entertainments rather than for courtly banquets. Their advertised emphasis on "economical fare" was intended to bring the menus within the means of groups somewhat below the elite and, in the case of English cookbooks, reflected a reaction to complicated, high-style French cookery that emphasized use of expensive ingredients. Stated aims of joining "oeconomy with neatness and elegance," or of providing "elegant, cheap, and easy methods of preparing most of the dishes now in vogue," indicates the intended audience (Maclean 1981, 122, 130). The more popular of these books were available (sometimes reprinted) in the American colonies,

and they can be found fairly frequently in the inventories of the upper classes from about 1760. French cookbooks underwent a similar evolution but were little used in the United States. The influence of French styles of cookery, in vogue among some elite circles, arrived indirectly through British sources. Limited female literacy, as well as multiple demands upon women's time, restricted the groups to which cookbooks appealed (Carson 1985; Goody 1982, 148–52; Maclean 1981; Mennell 1985, chaps. 4, 8; Quayle 1978; Wheaton 1983).

The first cookbook written by an American appeared in print in 1796 and was followed in the 1820s, 1830s, and 1840s by a series of frequently reissued regional cookbooks. To the extent these books were directed to middle-class urban women who lacked training in traditional cookery, featured regional and ethnic specialties, and incorporated the contributions of unlettered African-American cooks, they increasingly describe the ideal cuisine of middling Americans and provide occasional examples of more ordinary fare. The first American cookbook addressed to women of humble means appeared in 1832. Rising female literacy in the first half of the nineteenth century doubtless enlarged the market for such books, as did an increase in social entertaining and in women's nurturing role within the family (Randolph 1824; Bryan 1839; Rutledge 1847; Wilson 1957; Hess and Hess 1972, chaps. 6, 7; Weaver 1981, 1982; Carson 1985; Fordyce 1987; Wheaton and Kelly 1988, 308–13, 336–39; Haskell 1990).

British cookbooks published during the Napoleonic Wars reflect the severe food crises that the English poor experienced, especially in 1794–96 and 1799–1801. A series of pamphlets appeared advocating the substitution of broths and vegetables for prohibitively expensive wheat bread that was the staple food of the laboring poor, especially in southern England. Cookbooks directed to middling housewives included instructions for making stews out of pot liquor, meat scraps, vegetables, and scrapings from the family's plates to be distributed to the poor (Wells 1988; Mennell 1985, 214–29; Maclean 1981; Burnett 1966, chap. 3). Americans experienced no acute wartime shortages (although high grain prices did elevate the cost of bread), and domestic cookbook authors of the 1790s included no such instructions. In the aftermath of the Panic of 1819, however, both urban and rural poor were unable to buy sufficient food. Soup kitchens opened in Washington, D.C., for example, and charitable organizations distributed cornmeal in rural southern Maryland (Carson 1990; Marks 1979). A Middle Atlantic cookbook of 1845 included advice on making cheap stews to be given to poor neighbors, suggesting hunger continued to be a problem among some groups (Weaver 1982, 281–82).

Like practitioners of other literary genres, authors of cookbooks tended to borrow heavily from earlier publications and to include certain expected, stereotyped elements. Many period cookbooks, for example, include elaborate seasonal bills of fare that represented highly ambitious company entertainments rather than everyday family fare; directions for marketing, appli-

cable to larger English towns but not, at least until the second quarter of the century, to urban Americans; and advice on the management of household servants.⁹ This material depicts the ideal rather than reality, and it seems to me that so far analyses of American materials have insufficiently addressed the question of what was simply borrowed from European sources and what addressed the actual circumstances of American housewives.

Students of cookbooks have been more comfortable in isolating what was new in the evolving literature of cookery, fearing recipes retained through numerous editions might have become outmoded (Hörandner 1981). Unfortunately for those interested in general trends in diet, what was new was generally the preserve of the elite. The trends identified in early-nineteenth-century cookbooks toward more, and more elaborate, desserts, ice cream, and so forth, required ingredients and equipment that ordinary people could not readily afford, or lacked the time to make. Many of the meals suggested for the entertainment of company could be prepared only with the help of one or more servants, and required a stock of dining and serving equipment that few families, including members of the economic elite, possessed. Consequently, much of what appears in the cookbooks represents the fare of the already well-fed, if not the overly well-fed. Much of the available literature, after a nod or two to the "common sorts," quickly retreats to a fulsome treatment of elite company cuisine (Wheaton 1983, introduction; Williams 1985; Belden 1983; McMahon 1981, chaps. 5, 6; Strasser 1982, chap. 9; Wright 1981, 111–12).

Manuscript recipe books do show choices made among available published recipes and some unpublished ones, identify the things mothers wanted to pass on to daughters, and occasionally identify sources of information—friends, slaves, newspaper clippings, and so forth. They also reflect changes in taste and the introduction of new techniques and products more swiftly than printed works (Schmit 1982, introduction; Hörandner 1981; Hess 1981; Hooker 1984; Oliver 1990b). So far, not many have been analyzed.

More popular surveys of American eating and drinking habits contain some useful information on food preparation and availability. However, they tend either to collapse time or to be vague about the economic status of consumers or both (for example, Hooker 1981; Taylor 1982). Such surveys usually cite occasional references from diaries but rely most heavily on contemporary travellers' accounts, which in turn dwell on the meals served in country inns and taverns. Rural innkeepers could not readily predict the arrival time or the numbers of their customers, so they must have served primarily preserved foods, especially salted meat. Studies of contemporary accounts of American eating habits would be more useful if reported meals were carefully categorized. Which were eaten in private homes, and what was the social and economic status of the family serving them? Were they holiday meals or ordinary

9. The first manual for house servants written in the United States was Robert Robert's 1827 publication directed especially to residents of Washington, D.C. (Belden 1983, 24–27).

daily fare? What were the similarities and differences between meals served in private households and those served in public inns and taverns? Were there contrasts between what was available in large cities and in the countryside? Brown et al. (1990, 179–83) provides one such analysis of differences between public and private meals in the eighteenth-century Chesapeake.¹⁰ Among the better regional studies, Conlin (1986) supplies a useful summary of Americans' diets in the mid-nineteenth century (as well as a fascinating account of eating on the western mining frontier), while Arnow (1960, chap. 14) has a good discussion of food procurement and preparation in middle Tennessee in the early national period (cf. Crump 1991).

The question of possible differences in the social meaning of various foods among poor as opposed to upper and middling groups might also be profitably explored. British sources suggest several avenues for study. Did urban workers increasingly rely on wheat bread and begin to consider it an entitlement (Wells 1988, chap. 2)? Did they use tea, coffee, and sugar in different ways than more privileged families (Burnett 1966, chaps. 1, 3; Mintz 1985)? Did women and children eat less than their proportional share of food in order to provide the principal male breadwinner with sufficient calories to better enable him to work (Burnett 1966, chap. 3; Wells 1988, chap. 18)?

How to translate cookbook cookery into vernacular cookery is a problem only hesitatingly addressed. The most commonly replicated recipes were for dishes that were new and novel, that were made infrequently (such as pickled meats, pickles, and preserves), or that required precision in execution (such as cakes and other farinaceous dishes), the mastery of which was thought to raise a housewife's reputation. There was little need or incentive to include instructions on how to prepare the simple dishes that probably provided the bulk of the average American's daily fare. An assessment of the early-nineteenth-century diet based on Amelia Simmons and Mary Randolph may be somewhat closer to reality than an assessment of present-day diet based on *Gourmet* magazine and the several *Silver Palate* cookbooks, but perhaps only marginally so.

Foodways programs in various outdoor historical museums provide some guidance, although results are just beginning to appear. Practical experience

10. In addition to the works cited in the text, four foodways journals are worth following. *Food and Foodways* addresses important issues including the historic and cultural roles of food and nutritional values. But so far only one article has dealt with the United States. *Petits Propos Culinaires* is more strictly a journal of culinary history. Articles occasionally provide useful information on kitchen equipment and the history of the preparation of particular dishes, but in general are too specialized to be of much use to economic historians (Middle Eastern recipes for preparing cattle udders and penises being the most exotic example). *Foodtalk* concentrates on more recent time periods, but occasional articles dealing with specific types of foods may prove helpful. *Food History News* explores vernacular American cooking. There is again much on the specifics of particular dishes, but reports on museum foodways programs supply useful information on the composition and preparation of the fare of ordinary folk. For a recent bibliography see Benes (1984).

in regularly cooking full meals in a period house, equipped with a set of kitchen equipment and stock of food typical of families at varying levels of wealth, can provide crucial insights into opportunities and constraints of materials, technology, and time. The reluctance of these programs to depart from known recipes precludes inappropriate use of later cooking methods, but also limits possible insights from learning by doing. How best to recover the “orally transmitted basic knowledge, which must always be taken into account in the assessment of a recipe book as a source” (Hörandner 1981, 124), is an unsettled issue (Oliver 1990a).

Some museums have tried time/motion/environment studies that supply invaluable insight into the conditions in which housewives had to function. On a midsummer’s day in a reconstructed eighteenth-century kitchen in Williamsburg, for example, the temperature at the open hearth while the major midday meal was being prepared reached 170 degrees, making a brief respite to the far side of the room where the temperature dropped to a mere 90 a delightful refreshment. Conversely, cooking experiments conducted in early December in a reconstructed one-room tenant farmer’s house at St. Mary’s City revealed that the immediate hearth area where the temperature was 120 degrees was the only part of the room warmer than the outside temperature of 46 degrees, practically demonstrating acute levels of discomfort to present-day recreators, and documenting the reason for the location of root cellars for storage of winter vegetables just in front of the hearth (Gibbs 1982, 1989). Practical considerations limit such insights largely to the actual cooking process. Resource constraints prevent a full replication of the time and effort involved in seeding, nurturing, weeding, and harvesting of vegetables; milking cows and churning butter; milling grain; or catching and slaughtering, skinning, butchering, plucking, and/or scaling of livestock and game (cf. Goody 1982, chap. 3).

Culinary literature and studies based on inventories are in general agreement that most early-nineteenth-century innovations in food cooking and preservation remained sufficiently expensive to limit their use to the elite before circa 1850 and, to a large extent, until after the Civil War. These include stoves, refrigeration, and canning (Roberts 1981; Strasser 1982, chaps. 1, 2; Martin 1942, chap. 3; McMahan 1981, chap. 6; Keuchel 1972; Belluscio 1984; Goody 1982, chap. 5; Larkin 1988, 51–52; Garrison 1991, chap. 7). Open-hearth cooking remained the norm throughout most of the country until 1850 or later. Families were slow to change the utensils with which they prepared food, and in turn limitations of equipment precluded widespread adoption of many new types of foods. Stoves did appear around 1820 in prosperous urban homes and by the late 1830s among some middling city families and northern commercial villages. Stoves saved stooping, firewood, and time in tending fires, but an 1899 study showed that it still took almost one hour per day to care for an up-to-date stove (Strasser 1982, chap. 2). However, stoves remained uncommon in many areas until the 1850s or 1860s (Larkin 1988,

chap. 4; Martin 1942, chap. 2).¹¹ Consequently, the food types to which stoves were especially suited—cakes and white sauces, for example—were also uncommon except on the tables of the rich (Hess and Hess 1972, chap. 7; Weaver 1986). Similarly, while various sorts of iceboxes were available from the 1820s, few households acquired them, aside from the urban elite. Consequently, in hot weather most families had to purchase meat and milk often and in small quantities. Iced beverages and desserts were likewise confined to elite homes.

Ordinary families also apparently failed to buy much in the way of purported labor-saving kitchen gadgetry, the mechanical eggbeater being the main exception. Many of the early-nineteenth-century gadgets did not perform very well, remained decidedly expensive relative to wages, and were intended for the preparation of somewhat costly ingredients. In addition, domestic mass-produced lightweight metal cookwares were often inferior in performance to older, heavier cooking implements, and were not widely available until the middle of the century (Levenstein 1988, chap. 2; Strasser 1982, chap. 2; W. W. Miller 1987).

Changes in consumption patterns of particular foods include the following.

Alcohol. At the time of the Revolution annual per capita consumption has been estimated at 3½ gallons pure alcohol. After 1790 men began to drink more, especially cheap western whiskey that supplanted imported or domestically produced rum as the common people's drink during the war for independence. Per capita consumption reached 4 gallons by the late 1820s. After 1840, with the influence of the temperance movement, consumption declined by two-thirds for the nation as a whole to 1½ gallons. It was rural New Englanders who were most likely to give up drink (including cider to some degree). By the 1840s liquor was seldom sold in New England country stores. Throughout the country, women and children probably curtailed their consumption of alcoholic beverages by the second quarter of the century. On the other hand southern, western, and some urban men continued to imbibe more freely. Neither beer nor wine appears to have become widely popular beverages before 1850 (Rorabaugh 1979, 1987; Larkin 1988, chap. 5; McMahon 1981, chap. 1; Geib 1981, chap. 3; Clark 1990, chap. 6; Arnow 1960, chap. 14).

Sugar. Sugar remained relatively expensive until after the Civil War, and consumption rose slowly, from an estimated 16.8 pounds in 1772 (plus 4.9 gallons of molasses) to 30 to 35 pounds per capita in 1860. Nonetheless, its use was widespread. Poorer folk generally used sugar in connection with cof-

11. Jensen (1986, 219–20) shows almost half of Chester County, Pennsylvania, and New Castle, Delaware, inventoried decedents as owning stoves and/or ovens in 1790, a much higher percentage of stove ownership than reported in any other source. Since the percentage of households owning other fireplace cooking equipment was the same as in 1750, I conclude she lumped cast-iron stoves (which were likely found in a much smaller percentage of inventories) with open-hearth equipment—dutch ovens and roasting ovens.

fee and tea, beverages that were cheaper than milk and that even urban laborers were coming to consider necessities. The sweetener remained a luxury for slaves. Owners usually provided it only for the sick, but slaves increasingly bought some sugar along with tea and coffee on their own account. Use in desserts was largely confined to the middle and upper classes (Larkin 1988, 174–75; Williams 1985, chap. 4; Martin 1942, chap. 2; Shammass 1990, chap. 4; Smith 1990, 98–99; Adams 1982; Mintz 1985; Austen and Smith 1990).

Coffee/tea. By 1773 sufficient tea was imported or smuggled into the colonies to permit at least two-thirds of white adults to drink it daily. Inventories suggest that by 1800 half or more households had ritual tea equipment, and even more families could brew and drink tea more informally. In the early nineteenth century, more families purchased teawares than new dining wares. By 1840 tea consumption roughly doubled in per capita terms. In the same four decades, coffee consumption rose fivefold, overtaking tea in popularity by 1830. (This change doubtless reflected steadily falling coffee prices from the 1830s.) These beverages and their associated equipment were minor luxuries that the poor could afford, and their appeal was intense. Once firmly entrenched in their diets, consumers were unwilling to forgo caffeinated beverages. Tea remained a metaphor for refined behavior and was the primary way in which the poor could participate in the rising culture of respectability. How tea was presented (as well as the grades of tea and sugar used), however, continued to separate the rich from the poor. In addition to their status connotations, tea and coffee, especially when taken with sugar, provided a quick energy boost and suppressed hunger (Austen and Smith 1990; Mintz 1985, chaps. 2, 3; Williams 1985, chap. 4; Martin 1942, chap. 2; Adams 1982; Martin 1988; Larkin 1988, 174–75; Shammass 1990, chap. 4).

Flour. Wheat flour became increasingly available in New England beginning in 1825 with the opening of the Erie Canal. At first its use was most common in commercial and industrial towns; it remained a luxury in rural areas. By 1840 New York and Ohio flour had largely replaced the traditional New England breadstuffs of corn and rye (McMahon 1981, chap. 1; Larkin 1988, chaps. 1, 4; Clark 1990, 150–52). In the South, wheat did not displace corn as the primary bread. Although wheat was a major crop in the Upper South, much of it was sold for export elsewhere. Slaves and poor farmers ate little besides corn (and some rice in the Lower South). Better-off southern families enjoyed some wheat breads and pastries, but did not opt for wheat over corn as the primary starch. Even as wheat flour increased in popularity, affordability, and availability throughout much of the country, it probably declined in nutritional value. By the 1840s flour-milling technology changed, with the wheat germ being extracted in advance, removing nutrients that were often replaced with adulterants (Hess and Hess 1972, chap. 5).

Dairy products. As the urban population rose, dairying became an important occupation for most farm women in New England, the Middle Atlantic,

and the Midwest, and among the more prosperous in the Upper South and parts of the West such as Tennessee. Cheese making was more specialized, concentrated mostly in New England, where it was a significant item of exchange. This major shift was possible because more and more women left off home textile production and turned instead to making butter. Butter production rose on most farms from the 1790s, and by 1850 many New England farms were specializing in dairying (Larkin 1988, chap. 5; Arnow 1960, chap. 14; Gump 1989, chap. 5; Marks 1979, 122; Geib 1981, chaps. 3, 7; McMahon 1981, chaps. 1, 3; Clark 1990, chaps. 3, 4, 8; Jensen 1986, chaps. 5, 6; Gross 1982; Atack and Bateman 1987, chaps. 9, 12).

5.4 Findings from Archaeology

Studies of diet from recovered artifacts are largely based on analysis of faunal remains, a branch of archaeology that has only recently developed. Faunal remains provide systematic information on the relative dietary importance of different animals and differing cuts of meat, butchery practices, and animal husbandry. Meat was a central element of the traditional British diet, and meat consumption carried a high cultural value that was shared by those who immigrated to America (H. M. Miller 1988; Bowen 1990; Reitz 1987).¹² Analysis of ceramic assemblages provides some additional insights. A high proportion of bowls among recovered dining and serving wares, for example, suggests primary reliance on stews and porridges, while greater numbers of flatware—plates, platters, and so forth—indicates a greater variety of cooking methods, including roasting. Similarly, a higher proportion of serving, storage, and preparation vessels reflect value placed on the appearance of the table, and means to accumulate surplus food for storage (Kelso 1984; Smith 1987).¹³

To date, most investigations have concentrated on the seventeenth and later nineteenth centuries, with a marked gap for sites dating between 1750 and 1880. There is little information available for the period under investigation. Most of the sites that have been analyzed concentrate on the diet of slaves and

12. Two unresolved interpretative problems include historical definitions of high- and low-status meats (Lyman 1987) and comparisons of faunal remains between poor households where grains and dairy products were the predominant food source as opposed to better-off households where meat was a more significant part of the diet (Bowen 1990). Other problems encountered in making comparisons include small sample sizes, inappropriate recovery methods, incomplete or incomparable analyses, uncertain identification of the socioeconomic status and ethnic origins of site inhabitants, and difficulties in identifying faunal remains to a particular species. (Many remains can be identified only as coming from some sort of fish, or from mammals of small, medium, or large size; Reitz, Gibbs, and Rathbun 1985).

13. Reliance on ceramics may present some problems. Pewter vessels, which could be melted down and recycled, are seldom found in trash pits, although probate inventories show widespread use of pewter dining wares and kitchenwares through the 1790s. Distributions of various types of pewterwares by wealth do not show the same economic and status correlations as do ceramics (Martin 1989).

the planter elite in the Lower South. New England, the Middle Atlantic, the Upper South, and urban sites are poorly represented. Two other promising areas of study, analysis of plant remains and of human skeletons, have so far been neglected, the first for reasons of technology and cost, the second for reasons of widespread public distaste (Reitz, Gibbs, and Rathbun 1985). In future, studies of plant remains promise better evidence of the vegetable part of the diet. Skeletal analysis can reveal much, not only about diseases and nutritional stress, but also about the ratios of various plants and animals eaten during the lifetime of the individual (Brown 1990).

Other promising new archaeological undertakings include studies of the distribution of the remains of other, more minute kinds of fauna that played important roles in the overall health environment, particularly in urban areas. Elite households may prove to have been more successful in maintaining higher standards of hygiene than poorer ones. Rat carcasses (commensals, in archaeological parlance), for example, are fewer on wealthy Charleston, South Carolina, sites than on lots inhabited by poorer people. Analysis of helminth remains (the preserved egg sacs of intestinal parasites) and other evidence from urban privies in Newport, Rhode Island, and Williamsburg, Virginia, show more careful disposal of human wastes on elite sites, less overall (although still endemic) parasite infestation, and differences in the most prevalent parasite species. The microecologies of some urban house lots, for example, rendered their human inhabitants more susceptible to the giant human whipworm, while other households living nearby suffered greater infestations of roundworms (Brown 1990; Reinhard, Mrozowski, and Orloski 1986).

Generalization has not been the strong suit of historical archaeologists. The number of excavations for the later eighteenth and early nineteenth century are limited, and so far most reports are preliminary and have of necessity been largely devoted to description of the sites and artifacts. Few clear patterns have been detected among findings from reported sites. Otherwise, much effort has been placed on elucidating differences in status among artifacts left by households of varying ethnic origins and wealth, a major concern of the profession but a topic of less interest to economic historians. Finally, many earlier studies tended to assume that rural households were self-sufficient in foodstuffs, and so have paid inadequate attention to the possibility of exchange.

A notable exception to the lack of generalization is the work of Henry Miller. Miller has so far concentrated on the tidewater Chesapeake in the seventeenth and early eighteenth century, but his findings have provided an interpretive framework for most subsequent faunal studies. From a comparison of faunal remains on seventeenth- and early-eighteenth-century sites in Maryland and Virginia, Miller concluded that early settlers relied heavily on fish and game for protein. Wild animals accounted for as much as 40 percent of the meat diet at early sites. Colonists utilized wild resources especially in

summer and fall, and turned to domestic meats—primarily hogs and cattle—in the colder months. Cooking methods were simplified over traditional British methods, with more boiling and frying and considerably less roasting.

Beginning about 1660 when stocks of farm animals became adequate, colonists relied more on domestic livestock, now including some sheep and poultry. The contribution of wild foods dropped to about only 10 percent of the meat diet. After 1700 colonists harvested little game, and strikingly reduced fish consumption. Seasonal variations in diet largely disappeared. Beef accounted for two-thirds of the meat diet and pork one-quarter. More uniform patterns of animal husbandry emerged, with cattle being kept to greater ages and hogs uniformly slaughtered at ages that yielded the most weight for the least supplemental feed. Meat was relatively abundant. Independent landowners of varying levels of wealth all consumed meats of similar quality. There were differences in food preparation and dining style, but the basic ingredients were the same. Cattle and hogs were dependable resources that could be intensively exploited, and all landowners had sufficient space to raise enough livestock to supply their households. Information on poor freeholders and bound laborers is less abundant, but slaves and servants probably ate beef from low-quality cuts, and supplemented meat rations with a few small wild mammals (H. M. Miller 1984, 1986, 1988, n.d. cf. Garrow and Wheaton 1986, 570–71, 640–42).

A consistent finding from all later seventeenth-, eighteenth-, and early-nineteenth-century archaeological sites is the importance of beef in the diets of all groups. This is a major revision of evidence from culinary histories and studies based on probate inventories and even widows' allowances. Meat, when available, was not always a monotonous round of salt pork upon salt pork. From estimates of the weights of meat represented by recovered bones, everywhere beef and pork were eaten in roughly equal proportions. Most beef was eaten fresh and hence does not appear as stored food in inventories. Fresh beef distributed to slaves is very likely underrepresented in accounts of standard rations; most slave sites show the same relatively equal proportions of beef and pork that appear in free households.¹⁴

The archaeological record also demonstrates that in general meat diets were more diverse than documentary sources suggest. On the southern Atlantic coastal plain, diets of the rich and of the poor were perhaps more varied than those of middling folk. Town dwellers apparently ate more domestic meat than rural residents but used a greater variety of species, especially birds. Residents of towns like Charleston and Savannah could purchase fresh meat year-round, since town populations were sufficiently large to permit quick sale of whole carcasses. Imported meats were also available. Farmers, on the other

14. The technology of pork preservation introduces possible problems. Some pork may have been deboned before pickling, and pickled bones may have decomposed more rapidly than fresh ones. Hence pork consumption may be underrepresented in faunal remains. Preserved fish also leaves few remains (Reitz 1987).

hand, had to schedule slaughtering times carefully in order to use an entire animal carcass before it spoiled (Brown 1990; Brown et al. 1990; Reitz 1986, 1987; Reitz and Honerkamp 1983; Rothschild 1989).

In nineteenth-century New England towns, urban dwellers probably had access to a more limited range of meats than did countryfolk. Wild resources were seldom available. In eighteenth-century Portsmouth, New Hampshire, most households butchered calves and pigs on their house lots, while purchasing smaller portions of mature cattle and hogs. Evidence of urban butchering begins to disappear around the turn of the century, forcing most urban residents to buy only what cuts were available in town markets (Pendery 1984). Some African-Americans in early-nineteenth-century Boston consumed the same fleshier cuts of meat as did richer folk, but probably in limited quantity and in part because market restrictions curtailed their ability to purchase cheaper pieces.¹⁵ Richer town dwellers in fact apparently had greater access to variety meats; for example, a comparison of household refuse showed that a contemporary Salem merchant's family ate many more calf and pig heads than did the free blacks (Bowen 1989). A documentary study of Boston slaughterhouses indicates that city butchers at first sold beef offal to almshouses and donated them the offal of other animals, but increasingly bones, heads, hooves, tallow, and the like were sold to local industries (Smith and Bridges 1982). Differing market regulations and offal disposal patterns clearly had some effect on the cost and availability of meats for city dwellers.

So far there is not enough archaeological evidence available to prove that consumption of fish and shellfish increased after the Revolution. However, I think that the documentary evidence is so strong that this will prove to be the case. My research in Maryland and Virginia agricultural account books and planter correspondence shows an increase in seine fishing both in Chesapeake Bay and freshwater streams. Salt fish did not appear in slave rations until the 1760s but was increasingly common after the Revolution. Much of the fish was caught and processed locally, but planters also bought salt fish from New England ship captains and later from Baltimore merchants. Account books also show a growing number of local men selling oysters and fish to large planter households. In prerevolutionary probate inventories, seines and oystering and crabbing equipment appear very infrequently. But in inventories for the years 1790 to 1820 for St. Mary's County, Maryland, and York County, Virginia, fishing and/or shellfish paraphernalia is present in about a quarter of

15. In helping to explain changes and differing patterns among various economic and ethnic groups in the composition of faunal remains, archaeologists have first investigated urban marketing regulations. For a further discussion of the implications of changing regulations, see section 5.5. Examination of urban household account books would also prove useful, as would investigation of varying sources of supply. Brown et al. (1990), for example, report differences in the ages of domestic animals purchased by tavernkeepers in Williamsburg (younger animals raised specifically for meat), and by a private householder who later lived on the same property (older animals butchered when they were no longer useful for other purposes and presumably purchased in small cuts from town butchers).

the inventories, perhaps on nearly every farm located along waterways (Walsh 1991). Connecticut account books for the same period also show intense harvesting of spring fish runs (Bowen 1990). Once railroads spread into rural Pennsylvania in the 1840s, fresh fish and shellfish were readily available (Weaver 1981). This likely increase in use of marine resources probably reflected both a response to growing urban markets and a shift among farmers to lower-cost sources of protein in a period of rising grain prices (cf. Adams 1982). High grain prices also raised the cost of meats, and farmers may either have fattened fewer animals or have sold a greater proportion of surplus stock.

For the period 1790–1860 most archaeological evidence comes from Lower South plantations.¹⁶ In coastal South Carolina, Georgia, and Florida, both planters and slaves relied heavily on wild resources. Planters harvested their stocks of cattle, hogs, and sheep but also regularly assigned slaves to hunting and fishing over considerable distances, supplying them with guns, boats, and fishing equipment. Consequently, planters could stock their tables with venison and deep-water fish, along with shellfish and a variety of wild birds and smaller mammals. Everywhere, planters also commonly roasted their meat or ate large cuts of boiled meat (Kelso 1984, 176–97; Otto 1984; Reitz 1986).

Standard meat rations for slaves varied widely depending on place, the custom of individual plantations, and whether a task or a gang system prevailed. Other factors affecting slave diet included the amount of free time, the age and sex composition of the work force, the intensity of work, the ability of slaves to produce food for themselves, the amount of food the slaves could barter, purchase, or steal, and the livestock mix on the plantation.¹⁷ Maryland and Virginia planters issued regular rations of salt pork or fish, supplemented with any butchery offal they did not choose to consume, and occasionally slaughtered cattle and sheep to provide slaves fresh meat. Lower South long-staple cotton and rice planters were more stingy with meat rations, and there many slaves had to catch small wild mammals, turtles, and fish in order to enjoy any regular source of protein. (Wild foods, for example, made up half of the meat diet at one sea-island slave site.) Slaves' procurement strategies differed from those of the planters. Given limited time and limited mobility, slaves had to rely on the wild species that they could catch or trap near their quarters. On plantations as widely scattered as Washington's Mount Vernon and the Georgia sea islands, planter household refuse contains more deep-water fish caught with seines and boats, while slave deposits have more smaller fish caught in shallower waters with hook and line. Upland slaves had access to a narrower range of wild resources, for which planters may or may not have compensated

16. My survey of the relevant archaeological literature is far from comprehensive, especially for unpublished reports. Singleton (n.d.) promises a more comprehensive bibliography of sources pertaining to African-American archaeology.

17. Planters who raised many sheep, for example, distributed inferior animals among their slaves, while those who raised few sheep apparently kept all the lamb and mutton for their own tables.

with larger rations of domestic meats (Reitz, Gibbs, and Rathbun 1985; Moore 1989; Pogue 1990; Gaynor 1989; Hughes 1991; Zierden, Drucker, and Calhoun 1986).

Other findings from slave sites confirm that they had few storage or cooking vessels. Meals had to be simply prepared, primarily by boiling, and most of the food they secured was eaten promptly (Kelso 1984, 176–97; Reitz, Gibbs, and Rathbun 1985). Available meat was hacked into small pieces for cooking, and the bones thoroughly scraped or pulverized to extract marrow. The cuts of domestic livestock that slaveowners provided were also usually of low quality, especially heads and feet. Documentary sources indicate these were occasionally supplemented with butchery offal, which leaves few detectable traces. Crude butchery techniques on occasional larger bones suggest that slaves had limited familiarity with more desirable parts of animal carcasses (Kelso 1986a, 1986b; McKee 1987; Davis 1987).

Archaeological evidence demonstrates that slaves tried mightily to supplement allotted rations by hunting, fishing, raising poultry, and gardening. What is unclear is how satisfactory these supplements were, either to provide a sufficiency of food or to supply nutrients absent in corn and salt-meat rations. Long cooking and frequent reheating of foods lost much of the vitamin content (Reitz, Gibbs, and Rathbun 1985).

Diets of free blacks probably varied widely, depending both on urban or rural residence and on family income. The household goods free blacks chose to acquire and some of the foods they chose to eat differed from the remains found at slave sites. Evidence for a well-off family comes from the Banneker farm in Baltimore County, Maryland. The family was unusually privileged in that they owned their own farm, and the celebrated almanac writer earned an unusually high income. The Banneker family at first relied on both domestic livestock and wild game, but as Benjamin Banneker's career developed, the family gave over hunting and eventually began to purchase some meat from a local store. They also started out using mostly wood, pewter, and coarse earthenwares for food preparation, storage, and dining but, with increased purchasing power after about 1775, acquired more ceramics (Hurry 1989). Excavation of three rental properties in a free black neighborhood in Alexandria, Virginia, revealed that antebellum tenants placed a high priority on acquiring inexpensive ceramic tea- and coffeewares and on miscellaneous plates for dining, presumably also consuming more of the popular stimulating beverages than did slaves and perhaps serving meals in different ways. Their meat diets were less varied than those of contemporary middle-class white Alexandrians, and included a much higher proportion of pork. (Upper-middle-class whites consumed both more wild meats and more beef, sheep, and poultry.) In the early nineteenth century the black tenants ate some fish, oysters, and small wild mammals, and some poultry, which they probably kept at home, along with a cow. But the primary source of meat was pork purchased from butcher shops, especially heads, feet, stew meat, and, more rarely, ribs (Cressay 1985).

5.5 Account Books and Studies of Food Distribution Systems

5.5.1 Account Books

Studies of account books offer yet another perspective on diet. The potential is most promising, yet this source has been underutilized. So far most studies of account books have concentrated on the character (capitalistic or communal) of the transactions, rather than on their content. Joanne Bowen's work on Suffield, Connecticut, account books between 1770 and 1810 represents a major advance in the study of diet, and provides an important critique of findings derived from probate inventories (Bowen 1990). Concentrating on meat-related exchanges appearing in selected account books, Bowen found that farmers had developed an intricate system of harvesting resources in order to insure a year-round supply of fresh meat to supplement salt pork, the ordinary staple. For the wealthy, fresh meat was available year-round. The process of meat supply began in early winter with the slaughter and preserving of hogs. As temperatures dropped, cattle were killed for fresh winter meat. Large pieces of beef were distributed through a complex network of exchange. In warm weather these rural exchange networks were not wide enough to absorb an entire beef carcass without spoilage, so cattle were not killed in summer. In early spring, salmon and shad fishing provided protein for immediate consumption and some preservation for later use. As it grew warmer, families turned to their stocks of salted pork, and added fresh meat by killing lambs, calves, and old sheep that were small enough to be consumed quickly within a few households. Dairy products provided additional protein, especially in summer, and in more limited quantities throughout the year. Local rural exchange networks served as a "social refrigerator."

Bowen also investigated the social and economic relationships of the people buying and selling meat, using local histories to identify relationships and tax lists and probate records to determine economic standing. Large farmers generated the surplus livestock and dairy products and sold meat in both local and distant markets. Many local sales were to wage laborers who did occasional work for the sellers. The laborers made frequent small purchases, mostly of preserved meats and cheese. Lower middling households, in contrast, engaged in by-employments rather than wage labor to supplement income and food stocks produced on small farms. They may have satisfied themselves with whatever fresh meats they could raise, and relied on the ubiquitous salt pork to augment a diet heavy on potatoes, cornmeal, and beans. Bowen found that better-off middling landowning farmers (with the exception of those related to wealthy producers) were notably absent from the account books. They may have raised sufficient meat for their households or else made exchanges with other families of equal status. Bowen could find no surviving account books kept by middling Connecticut farmers, so the question remains unresolved.

Exchanges of fresh meat or dairy products were infrequent among large farmers, probably a matter of occasional mutual accommodation. Most local fresh meat sales were made to relatives, including a number of poorer ones. Most of the buyers were related to the sellers either by blood or by marriage, and most exchange partners lived within walking distance of each other. Access to fresh meat for those who could not raise enough livestock to supply their own tables apparently depended on kin connections. As wealthier farmers began to hire more wage laborers (usually unrelated workers) and to rely less on mutual exchanges of work with kinfolk, less prosperous but still semi-independent relatives may have had to lessen their consumption of fresh meats or else attempted to become more self-sufficient. Poor rural folk who moved away from their families of origin were at a disadvantage for procuring a varied protein diet, perhaps especially residents of factory villages who were viewed by older residents as complete outsiders (Clark 1990, chap. 7).

Chesapeake account books and farm diaries for the same period reveal parallel patterns. Large slave owners followed similar strategies of resource harvesting to insure a year-round supply of fresh meats. Patterns of social and economic exchange were also similar. Big planters supplied dependent laborers and parish pensioners with frequent small amounts of grain and preserved meat. Meat exchanges with other large planters were infrequent. Small and middling planters did not often buy meat from large slave owners, and they too did not keep account books that would clarify procurement strategies (Walsh n.d.).

Account books and farm diaries also provide data on livestock slaughter weights that indicate the amounts of meat obtained per animal and identify periods of change in livestock feeding and marketing practices. Table 5.1 shows net slaughter weights of hogs in the Chesapeake between 1678 and 1820 and in Massachusetts between 1760 and 1840. Hogs that were left to forage for themselves until a brief fattening with supplemental corn for a few weeks prior to slaughter produced low net carcass weights. In the seventeenth century, when the age at which hogs were harvested varied, net slaughter weights averaged 130 pounds. Weights dropped to 100 pounds in the early eighteenth century, when uniform earlier slaughter ages (eighteen to twenty months) became the norm. Beginning in the 1750s, when more planters were raising surplus corn, net slaughter weights returned to about 130 pounds, although the age of slaughter remained the same. There was no change in slaughter weights or, by inference, in feeding practices through 1820 (Walsh n.d.). Massachusetts farmers apparently followed similar minimal fattening practices until about 1790. Then they began to slaughter hogs at both younger and at older ages, and overall to raise much heavier hogs. Their net slaughter weights doubled by 1840 (Rothenberg 1981, 305–10).

Much less data is available for net slaughter weights of beef cattle. These varied widely, depending on the age and sex of the animal, the season of killing, and whether the animal was range-fed or stall-fed. Until urban markets

Table 5.1 Net Hog Slaughter Weights, Chesapeake Region and Massachusetts, 1678–1840

Chesapeake Region			Massachusetts		
Years	<i>N</i>	Net Pounds	Years	<i>N</i>	Net Pounds
1678–99	48	131	1760–89	8	120
1700–1749	408	104	1790–1809	22	187
1750–74	2,032	128	1810–20	33	198
1775–89	3,514	124	1821–40	181	248
1790–1809	2,933	130			
1810–20	1,723	128			

Sources: For the Chesapeake, net slaughter weights from plantation account books cited in Walsh (n.d.); for Massachusetts, data supplied by Winifred Rothenberg. Rothenberg's live weights were converted to net weights by multiplying by 0.7. (See Rothenberg 1981, 305–10).

became important in the early nineteenth century, whole animals were seldom sold to a single buyer, scales were often inadequate for weighing an entire carcass, and sellers were often content to eyeball estimated slaughter weights. Weights for a single quarter may under- or overstate full carcass weights, and it is not always clear whether weights given for whole animals include only the four quarters of saleable meat or whether the fifth quarter (tallow and hide) is also included. (See Smith and Bridges 1982, 6.) Table 5.2 shows trends in net slaughter weights for Chesapeake cattle (four quarters only) between 1749 and 1820. Before 1790, beef cattle averaged only about 350 pounds net. Thereafter, cattle weights rose steadily, although, given the small number of observations, it is uncertain by how much. Many of the heavier animals were raised by farmers who were selling fattened cattle to urban markets. A trend to fatter animals for the town trade is clear, but it is unlikely that cattle weights overall nearly doubled between 1790 and 1820. Doubtless families who killed only barren cows and old oxen for their own use realized fewer gains in meat per animal. Even if the analysis is restricted to cattle consumed on the plantation, however, net slaughter weights still rose about 100 pounds at the turn of the century.

Analysis of food-purchasing patterns from country stores is another promising use of account books. A small-scale study of store accounts in Deerfield, Massachusetts, for 1710–1800 turned up seasonal purchasing patterns of butter, cheese, vinegar, salt, and fresh and preserved meats that both confirm Bowen's findings on seasonality and suggest additional food preservation and procurement strategies. Deerfield customers who relied on the stores for meat supplies bought much more pork than other meats, again suggesting that fresh meat moved through a specialized distribution network. The study also confirms growing availability toward the end of the eighteenth century of imported groceries, and more regular ties with Boston markets (Derven 1984).

Similarly, George Miller used invoices of ceramics purchased by country

Table 5.2 Net Cattle Slaughter Weights, Chesapeake Region, 1749–1820

Years	<i>N</i>	Net Pounds
1749–79	37	368
1780–89	119	344
1790–1809	84	450
1810–20	53	681

Source: Plantation account books cited in Walsh (n.d.).

Note: The data are limited to observations for an entire carcass consisting of four quarters.

storekeepers in the late eighteenth and early nineteenth centuries to determine community consumption patterns of food preparation and dining wares (G. L. Miller 1984a, 1990). Ann Martin found store accounts helpful in tracing changes in cuisine among middling and lesser planters as indicated by purchases of nonnative spices, citrus fruits, and new kinds of food preparation and serving equipment, as well as for signs of a shift from eating meals off individualized dining wares rather than out of shared communal vessels. (Dinner plates, for example, rose from a negligible 8 percent of food-related objects carried in country store inventories in the first quarter of the eighteenth century, to 15 to 20 percent in the third quarter, and by 1800 constituted 40 percent of the merchants' food-related wares; Martin 1987a, 1987b). A study of country store accounts in Kentucky in the 1790s suggests that frontier consumers were perhaps less likely than New Englanders to purchase basic foodstuffs (this issue is not closely addressed), but definitely eager to purchase whiskey, sugar, coffee, tea, and teawares (Perkins 1991). Similarly, a study of Ohio's Western Reserve between 1800 and 1825 found brides willing to travel three days on horseback in order to purchase a few pieces of crockery and teaware with which to begin housekeeping (Miller and Hurry 1983). While at first glance such bits and pieces of information do not seem of much importance, well-structured studies of consumer choices among country store buyers can provide valuable insights into the purchasing patterns and dietary preferences of ordinary folk.

The distribution effects of elite hospitality also merit consideration. A run of extremely detailed accounts from 1777 to 1790 for the family of a wealthy merchant in the small port town of Chestertown, Maryland, raises interesting questions. Complexities of settling the estate required that the administrator keep exact records of all the provisions the town-dwelling widow received from three nearby plantations. The plantation overseers kept running accounts of what they supplied, including beef, poultry, eggs, dairy products, and vegetables. The ages of the children are known, as are the numbers and ages of household slaves and indentured servants. The widow maintained the style of life to which she had been accustomed while her husband was alive, including keeping a carriage and much local visiting and entertaining at home. In a preliminary analysis, I assumed children under sixteen consumed half the

food of an adult, and (probably unrealistically) that the slaves and servants ate the same food as the merchant's family. The results show average per capita meat consumption of six hundred pounds per year, plus fifty pounds of butter. Perhaps members of this household did indeed consume over a pound and a half of meat each day, but it is more likely that gentry hospitality was not reciprocal. That is, food expended for entertainments at home was not balanced by equivalent meals a gentry family ate in neighbors' houses. The need to care for several young children precluded extended travel for the widow, but a succession of visiting relatives and other guests, many of them not yet married, probably fared much better at her table than at home. The slaves likely shared leftovers among themselves and with friends and kin living nearby. I'm uncertain how important the redistributive effects of gentry entertaining may have been.¹⁸ Like Bowen's finding of differential access to fresh meat based on kin relationships, this account suggests that a variety of connections to gentry households, either as guest or servant, may have improved the diets of those so connected.

5.5.2 Food Distribution Systems

How well or badly the food distribution system worked had the greatest effect on urban residents, and the larger the city, the greater was the effect. Depending on where they lived, changes in distribution networks changed the dietary prospects of some country folk as well. As Komlos (1987) has suggested, in the absence of other explanatory variables for significant changes in height such as disease, sanitation, or harvest failures, the distribution system merits close scrutiny. So far, with a few exceptions (Friedmann 1973; Smith and Bridges 1982; Usner 1986; G. J. Brown 1987), economic historians have ignored distribution networks.

It seems likely that at least until 1820 urban distribution systems were poorly developed. For example, foreign travellers to the Chesapeake complained repeatedly of the poor quality, scant quantity, and high prices of meat, hay, dairy products, and produce in town markets. Farmers, they asserted, were not responding to an obvious opportunity. In those same years, farmers who did produce fruits, vegetables, and butter or caught fish for sale in the towns complained that markets were so easily glutted that they could not count on selling enough to justify the time and effort required to haul the goods to town and hawk them about. Wealthy plantation owners who spent part of the year in town and might have been major buyers instead supplied their kitchens almost entirely from their home plantations, shipping or hauling, often from long distances, not only preserved meat, livestock, and grain,

18. Convention required that a dinner table be set with a sufficient number of dishes to occupy its entire space. In 1789 George Washington's secretary, Tobias Lear, sought to purchase an elaborate set of plateau mirrors to ornament the center of the dinner table "to occupy the place which must otherwise be filled with dishes of meat, which are seldom or never touched" (quoted in Carson 1990, 51; on quantities of food in elaborate meals see Belden 1983, chap. 1).

but also fruits, vegetables, nuts, and even herbs (Walsh n.d.). The urban poor, usually living in extremely crowded quarters, often with little cooking equipment and not enough money to buy firewood, apparently bought little besides bread and occasionally meat (Carson 1990).

By the 1830s larger cities were better supplied, but they began to impose marketing regulations that worked to the disadvantage of both the urban and rural poor. Restrictions on keeping livestock in town proliferated. Butchers were not allowed to vend quick-spoiling offal. Instead, heads, feet, and tallow were increasingly put to industrial uses. Such measures may have improved sanitation, but poor consumers were also deprived of a source of cheap protein. Similarly, regulations curtailing the activities of strolling hawkers and peddlers, and requirements that vendors rent market stalls both raised food prices and excluded the poorest producers, especially slaves and free blacks (Hooker 1981, 98–101; Usner 1986; Bowen 1989; Bushman 1981; Smith and Bridges 1982; Pendery 1984). Qualitative sources assert that before the Civil War urban residents (except perhaps in major cities) could purchase milk, fruit, and vegetables only within a limited season (Strasser 1982, chap. 1; Levenstein 1988, chap. 2; Martin 1942, chap. 2). In addition, as direct links between producers and consumers diminished, opportunities for food manufacturers and retailers to adulterate their wares multiplied. Adulterated foods, especially in urban areas and particularly among the urban poor, became a major problem in Britain in the first half of the nineteenth century (Burnett 1966, chap. 5). This was doubtless the case as well in urban distribution systems in the United States.

Too few studies have been undertaken to permit assessment of the impact of growing urban markets on the rural poor. My work on Chesapeake agriculture suggests some changes in slave diet did occur. By custom, whenever an animal was slaughtered on the plantation, either for on-site consumption or for local sale, the slaves were given all the offal the planter family did not choose to eat. As more animals were driven to town markets for slaughter, rural slaves lost out. On the other hand, on plantations where the owners were raising or harvesting produce for town markets, slaves may have had access to more fruits, vegetables, and fish. The slaves probably ate any produce too inferior to market, along with any surplus that failed to sell. Urban markets also provided slaves and free blacks with increased opportunities to sell poultry, vegetables, fish, and oysters. Again, the results for their own diet is uncertain. Earnings may have been used to make marginal improvements in their living conditions. But some may have sold foodstuffs they would otherwise have eaten, and spent the proceeds on clothing, tobacco, and alcohol, further impoverishing nutritional levels (Walsh n.d.).

In New England, growing industrialization and urbanization brought even greater economic change. As fewer farm households produced either textiles or bread grains or raised livestock, the need to earn income to buy these essentials may have left rural families hard-pressed, especially when prices of cash

crops fell. In addition, country storekeepers extended less and less credit, and demanded cash rather than country pay. Poorer folk had to take goods in small amounts at high prices and could not realize economies from bulk purchases (C. Clark 1990). Clearly there is much to learn about what consumers in various places and at varying levels of wealth could buy, and out of that which was available, what they chose to buy.

Finally, such evidence as exists for improving living standards must be evaluated within the context of likely increases in the intensity or duration of work for many Americans. Some members of the middle classes may have gained leisure time, but ordinary farm men and women and slaves probably had less. Overall, by the 1840s some aspects of living standards, for example, housing, furnishings, and hygiene, may have improved incrementally over those of the 1770s. Work conditions for many, on the other hand, had almost certainly declined (Gross 1982; Larkin 1988, chap. 7; G. Clark 1987; C. Clark 1990; Carr and Walsh 1988a; Walsh 1989).

5.6 Conclusion

All the sources surveyed—probate inventories, widows' allowances, culinary history, archaeological studies, and account books—provide differing perspectives on American diets between 1770 and 1840, some complementary and some conflicting. In general, less work has been done for 1780–1860 than for either the colonial or postbellum period, so conclusions remain tentative.

The level of consumption of household goods and style of life of the wealthy and middle classes in both rural and urban areas clearly improved. Some independent farmers and middle-class city dwellers also achieved improvements in their year-round diet, adding variety and to some extent increasing availability of more foods over a greater part of the year. Beef consumption was higher than previously thought, and distribution networks existed to provide year-round fresh meat to a significant portion of the population.

On the other hand, our knowledge about living conditions of people of lesser wealth is inadequate. There is no evidence for major improvement in household equipment, and a possibility for declines in diet. There were few changes in cooking methods or in food preservation technology that would have facilitated major changes in daily fare. Changes in food distribution networks probably disadvantaged rather than enhanced the diets of the poor. Less wealthy families who lacked access to land, a growing proportion of the population, were hard-put to maintain consumption levels typical of the late colonial period, as were slaves and other laborers who were forced to work longer and harder with no offsetting improvements in quantity or quality of rations. In cities, poor families may have been worse off than in earlier years; high rent and fuel costs probably precluded improvements in diet. Bowen's

finding that even in rural areas of New England ready access to fresh meat depended on kin connections shows that trends in prices, wages, and family incomes are but part of the story.

At present, needs and opportunities for further research outweigh established results for early-nineteenth-century America. The overall standard of living in the early republic is as yet imperfectly understood, trends in consumer behavior only tentatively identified, and the relationship between living standards and diet for all but the rich insufficiently explored.

References

- Adams, D. R., Jr. 1982. One Hundred Years of Prices and Wages: Maryland 1750–1850. *Working Papers from the Regional Economic History Research Center* 5, no. 4: 90–129.
- Arnow, H. S. [1960] 1983. *Seedtime on the Cumberland*. Rev. ed. Lexington: University Press of Kentucky.
- Atack, J., and F. Bateman. 1987. *To Their Own Soil: Agriculture in the Antebellum North*. Ames: Iowa State University Press.
- Austen, R. A., and W. D. Smith. 1990. Private Tooth Decay as Public Economic Virtue: The Slave-Sugar Triangle, Consumerism, and European Industrialization. *Social Science History* 14: 95–115.
- Belden, L. C. 1983. *The Festive Tradition: Table Decoration and Desserts in America, 1650–1900*. New York: W. W. Norton.
- Belluscio, L. J. 1984. Brick Ovens in the Genessee Country, 1789–1860. In *Foodways in the Northeast*, ed. P. Benes, 64–79. Boston: Boston University Press.
- Benes, P. 1984. Foodways Bibliography. In *Foodways in the Northeast: The Dublin Seminar for New England Folklife Annual Proceedings 1982*, ed. P. Benes, 130–39. Boston: Boston University Press.
- Blackmar, B. 1979. Re-walking the “Walking City”: Housing and Property Relations in New York City, 1780–1840. *Radical History Review* 21: 131–48.
- . 1989. *Manhattan for Rent, 1785–1850*. Ithaca: Cornell University Press.
- Blumin, S. M. 1989. *The Emergence of the Middle Class: Social Experience in the American City, 1760–1900*. Cambridge: Cambridge University Press.
- Boserup, E. 1985. The Impact of Scarcity and Plenty on Development. In *Hunger and History: The Impact of Changing Food Production and Consumption Patterns on Society*, ed. R. I. Rotberg and T. K. Rabb, 185–209. Cambridge: Cambridge University Press.
- Bowen, J. V. 1989. Urban Household Subsistence: A Comparative Analysis of a Black American and Upper-Class White Household. Colonial Williamsburg Foundation, Williamsburg, VA. Manuscript.
- . 1990. A Study of Seasonality and Subsistence: Eighteenth-Century Suffield, Connecticut. Ph.D. diss., Brown University.
- Brown, G. J. 1987. Marketing Meat and Fish in the Eighteenth-Century Tidewater: The Documentary Evidence for the Existence of Markets in Early Peninsula towns. Occasional Papers from the Research Division, Colonial Williamsburg Foundation, Williamsburg, VA. Manuscript.
- Brown, G. J., T. F. Higgins, D. F. Muraca, S. K. Pepper, and R. H. Polk. 1990.

- Archaeological Investigations of the Shields Tavern Site, Williamsburg, Virginia.* Williamsburg, VA: Colonial Williamsburg Foundation.
- Brown, M., III. 1990. Digging the Urban Places of Colonial Virginia: The Perspective of Environmental Archaeology. Manuscript.
- Bryan, L. 1839. *The Kentucky Housewife*. Cincinnati: Shepard and Stearns. Reprint. Paducah, KY: Collector Books, n.d.
- Burnett, J. [1966] 1979. *Plenty and Want: A Social History of Diet in England from 1815 to the Present Day*. Rev. ed. London: Scolar Press.
- Bushman, R. L. 1981. Family Security in the Transition from Farm to City, 1750–1850. *Journal of Family History* 6: 238–56.
- . 1987. The Gentrification of Kent County, Delaware, 1740–1776. Paper presented to the Washington Area Seminar in Early American History, University of Maryland, April.
- Bushman, R. L., and C. L. Bushman. 1988. The Early History of Cleanliness in America. *Journal of American History* 74: 1213–38.
- Carr, L. G., R. R. Menard, and L. S. Walsh. 1991. *Robert Cole's World: Agriculture and Society in Early Maryland*. Chapel Hill: University of North Carolina Press.
- Carr, L. G., and L. S. Walsh. 1978. Changing Life Styles in Colonial St. Mary's County. *Working Papers from the Regional Economic History Research Center* 1, no. 3: 73–119.
- . 1980. Inventories and the Analysis of Wealth and Consumption Patterns in St. Mary's County Maryland, 1658–1777. *Historical Methods* 13: 81–104.
- . 1988a. Economic Diversification and Labor Organization in the Chesapeake, 1650–1820. In *Work and Labor in Early America*, ed. S. Innes, 144–88. Chapel Hill: University of North Carolina Press.
- . 1988b. The Standard of Living in the Colonial Chesapeake. *William and Mary Quarterly*, 3d ser., 45: 135–59.
- . n.d. Consumer Behavior in the Colonial Chesapeake. In *Of Consuming Interests: The Style of Life in the Eighteenth Century*, ed. C. Carson, R. Hoffman, and P. J. Albert. Charlottesville: University Press of Virginia, forthcoming.
- Carson, B. G. 1990. *Ambitious Appetites: Dining, Behavior, and Patterns of Consumption in Federal Washington*. Washington, DC: American Institute of Architects Press.
- Carson, C., and L. S. Walsh. n.d. The Material Life of the Early American Housewife. *Winterthur Portfolio*, forthcoming.
- Carson, J. 1985. *Colonial Virginia Cookery: Procedures, Equipment and Ingredients in Colonial Cooking*. Williamsburg, VA: Colonial Williamsburg Foundation.
- Clark, C. 1990. *The Roots of Rural Capitalism: Western Massachusetts, 1780–1860*. Ithaca: Cornell University Press.
- Clark, C. E., Jr. 1987. The Vision of the Dining Room: Plan Book Dreams and Middle-Class Realities. *Dining in America, 1850–1900*, ed. K. Grover, 142–72. Amherst: University of Massachusetts Press.
- Clark, G. 1987. Productivity Growth without Technical Change in European Agriculture before 1850. *Journal of Economic History* 47: 419–32.
- Clemens, P. G. E. 1990. Material Culture and the Rural Economy in Burlington County, New Jersey: The Evidence from Probate Records, 1760–1820. History Department, Rutgers University, New Brunswick, NJ. Manuscript.
- Clemens, P. G. E., and L. Simler. 1988. Rural Work and the Farm Household in Chester County, Pennsylvania, 1750–1820. In *Work and Labor in Early America*, ed. S. Innes, 106–43. Chapel Hill: University of North Carolina Press.
- Conlin, J. R. 1986. *Bacon, Beans, and Galatines: Food and Foodways on the Western Mining Frontier*. Reno: University of Nevada Press.

- Cook, E. M., Jr. 1989. *Ossipee, New Hampshire 1785–1985: A History*. Portsmouth, NH: Peter E. Randall.
- Crader, D. C. 1984. The Zooarchaeology of the Storehouse and the Dry Well at Monticello. *American Antiquity* 49, no. 3: 542–58.
- Cressey, P. J. 1985. The Alexandria, Virginia City-Site: Archaeology in an Afro-American Neighborhood, 1830–1910. Ph.D. diss., University of Iowa.
- Crump, N. C. 1991. “Pragmatic Unpretentiousness”: The Albemarle Diet. In *A Taste of the Past: Early Foodways of the Albemarle Region, 1585–1830*, ed. B. E. Taylor, 50–58. Elizabeth City, NC: Museum of the Albemarle.
- Davis, B. 1987. Faunal Analysis. In *Material Culture, Social Relations, and Spatial Organization on a Colonial Frontier: The Pope Site (44SN180)*, Southampton County, Virginia, ed. T. R. Reinhart, 85–96. Anthropology Department, College of William and Mary, Williamsburg, VA. Manuscript.
- Derven, D. L. 1984. Wholesome, Toothsome, and Diverse: Eighteenth-Century Foodways in Deerfield Massachusetts. In *Foodways in the Northeast*, ed. P. Benes, 47–63. Boston: Boston University Press.
- Food and Foodways: Explorations in the History and Culture of Human Nourishment*. 1985–. Ed. M. Aymard, J.-L. Flandrin, and S. L. Kaplor.
- Food History News*. 1988–. Ed. S. L. Oliver.
- Foodtalk: The Newsletter for People Who Enjoy Food for the Mind as Well as the Table*. 1987–. Ed. E. D. Cohn.
- Fordyce, E. T. 1987. Cookbooks of the 1800s. In *Dining in America, 1850–1900*, ed. K. Grover, 85–113. Amherst: University of Massachusetts Press.
- Fox-Genovese, E. 1988. *Within the Plantation Household: Black and White Women of the Old South*. Chapel Hill: University of North Carolina Press.
- Friedmann, K. J. 1973. Victualling Colonial Boston. *Agricultural History* 47: 189–205.
- Garrison, J. R. 1991. *Landscape and Material Life in Franklin County, Massachusetts, 1770–1860*. Knoxville: University of Tennessee Press.
- Garrow, P. H., and T. R. Wheaton, Jr., eds. 1986. Final Report Oxon Hill Manor Archaeological Site Mitigation Project I-95/MD 210/I-295. Vol. 2. Garrow and Associates, 4000 DeKalb Technology Parkway, Atlanta, GA. Manuscript.
- Gaynor, J. B. 1989. Preliminary Notes on the House for Families Faunal Assemblage. Department of Archaeological Research, Colonial Williamsburg Foundation, Williamsburg, VA. Manuscript.
- Geib, S. 1981. Changing Works: Agriculture and Society in Brookfield, Massachusetts, 1785–1820. Ph.D. diss., Boston University.
- Gibbs, P. 1982. Notes on Cooking Experiments. Research Department, Colonial Williamsburg Foundation. Manuscript.
- . 1989. Re-Creating Hominy: The One-Pot Breakfast Food of the Gentry and Staple of Blacks and Poor Whites in the Early Chesapeake. In *Oxford Symposium on Food and Cookery 1988: The Cooking Pot: Proceedings*, 46–54. London: Prospect Books.
- Goody, J. 1982. *Cooking, Cuisine, and Class: A Study in Comparative Sociology*. Cambridge: Cambridge University Press.
- Gross, R. A. 1982. Culture and Cultivation: Agriculture and Society in Thoreau’s Concord. *Journal of American History* 69: 42–61.
- Gump, L. K. 1989. Possessions and Patterns of Living in Washington County: The Twenty Years before Tennessee Statehood, 1777–1796. M.A. thesis, East Tennessee State University.
- Haskell, M. B. 1990. Cooks, Collectors, and Culinary Bibliography. *AB Bookman’s Weekly* 86: 1765–71.

- Hess, J. L., and K. Hess. 1972. *The Taste of America*. Harmondsworth, England: Penguin Books.
- Hess, K., transcriber. 1981. *Martha Washington's Booke of Cookery*. New York: Columbia University Press.
- Hilliard, S. 1972. *Hog Meat and Hoecake: Food Supply in the Old South, 1840–1860*. Carbondale: Southern Illinois University Press.
- Hood, A. 1988. Organization and Extent of Textile Manufacture in Eighteenth-Century Rural Pennsylvania: A Case Study of Chester County. Ph.D. diss., University of California, San Diego.
- Hooker, R. J. 1981. *Food and Drink in America: A History*. Indianapolis: Bobbs-Merrill.
- . ed. 1984. *A Colonial Plantation Cookbook: The Receipt Book of Harriott Pinckney Horry, 1770*. Columbia: University of South Carolina Press.
- Hörandner, E. 1981. The Recipe Book as a Cultural and Socio-historical Document. In *Food in Perspective: Proceedings of the Third International Conference on Ethnological Food Research, Cardiff, Wales, 1977*, ed. A. Fenton and T. M. Owen, 119–44. Edinburgh: John Donald Publishers.
- Hughes, C. T. 1991. African American Foodways at Lake Phelps. In *A Taste of the Past: Early Foodways of the Albemarle Region, 1585–1830*, ed. B. E. Taylor, 20–23. Elizabeth City, NC: Museum of the Albemarle.
- Humphries, J. 1990. Enclosures, Common Rights, and Women: The Proletarianization of Families in the Late Eighteenth and Early Nineteenth Centuries. *Journal of Economic History* 50:17–42.
- Hurry, R. J. 1989. An Archeological and Historical Perspective on Benjamin Banneker. *Maryland Historical Magazine* 84: 361–69.
- Jaffee, D. 1991. Peddlers of Progress and the Transformation of the Rural North, 1760–1860. *Journal of American History* 78: 511–35.
- Jensen, J. M. 1986. *Loosening the Bonds: Mid-Atlantic Farm Women, 1750–1850*. New Haven: Yale University Press.
- Jones, A. H. 1980. *Wealth of a Nation to Be: The American Colonies on the Eve of the Revolution*. New York: Columbia University Press.
- Kasson, J. F. 1987. Rituals of Dining: Table Manners in Victorian America. In *Dining in America, 1850–1900*, ed. K. Grover, 114–41. Amherst: University of Massachusetts Press.
- Kelso, W. M. 1984. *Kingsmill Plantations, 1619–1800: Archaeology of Country Life in Colonial Virginia*. Orlando, FL: Academic Press.
- . 1986a. The Archaeology of Slave Life at Thomas Jefferson's Monticello: "A Wolf by the Ears." *Journal of New World Archaeology* 6, no. 4: 5–20.
- . 1986b. Mulberry Row: Slave Life at Thomas Jefferson's Monticello. *Archaeology* (Sept./Oct.): 28–35.
- Kessel, E. A. 1981. Germans on the Maryland Frontier: A Social History of Frederick County, Maryland, 1730–1800. Ph.D. diss., Rice University.
- Keuchel, E. F. 1972. Master of the Art of Canning: Baltimore, 1860–1900. *Maryland Historical Magazine* 67: 351–62.
- Klingaman, D. 1971. Food Surpluses and Deficits in the American Colonies, 1768–1772. *Journal of Economic History* 31: 553–69.
- Komlos, J. 1987. The Height and Weight of West Point Cadets: Dietary Change in Antebellum America. *Journal of Economic History* 47: 897–927.
- Larkin, J. 1988. *The Reshaping of Everyday Life, 1790–1840*. New York: Harper and Row.
- Lemon, J. T. 1967. Household Consumption in Eighteenth-Century America and Its Relationship to Production and Trade: The Situation among Farmers in Southeastern Pennsylvania. *Agricultural History* 41: 59–70.

- . 1972. *The Best Poor Man's Country: A Geographical Study of Early South-eastern Pennsylvania*. New York: W. W. Norton.
- Levenstein, H. A. 1988. *Revolution at the Table: The Transformation of the American Diet*. New York: Oxford University Press.
- Lyman, R. L. 1987. On Zooarchaeological Measures of Socioeconomic Position and Cost-Efficient Meat Purchases. *Historical Archaeology* 21, no. 1: 58–66.
- McCusker, J. J. 1978. *Money and Exchange in Europe and America, 1660–1775: A Handbook*. Chapel Hill: University of North Carolina Press.
- McCusker, J. J., and R. R. Menard. 1985. *The Economy of British America, 1607–1789*. Chapel Hill: University of North Carolina Press.
- McKee, L. W. 1987. Delineating Ethnicity from the Garbage of Early Virginians: Faunal Remains from the Kingsmill Plantation Slave Quarter. *American Archaeology* 6: 31–39.
- Macleay, V. 1981. *A Short-Title Catalogue of Household and Cookery Books Published in the English Tongue, 1701–1800*. London: Prospect Books.
- McMahon, S. F. 1981. “A Comfortable Subsistence”: A History of Diet in New England, 1630–1850. Ph.D. diss., Brandeis University.
- . 1985. “A Comfortable Subsistence”: The Changing Composition of Diet in Rural New England, 1620–1840. *William and Mary Quarterly*, 3d ser., 42: 26–65.
- . 1989a. “All Things in Their Proper Season”: Seasonal Rhythms of Diet in Nineteenth Century New England. *Agricultural History* 63: 130–51.
- . 1989b. The “Indescribable Care Devolving upon a Housewife”: Gender Perceptions of the Preparation and Consumption of Food on the Midwestern Frontier, 1790–1860. Paper presented at a conference on Women and the Transition to Capitalism in Rural America, 1760–1940, Northern Illinois University, March.
- . 1989c. Laying Foods by: Gender, Dietary Decisions, and the Technology of Food Preservation in New England Households, 1750–1850. Paper presented at the annual meeting of the Social Science History Association, Washington, DC., November.
- Main, G. L. 1988. The Standard of Living in Southern New England, 1640–1773. *William and Mary Quarterly*, 3d ser., 45: 124–34.
- Main, G. L., and J. T. Main. 1988. Economic Growth and the Standard of Living in Southern New England, 1640–1774. *Journal of Economic History* 48: 27–46.
- Marks, B. E. 1979. Economics and Society in a Staple Plantation System: St. Mary's County, Maryland, 1790–1840. Ph.D. diss., University of Maryland.
- Martin, A. S. 1987a. “Dish It Up and Send It to the Table”: Foodways at the Local Store. Paper presented at the Jamestown Conference on Foodways, Charlottesville, VA, May.
- . 1987b. “The Limits of the Possible”: Availability and Costs of Tablewares in an Eighteenth-Century Virginia Store. Occasional Papers from the Research Division, Colonial Williamsburg Foundation, Williamsburg, VA. Manuscript.
- . 1988. “To Supply the Real and Imaginary Necessities”: The Retail Trade in Table and Teawares, Virginia and Maryland c. 1750–1810. Final Report to the National Endowment for the Humanities, Grant #R0-21158-86. Department of Archaeological Research, Colonial Williamsburg Foundation, Williamsburg, VA.
- . 1989. The Role of Pewter as Missing Artifact: Consumer Attitudes toward Tablewares in Late Eighteenth Century Virginia. *Historical Archaeology* 23: 1–27.
- Martin, E. W. 1942. *The Standard of Living in 1860: American Consumption Levels on the Eve of the Civil War*. Chicago: University of Chicago Press.
- Matthews, G. 1987. *“Just a Housewife”: The Rise and Fall of Domesticity in America*. New York: Oxford University Press.
- Mennell, S. 1985. *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present*. Oxford: Basil Blackwell.

- Miller, G. L. 1980. Classification and Economic Scaling of Nineteenth Century Ceramics. *Historical Archaeology* 14, no. 1: 1–40.
- . 1984a. George M. Coates, Pottery Merchant of Philadelphia, 1817–1831. *Winterthur Portfolio* 19: 37–49.
- . 1984b. Marketing Ceramics in North America: An Introduction. *Winterthur Portfolio* 19: 1–5.
- . 1990. The “Market Basket” of Ceramics Available in Country Stores from 1780 to 1880. Paper presented at the Society for Historical Archaeology, Tucson, AZ, January.
- Miller, G. L., and S. D. Hurry. 1983. Ceramic Supply in an Economically Isolated Frontier Community: Portage County of the Ohio Western Reserve, 1800–1825. *Historical Archaeology* 17, no. 2: 80–92.
- Miller, G. L., A. S. Martin, and N. S. Dickinson. N.d. Changing Consumption Patterns, English Ceramics, and the American Market from 1770 to 1840. In *Everyday Life in Early America*, ed. Catherine Hutchins. New York: W. W. Norton, forthcoming.
- Miller, H. M. 1984. Colonization and Subsistence Change on the Seventeenth Century Chesapeake Frontier. Ph.D. diss., Michigan State University.
- . 1986. Transforming a “Splendid and Delightful Land”: Colonists and Ecological Change in the Chesapeake, 1607–1820. *Journal of the Washington Academy of Sciences* 76: 173–87.
- . 1988. An Archaeological Perspective on the Evolution of Diet in the Colonial Chesapeake, 1620–1745. In *Colonial Chesapeake Society*, ed. L. G. Carr, P. D. Morgan, and J. B. Russo, 176–99. Chapel Hill: University of North Carolina Press.
- . N.d. Kingsmill Plantation Faunal Analysis Preliminary Statement. Historic St. Mary’s City, St. Mary’s City, MD. Manuscript.
- Miller, W. W. 1987. Technology and the Ideal: Production, Quality and Kitchen Reform in Nineteenth-Century America. In *Dining in America, 1850–1900*, ed. K. Grover, 47–84. Amherst: University of Massachusetts Press.
- Mintz, S. W. 1985. *Sweetness and Power: The Place of Sugar in Modern History*. New York: Penguin Books.
- Moore, S. G. 1989. “Established and Well Cultivated”: Afro-American Foodways in Early Virginia. *Virginia Cavalcade* 39, no. 2: 70–83.
- Oliver, S. L. 1990a. State of the Art: Souply at Bixby. *Food History News* 1: 5–7.
- . 1990b. Vernacular Cooking. Lecture, Octagon House, Washington, DC.
- Otto, J. S. 1984. *Cannon’s Point Plantation 1794–1860: Living Conditions and Status Patterns in the Old South*. Orlando, FL: Academic Press.
- Pendery, S. R. 1984. The Archeology of Urban Foodways in Portsmouth, New Hampshire. In *Foodways in the Northeast*, ed. P. Benes, 9–27. Boston: Boston University Press.
- Perkins, E. A. 1991. The Consumer Frontier: Household Consumption in Early Kentucky. *Journal of American History* 78: 486–510.
- Petits Propos Culinaires*. 1979–.
- Pogue, D. J. 1990. Washington’s View of Mount Vernon: Transformation of an Eighteenth-Century Plantation System. Paper presented at a conference on Re-Creating the World of the Virginia Plantation, 2 June, Charlottesville, VA.
- Pruitt, B. H. 1984. Self-Sufficiency and the Agricultural Economy of Eighteenth-Century Massachusetts. *William and Mary Quarterly*, 3d ser., 41: 333–64.
- Quayle, E. 1978. *Old Cook Books: An Illustrated History*. New York: E. P. Dutton.
- Randolph, M. [1824] 1984. *The Virginia House-wife*. Ed. K. Hess. Columbia: University of South Carolina Press.
- Reinhard, K. J., S. Mrozowski, and K. Orloski. 1986. Privies, Pollen, Parasites, and

- Seeds: A Biological Nexus in Historic Archaeology. *MASCA Journal* 4, no. 1: 31–36.
- Reitz, E. J. 1986. Urban/Rural Contrasts in Vertebrate Fauna from the Southern Atlantic Coastal Plain. *Historical Archaeology* 20, no. 2: 47–58.
- . 1987. Vertebrate Fauna and Socioeconomic Status. In *Consumer Choice in Historical Archaeology*, ed. S. M. Spencer-Wood, 101–19. New York: Plenum Press.
- Reitz, E. J., T. Gibbs, and T. A. Rathbun. 1985. Archaeological Evidence for Subsistence on Coastal Plantations. In *The Archaeology of Slavery and Plantation Life*, ed. T. A. Singleton, 163–91. Orlando, FL: Academic Press.
- Reitz, E. J., and N. Honerkamp. 1983. British Colonial Subsistence Strategy on the South East Coastal Plain. *Historical Archaeology* 17, no. 2: 4–26.
- Roberts, H. D. 1981. *Downhearth to Bar Grate: An Illustrated Account of the Evolution in Cooking due to the Use of Coal instead of Wood*. Marlboro, Wiltshire: Wiltshire Folklife Society.
- Rorabaugh, W. J. 1979. *The Alcoholic Republic: An American Tradition*. Oxford: Oxford University Press.
- . 1987. Beer, Lemonade, and Propriety in the Gilded Age. In *Dining in America, 1850–1900*, ed. K. Grover, 24–46. Amherst: University of Massachusetts Press.
- Rothenberg, W. 1981. The Market and Massachusetts Farmers, 1750–1855. *Journal of Economic History* 41: 283–314.
- Rothschild, N. A. 1989. The Effect of Urbanization on Faunal Diversity: A Comparison between New York City and St. Augustine, Florida, in the Sixteenth to Eighteenth Centuries. In *Quantifying Diversity in Archaeology*, ed. R. D. Leonard and G. T. Jones, 92–99. Cambridge: Cambridge University Press.
- [Rutledge, S.] 1847. *The Carolina Housewife or House and Home*. Ed. A. W. Rutledge. Charleston, SC: W. R. Babcock. Reprint. Columbia: University of South Carolina Press, 1979.
- Sarudy, B. W. 1989. Eighteenth-Century Gardens of the Chesapeake. *Journal of Garden History: An International Quarterly* 9, no. 3: 103–59.
- . 1990. Table Produce Grown and Sold in the Chesapeake Bay Region of Maryland during the Last Third of the Eighteenth Century. Box 247, Monkton, MD 21111. Manuscript.
- Schmit, P. B., ed. 1982. *Nelly Custis Lewis's Housekeeping Book*. New Orleans: Historic New Orleans Collection.
- Shammas, C. 1980. The Domestic Environment in Early Modern England and America. *Journal of Social History* 14: 3–24.
- . 1982. How Self-sufficient Was Early America? *Journal of Interdisciplinary History* 13: 247–72.
- . 1990. *The Pre-industrial Consumer in England and America*. Oxford: Oxford University Press.
- Singleton, T. A. N.d. The Archaeology of African American Life: A Critical Review and Bibliography. In *Guides to the Archaeological Literature of the Immigrant Experience in America*, no. 2, comp. T. A. Singleton and M. Bogard. Society of Historical Archaeology, forthcoming.
- Smart, A. M. 1986. The Urban/Rural Dichotomy of Status Consumption: Tidewater Virginia, 1815. M.A. thesis, College of William and Mary.
- Smith, B. G. 1990. *The "Lower Sort": Philadelphia's Laboring People, 1750–1800*. Ithaca: Cornell University Press.
- Smith, D. C., and A. E. Bridges. 1982. The Brighton Market: Feeding Nineteenth-Century Boston. *Agricultural History* 56: 3–21.

- Smith, M. E. 1987. Household Possessions and Wealth in Agrarian States: Implications for Archaeology. *Journal of Anthropological Archaeology* 6: 297–335.
- Strasser, S. 1982. *Never Done: A History of American Housework*. New York: Pantheon Books.
- Sweeney, K. M. 1984. Furniture and the Domestic Environment in Wethersfield, Connecticut, 1639–1800. *Connecticut Antiquarian* 36: 10–39.
- Taylor, J. G. 1982. *Eating, Drinking, and Visiting in the South*. Baton Rouge: Louisiana State University Press.
- Tilly, L. A. 1985. Food Entitlement, Famine, and Conflict. In *Hunger and History: The Impact of Changing Food Production and Consumption Patterns on Society*, ed. R. I. Rotberg and T. K. Rabb, 135–51. Cambridge: Cambridge University Press.
- Ulrich, L. T. 1990. *A Midwife's Tale: The Life of Martha Ballard, Based on Her Diary, 1785–1812*. New York: Alfred A. Knopf.
- Usner, D. J., Jr. 1986. Food Marketing and Interethnic Exchange in the Eighteenth-Century Lower Mississippi Valley. *Food and Foodways* 1: 279–310.
- Walsh, L. S. 1982. Initial Report on Talbot County Inventories for the 1790's. Manuscript.
- . 1983. Urban Amenities and Rural Sufficiency: Living Standards and Consumer Behavior in the Colonial Chesapeake, 1643–1777. *Journal of Economic History* 43: 109–17.
- . 1985. Land, Landlord, and Leaseholder: Estate Management and Tenant Fortunes in Southern Maryland, 1642–1820. *Agricultural History* 59: 373–96.
- . 1988. Questions and Sources for Exploring the Standard of Living. *William and Mary Quarterly* 3d ser., 45: 116–23.
- . 1989. Rural African Americans in the constitutional era in Maryland, 1776–1810. *Maryland Historical Magazine* 84: 327–41.
- . 1991. Report on Selected Agricultural and Food-related Items in York County, Virginia, and St. Mary's County, Maryland Inventories, 1783–1820. Research Department, Colonial Williamsburg Foundation. Manuscript.
- . N.d. "To Labour for Profit," A book-length study of plantation management in the Chesapeake, 1620–1820. Forthcoming.
- Weaver, W. W. 1981. Die Geschickte Hausfrau: The First Ethnic Cookbook in the United States. In *Food in Perspective: Proceedings of the Third International Conference on Ethnological Food Research, Cardiff, Wales, 1977*, ed. A. Fenton and T. M. Owen, 343–63. Edinburgh: John Donald Publishers.
- . 1982. *A Quaker Woman's Cookbook: The Domestic Cookery of Elizabeth Ellicott Lea (1793–1858)*. Philadelphia: University of Pennsylvania Press.
- . 1986. White Gravies in American Popular Diet. In *Food in Change: Eating Habits from the Middle Ages to the Present Day*, ed. A. Fenton and E. Kisban, 41–52. Edinburgh: John Donald Publishers.
- Wells, R. 1988. *Wretched Faces: Famine in Wartime England, 1763–1803*. New York: St. Martin's Press.
- Wenger, M. R. 1991. Gender and the Eighteenth-Century Meal. In *A Taste of the Past: Early Foodways of the Albemarle Region, 1585–1830*, ed. B. E. Taylor, 26–33. Elizabeth City, NC: Museum of the Albemarle.
- Wheaton, B. K. 1983. *Savoring the Past: The French Kitchen and Table from 1300 to 1789*. Philadelphia: University of Pennsylvania Press.
- Wheaton, B. K., and P. Kelly. 1988. *Bibliography of Culinary History: Food Resources in Eastern Massachusetts*. Boston: G. K. Hall.
- Williams, S. 1985. *Savory Suppers and Fashionable Feasts: Dining in Victorian America*. New York: Pantheon Books.
- Wilson, M. T. 1957. Amelia Simmons Fills a Need: *American Cookery*, 1796. *William and Mary Quarterly*, 3d ser., 14: 16–30.

- Wright, G. 1981. *Building the Dream: A Social History of Housing in America*. New York: Pantheon Books.
- Zierden, M. A., L. M. Drucker, and J. Calhoun. 1986. Home Upriver: Rural Life on Daniel's Island, Berkeley County, South Carolina. Contract study produced for the South Carolina Department of Highways and Public Transportation by Carolina Archaeological Services and the Charleston Museum.

Comment Gloria L. Main

Most of the papers presented at this conference argue for substantial real growth of the American economy in the early nineteenth century. Economists are accustomed to thinking that such gains imply corresponding improvements in the "standard" of living, at least in the long run. Such optimism appears warranted by the work of Soltow and Margo, who find no evidence of increasing inequality in the distribution of some of the benefits of that growth. As we know, however, all was not sweetness and light in the years between independence and civil war. Slavery expanded, entire nations of Indians lost their homelands, and degradation of the natural environment proceeded apace. Even the white population paid a price for progress as their mortality rates rose and the disamenities of urban life grew worse through overcrowding.

Any reasonable assessment of trends in our standard of living must, therefore, include the underside of economic growth as well as its benefits, and efforts should encompass a wide range of measures. Modern international agencies, for instance, not only collect data on conventional measures of economic resources but also report rates of infant mortality and life expectancy, the proportion of the population with access to clean water and health services, levels of literacy, and years of schooling. Steckel's paper at this conference discusses one such index: the study of human stature. In the process, he reminds us of the now-familiar downward slide in adult heights among men born between 1830 and 1880. That decline was closely associated with rising crude death rates, as reported at an NBER conference a few years ago.¹ Although the evidence derives from adults, the causes of diminished stature did their work in childhood and adolescence and presumably consisted of increasing incidence of infectious epidemical diseases, which interfere with the body's ability to convert nutrients into bone and muscle. Hence, the height data suggest that one major source of rising mortality among both whites and blacks lay in the spread of hostile microbes associated with urbanization and

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1. Robert W. Fogel, "Nutrition and the Decline in Mortality since 1700: Some Preliminary Findings," in *Long-Term Factors in American Economic Growth*, ed. Stanley L. Engerman and Robert E. Gallman, NBER Studies in Income and Wealth, 51 (Chicago: University of Chicago Press, 1986).

foreign immigration. These first accelerated in the 1830s, the period of birth for the first cohorts showing declines in average height. If we look at the most recent work available on adult mortality rates, however, the actual rise may have taken place before the 1830s, particularly for women.² If true, the sources of that increased mortality were not associated with urban crowding and hordes of microbe-bearing immigrants, and we must look elsewhere for the culprit.

Whether due to new and more infectious epidemical diseases or to inadequate systems for distributing wholesome food or to heavier work loads among agricultural workers, the shorter adults of the nineteenth century were survivors of a milieu less hospitable than that in which their colonial predecessors had thrived. Hence, Walsh's pioneering exploration of diet, cooking styles, means of food preservation, and distribution systems in the early republic is doubly welcome. Not only has she pursued a broad range of subjects through the thickets of dissertations, conference papers, journal articles, and museum shows, thus greatly extending our own conception of this aspect of the standard of living, but her paper allows us to explore, if not dismiss, the notion that the quantity or quality of food had altered sufficiently to affect adversely the well-being and life chances of significant portions of the population.

Walsh's survey suggests two things. First, the American diet did not change substantially between 1750 and 1840, but this statement must be modified in terms of class and locale. Modes of cooking and preserving had changed little since colonial times, as stoves, iceboxes, and canning equipment remained unavailable to all but the rich before circa 1850 or even into the post-Civil War era. Propertied classes ate better and more varied diets, and people living in frontier areas probably ate much the same as had the early settlers of the East Coast. City dwellers, on the other hand, may have been worse off than before, especially the poorer sort. Moreover, consumption of cheap whiskey among the general population reached peak levels soon after 1800 and may have seriously impaired the health of adults and children alike.

Second, compared to the colonial era, rural and urban poor whites and most blacks in the early nineteenth century worked harder and thus may have suffered from nutritional inadequacy in the face of higher bodily needs. Thus, it is possible that laborers generally were living closer to the nutritional edge, less because their diet had deteriorated than because of greater calorie needs.

Much of Walsh's paper reviews the varieties and availability of primary sources for this little-known period and suggests how they might be most efficiently mined. She herself has explored cookbooks, diaries, and probate records, among others, but finds them, and secondary works based on them, generally wanting. Diaries are scarce in any case, and few of them deal with

2. Clayne L. Pope, "Adult Mortality before the Twentieth Century: Current Evidence and New Sources," Department of Economics, Brigham Young University, Provo, Utah, 1989.

the mundane matters of the kitchen. Cookbooks do not seem to reflect actual practices. The scarcity of probate records is particularly bad news, but she reports more hopefully on two less familiar sources: archaeological digs and account books. The latter have generally been quarried for wages and prices as well as for information on the kinds of commodities entering local trade. However, their contents take on fresh meaning when people named in the books are identified in terms of family connections and economic rank in the local community. Thus, laconic notations concerning transactions in fresh meat revealed to one Connecticut student that kinship networks played vital distributory roles in providing access to perishable foods. Archaeologists can provide a good deal of evidence on diet, morbidity, and mortality by studying faunal remains, ceramic ware, and human skeletons, all of which become especially valuable when, as with account books, the human participants can be identified in terms of class or social rank. Most such studies currently available, however, come from seventeenth-century or late-nineteenth-century sites, too early or too late for our purposes. However, it would be very informative to compare heights and other kinds of evidence from skeletons of late Woodlands Indians, both coastal and interior, with those of whites and blacks of the colonial and early national period, young children as well as adults, and women as well as men.

Where does Walsh's heroic survey leave us, then? Pointing the way to the salt mines is a common ploy for scholars whose work generates questions rather than answers. Still, one of Walsh's major conclusions takes on great interest in the light of declining life expectancy of adults in America's rural population. Rising agricultural productivity in the older settled regions became possible as employers found ways to use labor profitably year-round, according to Rothenberg's research reported at this conference. Walsh found farm workers of both races and both sexes working harder than they had during the colonial period: putting in longer days and more days per year. One horrific measure of this effect is the high death rate of slave infants, whose mothers were severely overworked during pregnancy and given little time to nurse their infants after birth. Hence, not declining food intake but overwork, especially of women, may well have combined with changing disease patterns to raise adult mortality among poorer rural whites and slaves.

Hard evidence for the connection between overwork and mortality rates will not be easy to come by, but life expectancy at age thirty turned downward for both sexes born *before* 1790 in Pope's sample of family genealogies.³ This is long before population densities could have played much of a role through overcrowding. Although the downturn reversed itself temporarily in the first decade of the nineteenth century, those born in succeeding decades again faced significantly shorter lives than had their colonial forbears, as urbanization and immigration aided the spread of disease.

3. *Ibid.*, table 7.

Whether shorter lives and higher morbidity outweighed the gain in real annual incomes for the white population at the time remains unknown. Presumably no gains accrued to slaves or Indians. In the long run, of course, cumulative economic growth brought enormous benefits. From the advantage of many generations' distance and of a level of comfort and health little short of miraculous, the modern observer can only be grateful that the transition to industrialism did not exact an even greater cost.