nature and (mechanical) art in the goal of improving American life.

Despite these salubrious beginnings, Lowell and its imitators ravaged the social structure of New England. Bender skillfully delineates the subtle changes in perception that mark Lowell's transformation from rural village to urban industrial center. By the 1830s, the machine had become a life-shaping as well as a labor-saving device. Lowell, once described in terms of pastoral imagery, had become the shock city of the Jacksonian era; the rural village, once an extension of the landscape, had become the urban counterpoint to the country. Bender's distinction of city and country is central to his argument, for he attributes to this contrapuntal relationship a new concern for preserving the natural landscape, manifested in the development of rural cemeteries and the formation of public parks.

Lowell's rapid transformation from rural village to urban center made it, by 1840, the 14th largest city in the United States. Moreover, in the 1830s the manufacturing companies had already abandoned the policies that had ensured their initial success: the boarding house system, the use of a transient labor supply, and the relatively high salary structure. A new city replaced the founders' vision of a republican community, and problems of poverty, public health, and a permanent, proletarian laboring population challenged the social order. And it was through such institutions as schools and a house of reform, rather than through the face-to-face contact of an earlier day, that the citizens of Lowell attempted to meet the challenge of an urban industrial city.

From Lowell, Bender moves to New York, where he studies the work of two transplant New Englanders concerned with problems caused by urbanization. The first, Charles Loring Brace, used his position as secretary of the Children's Aid Society to meet the social needs of the city, while preserving the older, New England idea of community. Bender interprets Brace's practice of placing children with rural families and the reliance on volunteer help as philanthropic in terms of an "anti-institutional animus." Such direct contact between people of different backgrounds would "bring the two ends of society nearer together in human sympathy," he believed (p. 151).

In the final chapter, Bender turns to Brace's lifelong friend, Frederick Law Olmsted. He briefly traces Olmsted's emergence as an urban spokesman and demonstrates the motivating factor in his park and suburban designs as the attempt to induce a "manifestly civilizing effect" (p. 180). For Bender, Olmsted's theory marks the culmination of the 19th-century urban vision; as the aesthetic counterpart to the city, the park was planned to convey the psychological impact of nature, to "naturalize" the city. Thus, Olmsted attempted to harmonize the economic and cultural possibilities of urban living with a somewhat idealized version of the New England community.

This concept of the organic city unifies Bender's book and prevents it from becoming a series of topical essays. The author is obviously intrigued by the prospect of a more humane urban environment, and it is with chagrin that he admits its ultimate failure. Because the city is so preeminently an economic institution, Lowell's grand experiment fell before changing business criteria, increased competition, and the availability of a new, permanent supply of unskilled laborers, Irish immigrants. Brace and Olmsted, however, are said to have been victimized by a growing bureaucratic mentality. The progressive era's shift from volunteer involvement to professionalism in philanthropic work supplanted Brace's vision of a community united by shared human sympathy and transformed Olmsted's park ideal into sites for ornamental gardens and expositions. The spontaneity and human tenor evident in the careers of Olmsted and Brace, the author concludes, had no place in the turn-of-the-century society motivated by what Robert Wiebe characterizes as the "search for order."

Toward an Urban Vision is an important reexamination of 19th-century attitudes toward urbanization and industrialization. Its subtle delineation of attitudes refutes the thesis of Morton and Lucia White's The Intellectual Versus the City (1962), and it supplements, but does not replace, John Coolidge's study of architecture and society in Lowell, Mill and Mansion (1942). Bender's provocative chapters on Brace and Olmsted point out the need for a full-scale biography of Brace and a study of Olmsted's career as a planner, though I suspect historians may disagree with his conclusions on the progressive movement.

Because Bender attempts to synthesize so great a body of material within an interpretative framework, specialists will no doubt find cause to disagree with some of its arguments. But Bender's prodigious research and challenging point of view make Toward an Urban Vision a book of considerable importance. Surely it will generate additional studies on cultural attitudes toward the city.

Most obviously, Bender ascribes too much importance to what he calls the 19th-century's positive urban vision. The ideas and institutions he studies are created in response to a negative, or at best an ambivalent attitude toward the place of cities in "Nature's Nation," and as a result suggest the persistence of the Jeffersonian image discussed earlier in the volume. But Bender's research and provocative point of view make Toward an Urban Vision a book of considerable importance. Surely it will generate additional studies of the cultural importance of cities in the American experience.

DAVID SCHUYLER
Dumbarton Oaks


English towns in transition between what? Were not we told as freshmen that every age is one of transition? Why not 1500-1700, from Henry VIII to William and Mary? If the 18th century is that of Reason and Liberty, as well as that in which industrialization already began to bring into England a new kind of mindless slavery, then the period under scrutiny does approximate to a "middle" age between Medieval and Modern. It encompasses the Reformation, the Civil War, the Glorious Revolution of 1688, global navigation, Newton's proof of heliocentrism, the "New Science" of the Royal Society, the English Renaissance, and part of the English Baroque. Historical rationale postulates that all these had their effect on the development of the English town, but this 55,000-word study by two economic and social historians is concerned primarily with describing, rather than accounting for, urban changes in the period. Most of the specific examples quoted are theirs, but the Vanbrugh references are the reviewer's.

In 1700, London, having grown by a factor of eight in two centuries, was the largest city in Western Europe, with half a million inhabitants; only seven other English towns numbered over 10,000 persons. Yet England had more town dwellers proportionally than the continental countries, except Holland; most lived in small towns of between 600 and 2,000 persons, based on agriculture rather than industry, and dependent on the local harvest. These towns had a well developed, family-like structure; they were the centers of their surroundings, usually with a market, sometimes specialized (why did Vanbrugh go to Salisbury to buy scissors?). Many towns houses no more than 30 trades. Norwich, with 100 (and 12 whores) was exceptional in size (one square mile) and (in 1570) in the number of Flemish and Walloon Protestant refugees that constituted a third of its population—almost as many as in London. Many of these were merchants, tradesmen, or specialized craftsmen, and must have profoundly affected the city's appearance by either their work or their patronage. The nucleus of a town contained the houses of rich merchants, who provided the most stable element in the population, though it is noteworthy that by the 17th century some of Vanbrugh's kinsmen, like other London
merchants, had country houses in villages like Battersea, Carshalton, and Walton-on-Thames.

Among the less affluent the turnover of population was considerable, and towns depended for growth less on the birthrate than on the influx from the countryside, especially the poor in search of work and apprentices. Mobility accounted for the rapid recovery of London after the Great Fire of 1666, when in William Vanbrugh's parish of Wallbrook the baptismal rate returned to normal in four years, but all the surnames were new. The parish church was usually medieval, and in country towns often enormous, even for the 17th-century population. Some towns, however, owed their trade and almost their life to Henry VIII's monastic suppressions. The Reformation also increased the need for secular schools at the same time that a growing middle class desired wider literacy and educational opportunity.

Many of the older, larger towns were walled until the Civil War; most houses were still constructed of wood or lath and plaster; the painful lesson of London in 1666 was only learned elsewhere through similar, if smaller, conflagrations.

The period saw the rise of new towns chiefly based on industry (Birmingham, Leeds), or docks trading with the New World or serving the sea power that accompanied that trade. Usually, the new towns had been villages and followed the old patterns. One exception was Tunbridge Wells, one of several new spa towns, which had no church before the "small brick structure" of 1676 (the authors do not say either that it was large and handsome by 1690 or that it was dedicated to Charles I, martyr).

London remained unique in size, opportunity, political dominance, cosmopolitan population, and in its provision through the Inns of Court of a virtual third university. It, therefore, continued to lead in the provision of services, entertainment, and the growth of newspapers and coffeehouses. But by 1700, London included not only the overcrowded industrial East End but almost a twin city in Westminster, which was soon to outgrow for its own Thames Bridge to break the monopoly of London Bridge. The growth of Westminster as the legislative and administrative capital is more significant than the authors indicate, and many of the same processes occurred there as in the independent towns; observation of these processes provides the key to the "transition" of English towns. One does not need to be a social scientist to point out that any growing structure reaches a critical point at which it must either metamorphose or decay. In towns, as for example in universities, such a point is reached when it is impossible to know everyone, walk everywhere, and rely on verbal communication. More people mean not only more interests and activities, more trade and buildings, but a change in structure. Empirical experience suggests a threshold of around 5,000 or 6,000 persons; during this period the number of such towns in England doubled.

It is not clear for whom this book was written. Certainly, it offers a useful corrective to the aesthetic view of architectural history, in reminding us that most people were poor and lived in appalling conditions; even half-timbering was taxable. One may ask whether this book was commissioned (for an amorphous series) as a senior school textbook, or with an eye to "urban studies" beloved of the up-to-date librarian. These questions mean no disrespect to the authors, who have had a difficult task of selection. They properly and modestly refer to an earlier and larger publication that they edited and introduced (Crisis and Order in English Towns 1500-1700, Routledge and Kegan Paul, 1972), which is also better documented and, it must be said, more interesting. Except for apocalyptic and philosophical exposés, history lives in examples and small details; the authors have had to generalize too much at the expense of details. Families like the Verneys and the Daudys are introduced—and even indexed—without any clue to who they were: the fascinating publications of the Verney papers are not included in the bibliography. It was evidently not the authors' purpose to dwell on the appearance of the towns; but then even so much so-called architectural history is fairly nonvisual.

KERRY DONWES
University of Reading

ARCHITECTURE AND TECHNOLOGY


For those architectural historians who conceive of their discipline as a core of timeless understanding, the current plethora of books on energy in buildings and solar applications may seem like a nuisance: a temporary ripple of concern to personal life, but not of lasting significance. Yet these four recent books by architects represent not just a series of instant responses by that profession to topical needs, they also reflect on the role of history as a practical informative source of experience and as a store of humane wisdom. Their revelations are neither consistent nor infallible.

The most ambitious, Architecture and Energy, is a loose and broad series of essays by a well known New York architect. His active practice is situated in a most advanced and most frail urban location. Unlike the typical energy propagandist, whose base is rural, domestic self-sufficiency, Stein is involved in big buildings. Chapter 4, "The Tall Buildings," his most important essay, must be ranked as the most significant statement on the skyscraper since Louis Sullivan's "The Tall Office Building Artifically Considered" was published in March of 1896. But unlike Sullivan's mercantile romanticism, Stein's generic diagnosis of the subject is within the discipline of economic planning. His cold perceptions of dollar values do not include the variables of human reactions and interactions and only once does he discover the window.

Stein has a multiple approach; he may be less poetic than Sullivan, but he is more intellectually prepared. His descriptive freshness has the polemic potential of a pivotal manifesto. One searches in vain for comparable excellence in the other 16 chapters. Although Stein's thesis is based both on high technology and high intelligence, his chapter on historical roots, "A History of Comfort with Low Technology," is not definitive history, and it does not discuss exemplary comfort. Its mix of fact and allusion to ingenious housing prototypes, with only one reference note, should not make historians very smug. Rather, it is an expose of the mental skills of at