portance of information; and, though in Japanese understanding wisdom and insight come slowly for students, they do eventually come.

In fact, such qualifying phrases bring us closer to Rohlen's true perspective: the Japanese high school can serve as a "mirror" for the secondary schools of America. It can help to identify problems and indicate directions for change. And it can serve to clarify goals and point up the means to attain them. In fact, the two-country comparison that informs much of this work is among its most valuable features. This thoroughly researched, thoughtful, and elegantly crafted book deserves careful reading by every educated American.

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# Designs and Ideals

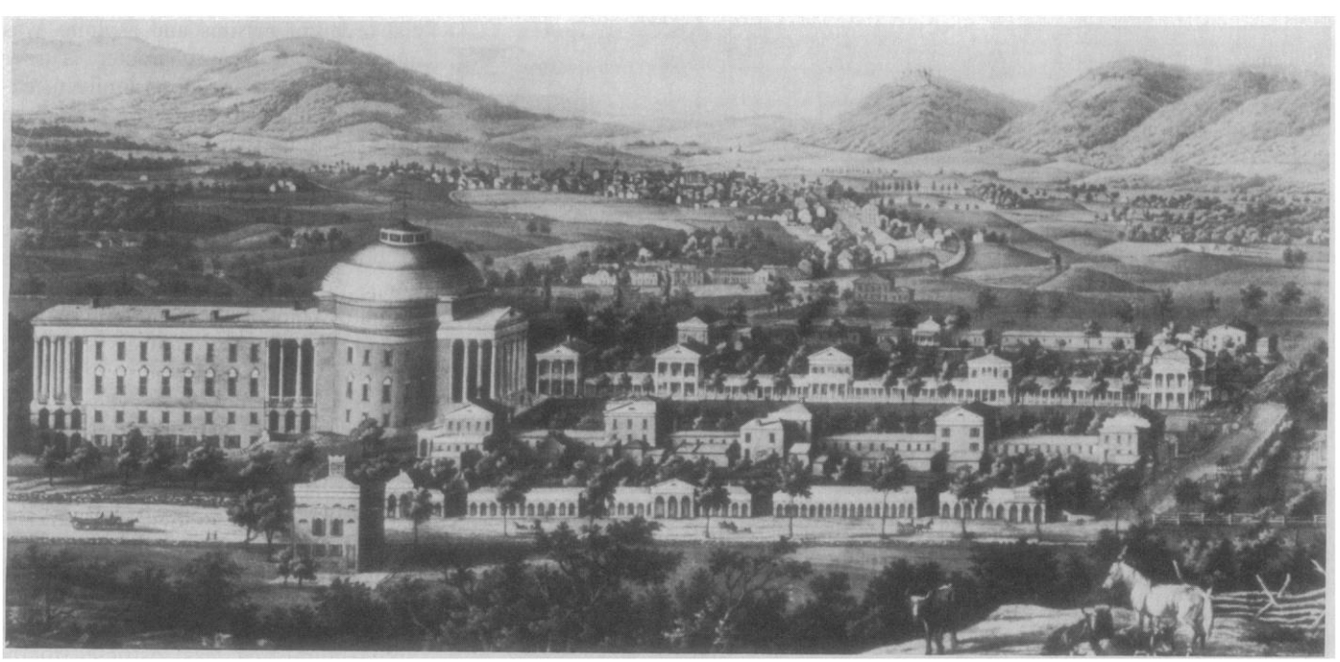
**Campus**. An American Planning Tradition. PAUL VENABLE TURNER. Architectural History Foundation, New York, and MIT Press, Cambridge, Mass., 1984. xii, 337 pp., illus. $35.

Not only does the United States produce more college graduates per capita than any other society in history, it has over the past three and a half centuries built more colleges per capita as well. These buildings constitute a significant—and insufficiently recognized—portion of our architectural heritage. When Harvard College's first building was erected in the late 1630's, it was the largest structure in the British colonies. The same could be said of Princeton's Nassau Hall when it was constructed in 1753. And in the 20th century, especially since World War II, college campuses have been among our largest building complexes.

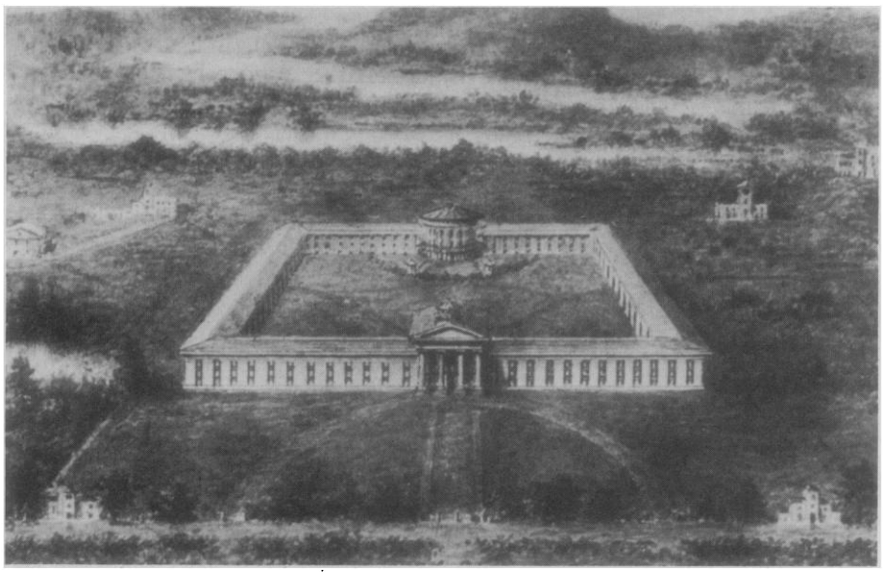
The history of campus architecture is, then, a topic of considerable importance, as well as one of interest and concern for those of us who have spent our student days and most of our professional lives on college campuses. Paul Venable Turner's lavishly illustrated and clearly written book appeals to and largely satisfies this sort of interest.

In seven chapters Turner surveys the principal trends in campus architecture from the colonial period to the present. What is important to him is the absence of precise European precedents for American campus architecture. He is anxious to celebrate American cultural innovation, which he associates with the expansiveness, openness, and inventiveness of American society. Within this framework, he examines the formal campus plans, the layout of buildings in those plans, and the architectural styles adopted.

Thus he stresses the way the colonial college—in contrast to the cloistered English model—opens out to the surrounding society. The University of Virginia, Jefferson's "academical village" designed in a Roman classical revival style, represents the highest ideal of republican education, and the later land-grant colleges are presented as manifestations of America's uniquely democratic society. Rarely do tensions emerge in this story, yet one can infer them playing between the two chapters Turner devotes to the civic ambition implicit in the Beaux Arts planning identified with Columbia University in the 1890's and to the genteel, collegiate, even monastic style exemplified by Woodrow Wilson's Gothic-style Princeton University a decade later. Whatever their perceived educational and architectural differences at the beginning of the 20th century, however, both the Columbia and the Princeton models sustained the development of a



View of the University of Virginia (somewhat out of scale) from the west. "The essential character of Jefferson's design for the University of Virginia was determined by his vision of the ideal education. . . . The notion of separate pavilions serving as both the teacher's home and classroom, with students' rooms linked directly like guest wings, was the most logical physical expression of this ideal." But "the insistence on having professors live at the center of the campus, above their classrooms and next to the students, was too demanding and inflexible for most American institutions, and was almost never adopted elsewhere." [From *Campus: An American Planning Tradition*; lithograph by F. Sachse and Co., 1856; University of Virginia Library]



A. J. Davis's design for Davidson College, Davidson, North Carolina, around 1856. This and Davis's 1848 design for the Virginia Military Institute "were probably the first designs for large-scale enclosed quadrangles in American college planning. At the end of the nineteenth century, the quandrangle would become popular in America as part of a conscious revival of the medieval colleges of Oxford and Cambridge. But Davis's quadrangles are quite different in character [and were] still too foreign and unfamiliar to Americans, who continued to favor the indigenous patterns of open-campus planning. [From *Campus: An American Planning Tradition*; Avery Architectural and Fine Arts Library, Columbia University]

profoundly influential educated and professional elite over the course of the century.

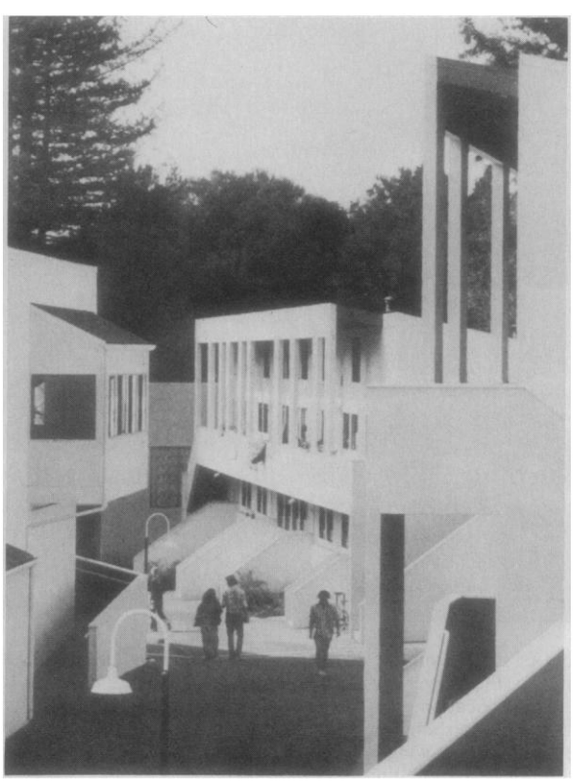
One of Turner's main points is that "the American campus, from the beginning, has been shaped less by European precedents than by the social, economic, and cultural forces around it." The claim cannot be denied, but Turner fails to pursue it as far as he might, allowing the compilation of American innovations to deflect attention from their cultural sources and meanings.

The treatment of the contributions of Andrew Jackson Davis and Frederick Law Olmsted is a case in point. Davis, the "leading college architect" in the second quarter of the 19th century, tended, Turner notes, to place the design of campuses, prisons, and asylums into a single category. Later, Olmsted, who, Turner tells us, was in the third quarter of that century the most important theorist of campus architecture, proposed the abolition of the sort of large campus dormitories that had been built by the previous generation, favoring instead family-style "cottages." For Turner it is merely a curiosity that Davis places these structures within the category of a single building type, and Olmsted's proposal he presents simply as an appealing innovation that was not generally adopted.

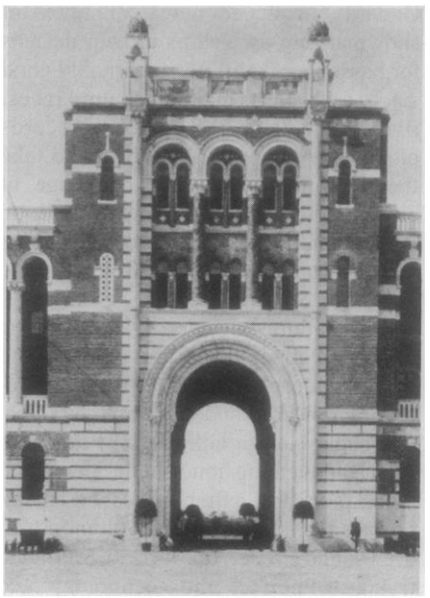
In not looking beyond the campus Turner misses an important relation between these views. He identifies Davis's plan for Davidson College as nearest the ideal vision both of the architect and of college building in the era. He notes, also, that Davis illustrated on the same page of one of his portfolios designs for Davidson College and the Hospital for the Insane in Raleigh. What he does not do is to remark upon how similar were the architectural ideals for prisons, asylums, and colleges. All were to be located in a rural setting emphasizing separation from the disorder of the world and were to be inward-looking, self-contained, and enclosed. In *The Discovery of the Asylum* (1971) the historian David Rothman has elucidated the ways in which this isolated and constructed social order of prisons and asylums was intended to reform character. Turner here misses a grand opportunity to extend this understanding, revealing the close relation of ideals for the formation of the normal and for the reformation of the deviant individual.

When Olmsted rejected his principle of order, he was fully aware of this connection. He referred to the older, dormitory model as prison architecture, and in proposing a "cottage system" he was consciously using the technical jargon of a mid-century movement that challenged large, institutional provisions for the care of independent and deviant youths. In fact, Charles Loring Brace, the leader of this prison and asylum reform movement and the man who coined the phrase "cottage system," was Olmsted's oldest and dearest friend. If Turner's focus had been less tightly architectural and less restricted to the campus he might have revealed much more of the significance of what was going on there.

Turner draws upon much basic scholarship on the history of higher education,



Student residential area, Kresge College, University of California, Santa Cruz; designed by William Turnbull and Charles W. Moore, 1965–1972. At Santa Cruz "general guidelines were established for the design of all buildings . . . , but different architects were chosen for the colleges in order that each would have its own special character." Kresge's provosts, who "were involved in the human-potential and group-interaction movements that were becoming popular at the time" conceived the college as "an intimate community of 'kin groups' . . . to be run as a 'participatory democracy.' " The architects "worked closely with the provosts and others . . . to create a physical setting supportive of these ideals. There was even a course, entitled 'Creating Kresge College,' in which students contributed ideas about the design." [From *Campus: An American Planning Tradition*; courtesy of Charles W. Moore]



Central part of the Administration Building of Rice University, designed by Ralph Adams Cram and constructed 1910–1912. Finding, as he wrote later, "no historical or stylistic precedent, and no ideas imposed by the President or Trustees," Cram "invented a style he considered suitable to a Mediterranean-like climate, combining 'all the elements I could from Southern France and Italy, Dalmatia, the Peloponnesus, Byzantium, Anatolia, Syria, Sicily, Spain.' In spite of this eclecticism of building style, "Cram's overall plan for Rice followed standard Beaux-Arts principles, with groups of buildings forming open and closed courtyards, arranged hierarchically along major and minor axes." [From *Campus: An American Planning Tradition*; Rice University Archives]

but he seems not to have been much engaged by some important recent work concerning changes in teaching and scholarly practices, changes in the recruitment of faculty and students, and changing relations between the university and the larger society. It is surprising that so little is made of such major developments in the history of higher education as the rise of disciplinary departments, the laboratory and seminar method of instruction, and the changing age structure and sex ratio of student populations. All of these changes seem to pose significant architectural problems that trustees and architects have had to confront. But Turner simply does not get that close to the actual experience of university life. In part this derives from the broad scope of his project, but one cannot avoid the conclusion that it proceeds as well from his definition of the task of architectural history.

Turner's largest interpretative claim associates campuses with cities. He declares that campus planning in America is an episode in the history of American urbanism, that, in fact, American campuses are "cities in microcosm." There are several problems with this thesis, but let me mention only two of a conceptual sort. First of all, Turner seems to think it reasonable to define a large building complex where many people are housed, fed, and employed for part of their lives as a city in miniature. Yet all of us who divide our lives between cities and universities surely recognize that profoundly different principles of order are at work in the two. To put it in the most simple way, cities and universities look and feel quite different. Second, by trying to identify the academy with the city, Turner has trouble interpreting a particular pattern of evidence that keeps emerging in his story, evidence that the university campus became over the course of the 19th century something of an alternative to the city.

When life in large cities became intimidatingly multivalent in the second half of the 19th century, universities tried to assert their distinctive and superior values. Usually this involved some sort of physical isolation. The Johns Hopkins University, originally a cluster of buildings on adjacent city blocks, moved within a fairly short time to a more isolated and self-contained site. Harvard, which once opened onto the life of the community, turned inward. In 1904, in *The American Scene*, Henry James captured the spirit of the new Harvard when he praised the recently erected brick walls and iron gates as being "emblematic of cloistrality and restriction and exclusion." The academy has acquired some precious virtues in this manner, but there are as well irrefutable disadvantages for the life of the mind and for the life of cities.

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## Early Aerial Ventures

**The Eagle Aloft.** Two Centuries of the Balloon in America. TOM D. CROUCH. Smithsonian Institution Press, Washington, D.C., 1983. 770 pp., illus. $49.50.

This history is "an official book commemorating the 200th anniversary of human flight." Beginning with "Flight and the founding fathers" and ending with "Ballooning in the space age," it is an appropriate testimonial of the Air and Space Bicentennial of 1983. The author, curator of aeronautics at the Smithsonian's National Air and Space Museum, has written a well-researched narrative of 20 chapters concluding with notes, a bibliography, and an index that make the work a valuable reference for anyone interested in levitation. Whether full of hot air, gas, or iron fumes generated by oil of vitriol, the big bubbles that have risen from the territory of the United States since at least June 1784 are here chronicled in loving detail.

Strangely, another major bicentennial book, C. C. Gillispie's study *The Montgolfier Brothers and the Invention of Aviation, 1783–1784* (Princeton University Press, 1983; reviewed in *Science*, 5 August 1983) is completely ignored herein. Although technical data and scientific interests are cited and often explained, the present work concentrates more on the humanistic adventures of aeronauts than on their quest for knowledge or control over atmospheric nature. Crouch concedes that the Montgolfiers have rival claimants as the first inspired to fly. He is fairly sure that Benjamin Franklin favored the hydrogen-filled *Globe* of J. A. C. Charles and the Robert brothers as far more promising than the larger, paper, smoke-filled Montgolfier balloons. Rivalry, competition, sport, and spectacle are emphasized as more noteworthy and newsworthy than curiosity about pneumatics or altitude and attitude control. Yet the coincidence of the birth of flight and that of the United States has made possible a very interesting social-technological story that parallels our political-diplomatic history. Clearly the encouragement of leaders like Thomas Jefferson, Washington himself, and the Adams family boosted the hopes of enthusiasts like Dr. John Foulke and Peter Carnes for ballooning. But, despite various trials, only a 13-year-old Baltimore lad named Edward Warren made an ascent (24 June 1784, tethered) prior to 1793. On 9 December of that year the Frenchman J. P. Blanchard rose above Philadelphia amid much official hoopla and traveled some 15 miles in 45 minutes. He repeatedly showed Americans over the next four years how to float with the aid of hydrogen. Earlier he had shown Dr. John Jeffries, American expatriate, rake, amateur philosopher, and patron, how to be first across the English Channel by air (7 January 1785). By the time of his death at age 56 in 1809, Blanchard, the irascible French republican, had amassed a grand total of 59 ascents and popularized the connection with France, where leadership in manned balloon flights remained. A. J. Garnerin demonstrated the first manned