When the author turns to 'Oriental Exoticisms', Chapter 5, and an account of the riverine architecture of the nineteenth century, Chapter 6, we reach one of the more fascinating episodes in folly building in America. Iranistan, the house of P. T. Barnum, complete with a demonstration of elephant agriculture in an adjoining field, and the various exotic Oriental schemes of Samuel Sloan in Philadelphia, must surely be the most successful excursions into the realm of fancy in their century. The Mississippi steamboats, although more Gothic than Oriental, are their waterborne counterparts. The influence of the steamboat manner, and the parts and pieces which appear to have washed ashore, produced houses which are scarcely less strange than the vessels themselves, but which have the virtue of being more accessible today. Among these designs, the Paul Doullut houses in New Orleans (considered later in the book) are worthy of a rightful place with their elders.

The passion for oddly shaped houses is explored in Chapter 7, 'Geo-Forms'. Round and polygonal plans have enjoyed a long-lived if sporadic popularity. Not all of them are of sufficient exuberance to be compared with the Oriental confections, but such houses as Draughan's Folly, Texarkana, Texas, with a plan in the shape of an ace of clubs, and Hexagon House, Mineral Wells, Texas, can hold their own among the strangest residences ever built in this country. Is it surprising that both should have been built in Texas? On the other hand the octagonal houses that appealed so strongly to Orson Fowler seem to represent too earnest an approach to architecture to be properly labelled follies. After the 'Geo-Forms', the title of Chapter 8, 'The Bubbles', leads one to expect that there will be a continuation of exotic buildings in free-form shape, but the reader finds that it is a financial rather than a physical bubble that is referred to here. While the circumstances of their construction reveal foolishness or chicanery on the part of their owners, neither of the two examples illustrated appears to have had any unusual features in its architecture. This is perhaps the place to stress the point that while the owner's foolishness may often lead to the designation of his work as folly, it very well may be quite an ordinary building in appearance. The uninformed, not knowing the history of the building, would probably not think of it as a folly in the architectural sense.

Chapter 9, called 'Monuments to the West's Wild Past', which concerns the buildings in ghost towns, hardly lives up to the romance of its title. Here, as in the preceding chapter, it is something other than strangeness of design that gives them their interest. In this case it is the emptiness and isolation that sets their tone. Once these ghost towns are repeopled with tourists, the appearance of the buildings is not noticeably different from that of many others. Chapter 10, 'Ivory Towers of Babble', is devoted to a collection of the extravagant houses built by the very rich in the later nineteenth century. Neither their style nor the circumstances of their construction, except for the Mystery House at Winchester, California, however, are sufficiently exotic to place them convincingly in the higher rank of follies.

'Cereal and Pachyderm Architecture', the theme of Chapter 11, offers some of the most startling constructions of all. Here are follies without question. The Corn Palaces of Mitchell, South Dakota, and the Elephant Hotels in New Jersey and on Coney Island would be worthy of the designation folly in any time and place. If, as the author shows, the idea of giving a structure the shape of an elephant, is not originally American, surely the idea of lodging paying guests in it must be. One would like to know something of the people who elected to pass their holidays in an elephant. Mr. Lancaster deserves our thanks for bringing these exotic buildings to light. Perhaps future research may reveal more of this interesting mammalian phase of American architecture.

The last two chapters, 'Importations, Integrations, and Imitations', Chapter 12, and 'Shoddy Follies: Originals of the Twentieth Century', Chapter 13, as well as the 'Epilogue: Follies Ad Infinitum', carry the reader well into the present century, although the author disclaims the intention of making an exhaustive study of the follies of the twentieth century. Some of the examples illustrated are of buildings imported from abroad. Unless there are other circumstances involved, this in itself would not seem to be a sound reason for considering such a building a folly. One would question the inclusion of a Swiss Chalet erected in Cincinnati, Ohio, for example. The chalet mode, as the author notes, was rather widespread in the nineteenth and early twentieth centuries, used by Bernard Maybeck among others. It may be collector's architecture or a museum piece, but is it a folly? There are indeed some designs by Maybeck that without being Swiss might have been included in the list of follies. The piling up of oddly assorted fragments, whether of Oriental inspiration as in the Vedanta Society Building in San Francisco, or aeroplane and Japanese features in bungalow designs, or the selection of used bottles as a building material seem better criteria on which to base the appellation of folly. A summer residence in the form of the Leaning Tower of Pisa built in Niles, Illinois, is one of the most striking examples of the later follies. The author also includes Sam Hill's Folly, now the Maryhill Museum on the Columbia River, which architecturally is not very unusual, although it has a curious history. He does not mention the nearby replica of Stonehenge at full size. This was also built by Sam Hill and ought to qualify as a first-class folly under any definition. Since he does get into this period, the author might have mentioned the spectacular towers in Watts, California, built by a tile-worker named Simon Rodia or Rodilla. Near the end of the book the author informs us that he has designed a number of follies none of which has as yet been executed. The reader is advised that he is prepared to supply designs for follies to those desiring them. It would be pleasant to think that some reader might commission one which might then be included in a later edition.

The book is illustrated with black and white drawings and a number of color plates. The author has drawn and painted the majority of the illustrations. Some, chiefly among the European examples, are illustrated with contemporary prints. On the whole these give a better idea of the individual characteristics of the follies. Regardless of what one thinks of the author's style in illustration, having the structures drawn by one person tends to minimize their eccentricities. Both from the point of view of the architectural historian and the general reader, photographs would have been a better choice for the illustrations. Where the architecture is of such a subjective nature surely the medium of reproduction might have been as objective as possible. A useful list of the buildings arranged alphabetically by location forms an appendix. There is also an index. The end papers are decorated with a handsome map of the United States with the buildings graphically indicated on it.

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In 1952 Mr. Condit published The Rise of the Skyscraper, in which he recounted the first vertical triumphs of the Chicago School. The development of the structural system which constituted its prime permissive factor naturally served as a dominant theme in this earlier volume.

In his new book, American Building Art, Mr. Condit essays 'A comprehensive history of structural forms and techniques in the United States...as they developed into the structural basis of mod-
ern building...'. The present volume deals with the nineteenth century, but the author indicates his intention to continue his study into the twentieth.

The text begins with an introduction which outlines the emergence in Europe of the new mathematical theory of structures. Two chapters on building frames follow; one on wood, the other on iron. Four chapters deal with bridges. One chapter is devoted to wide-span trainsheds. A chapter on concrete construction includes buildings, bridges, and dams. The final chapter attempts to establish a degree of compatibility between eclecticism and nineteenth-century constructional innovations.

The chapters on bridges provide descriptions and illustrations of a number of structural types: timber and iron trusses; suspension; and iron arch. The result is a convenient compilation of data drawn from diverse sources, both secondary and primary. The story that emerges is a dramatic account of the binding together of a continental nation by the heroic efforts of self-trained builders and, later, by an expanding company of well-educated structural engineers. Nevertheless, though lives and works are briefly recounted, one occasionally wishes for a sounding beyond the standard sources of the engineering journals.

Theodore Burr is a case in point. In contrast to two earlier arched truss bridges, he erected over the Mohawk at Schenectady in 1808 an extraordinary structure composed of four suspended spans, 157 to 190 feet in length, supported by three continuous timber 'chains' formed of eight layers of 4 x 14 inch white pine planks, spiked and bolted together. It is tempting to speculate that the origin of this structural curiosity may have been due to a mistranslation of the Italian term, catena, used by Vincenzo Scamozzi in his Idea dell'architettura universale (Venice, 1615) in describing certain timber bridges he had seen in Switzerland and Bohemia. Because the term would normally mean 'string', a cavalier reading of Scamozzi would seem to imply a timber suspension bridge. In reality, however, Scamozzi revealed in accompanying illustrations that he meant the upper 'chord' of a truss. This misconception continued as late as 1822 (S. Ware, Tracts on Vaults and Bridges, London). It seems plausible that Burr, who no doubt knew of James Finley's iron-link suspension bridges recently erected in western Pennsylvania, innocently accepted the error as a precedent for a similar construction in familiar timber techniques.

Another instance is the 'Colossus', the 340-foot timber span built across the Schuykill at Philadelphia in 1812. The author follows the engineer-historians in attributing its design solely to Lewis Wernwag, whose only previous project had been a modest 100-foot span erected in 1810. Although unmentioned here, it has always been known that Robert Mills supplied the ornamental details, but it is usually overlooked that he had already devoted considerable study to bridge problems. It seems more credible, therefore, to believe that both joined forces in the design of this engineering masterpiece.

The story of iron bridges is given in considerable detail, beginning with Finley's link suspension structures, August Canfield's curious patent of 1833, and Richard Delafeld's arch of 1836 at Brownsville, Pennsylvania. The variety of types described is almost endless and the trend from elegant lightness to massive strength, stimulated by ever-increasing weights of railroad rolling stock, is properly emphasized. The story is eminently readable and notes provide all necessary supplementary detail, even to the genealogy of each railroad.

Of the total of 275 pages of text, 147 are devoted to bridges and dams; and of 139 illustrations, 95 deal with such structures. In the light of the author's opening promise historians of American architecture, having felt overlong a real need for a thoroughgoing synthesis of nineteenth-century building construction, will be disappointed to discover that this section is confined to 118 pages, 43 per cent of the whole. While it is true that the construction of bridges led, during the middle of the century, to new methods of analysis and calculation which later contributed to the structural design of buildings, particularly skyscrapers and wide-span halls, the extended treatment of heavy engineering works has restricted consideration of architectural materials and systems so sharply that this phase of the avowed program unfortunately lacks both inclusiveness and depth.

Within this limited space, the author has chosen to focus attention almost entirely upon the development of building frames. Although a brief chapter is devoted to timber framing systems, it is the iron skeleton of the skyscraper that forms the real theme. The isolated introduction of iron columns, beams, and tie rods is set forth; the exploitation of iron fronts is told at length. The gradual evolution of a complete metal frame in New York is shown to culminate in George B. Post's Produce Exchange, 1881-1884. Finally, the Chicago phase is recounted.

It is curious to observe that, even in this brief treatment, a number of misconceptions and errors have insinuated themselves. A 'cruck' is misdefined as a 'method of bending trees into a vault' and is stated to have been used at Jamestown and Massachusetts Bay (p. 11). Cliffboards are claimed as an American invention (p. 12), despite earlier use in Britain. Poteaux-en-terre were not 'driven several feet into the ground'—a method that would require a small pile driver—but were set in a trench and backfilled (p. 13). Contemporary drawings of the earliest New Orleans buildings reveal half-timbering exposed, rather than hidden beneath stucco plastering (p. 13). It would be interesting to know the evidence for colonial use of 'natural cement' (p. 14). While 'prefabrication' is always a troublesome term to define, the emphasis of its use around 1860 is surely gratuitous when the earliest example in America came in the sixteenth century and when the export of prefabricated house frames to the West Indies was a regular business in the seventeenth and eighteenth centuries (p. 24).

While Renaissance and Baroque architects often employed iron tie rods, the statement that they also used iron beams cannot be accepted without documentation (p. 25). The cast-iron columns of St. Anne's, Liverpool, 1770, are now known to have been preceded by several others, one set dating as early as the fourteenth century (p. 25). Unfortunately, the author missed A. W. Skempton's correction of this reviewer's report of William Strutt's Calico Mill, Derby, 1792-1793 (p. 26). This structure is now known to have had timber beams, but they were considered to be 'fireproof' because their sills were protected by a thick coating of plaster.

John Haviland, one of the leading American architects of the nineteenth century, is denoted a 'carpenter-builder', apparently on the strength of his 1833 revision of Owen Biddle's Young Carpenter's Assistant (p. 27). Badger's foundry and Bogardus' factory are transferred from the lower East Side of New York, to the West (p. 30). The Otis elevator in the Haughwout store was the country's first 'commercial' elevator, but followed several earlier installations of other types (p. 31). George Johnson's U. S. Warehousing Company's grain elevator in Brooklyn is correctly cited as the first of iron construction, but should be dated five years earlier than 'c. 1865', and has recently been recognized as the earliest example—next to Bogardus' shot towers—combining an iron skeleton with masonry curtain walls (p. 32). The author accepts Bogardus' claim that his factory was built entirely of iron—although surely not his model of it, as is stated—without suggesting how the news account of its timbers is to be reconciled (p. 33). Since the forming of iron by rolling goes back to the late eighteenth century, the importance of the wrought-iron beams of the Harper Building was that they were seven inches deep, the first in the United States of sufficient size to be suitable for building purposes (p. 36).

In a brief paragraph on hollow-tile fireproofing, the patent of Balthasar Kreischer is cited, but not that secured by both George H. Johnson and Kreischer (p. 44). Although both were dated 21 March 1871, the Johnson-Kreischer patent bears the earlier number 112,926, as against 112,930. It called for a one-piece 'book' tile, while Krei-
scher divided his into three sections. Both types had already received French patents. Since Johnson had visited Paris a short time before to observe French practice, it seems clear that the basic initiative was his. Kreischer entered the picture only because he operated a Staten Island tile yard. Curiously enough, however, in his first installation in the Kendall Building, Chicago, 1872, Johnson used a seven-piece tile arch.

The author refers to this reviewer's suggestion that W. L. B. Jenny, in designing the Home Insurance office building in Chicago, could easily have been inspired by Borardus' shot towers and that Johnson could have been an intermediary to remind him of their iron-framed, curtain-wall construction (p. 52). Recently, A. W. Skempton has discovered that Peter B. Wight wrote in the 1890s that he recalled the use of the system not only in the shot towers, but also in Johnson's Brooklyn grain elevators. Since Wight furnished the fireproofing of the Home Insurance building, he, too, may have acted as the catalyst. In any case, this additional positive evidence greatly strengthens the possibility that the eastern pioneers did indeed play a role in Jenny's technical background.

In connection with the dome of the United States Capitol, August Schoenborn was Walter's chief draftsman, not his consulting engineer (p. 66). He had no engineering training. Figure 19 bears a misleading caption, for it shows not the 'framing of the dome', but a comparison of original studies by Walter and Schoenborn. It would have been more pertinent to show Schoenborn's fine working section of the dome as executed.

As to the origin of skylighted interior courts, it seems fortuitous to cite arcades when such a long line of glazed courts are available, e.g., Duban's museum for the Ecole des Beaux-Arts, 1833-1838 (p. 67). Finally, in the discussion of the claim of Leroy Buffington for his 1888 patent for skyscraper construction (p. 289), the author seems to have missed the definitive articles by Dimitri Tselos and Muriel B. Christison (Art Bulletin xxvi, March, 1944) which emphatically refute Buffington's assertion that he had first employed the system in 1882.

Although the volume promises a full account of nineteenth-century building construction in America, readers unfortunately will be unable to obtain a balanced view of a century which employed many other materials than timber and iron, and several other structural systems than skeleton framing. The statement that the work of Latrobe, Strickland, and Mills illustrates the opinion that 'the best architecture usually lay outside the main stream of technical innovation' is understandable only if 'innovation' is equated with metal skeletons (p. 16). One need only cite Latrobe's constant concern for the highest quality of construction and for protecting his monumental structures from the hazard of fire by the use of masonry vaulting. Strickland and Mills, his pupils, both continued this preoccupation. Mills—as the author recognizes in the Fireproof Building at Charleston (p. 26)—was extraordinarily thorough in his use of vaulting, and in developing it in his Treasury Building into the equivalent of twentieth-century shells.

Although the enlarged Georgia Mill at Smithfield, Rhode Island, is noted for its timber and masonry structure (p. 18), the role of its owner-builder, Zachariah Allen, in promoting New England mill (or 'slow-burning') construction is not recognized. The danger of jerry-built, iron-framed mills is illustrated by the collapse of the Pemberton Mill at Lawrence (p. 19), but the terrifying rapidity of their destruction by fire goes unnoticed.

One would expect from a volume on American construction some comment on whether unique features and qualities characterized American practice. Little is offered and this fact, in turn, raises the general question as to whether it is reasonable to expect that a meaningful analysis can be made on a restricted national basis in a field in which international communication of ideas was so rapidly exploited. It is certain that in most constructive techniques and practices, American architects followed the lead of Britain and France. It is also certain that recognition of American contributions will require detailed knowledge of the whole field.

It remains to note that the book is attractive and well edited. From the scholar's point of view, it is disappointing that the sources of facts and illustrations are not given. When there are so few publications in the field, it is regrettable that this addition makes it difficult to build upon. Further, because inevitably such a study builds upon the work of countless predecessors, it seems only common courtesy to acknowledge the debt. Unhappily, the bibliography of the present work omits key articles which have supplied data for several extended passages of text.

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This is a slim volume composed of text, illustrations, and a selected chronological list of buildings and projects from 1889 to 1959. We presume that its purpose is to provide the partly or wholly uninformed reader with a panoramic acquaintance with Wright and his significance. It may accomplish this purpose, but for the reader who knows something about Wright to begin with it adds little to the already considerable literature on the subject except for some curious speculations as to the sources of his style.

In size and scope the book falls between a work which makes a studied contribution to that literature and a condensed reference-article containing the essential facts. It is neither one nor the other. The text, less than thirty-two pages long, attempts to cover the entire career of America's longest-lived architectural genius. The result is a somewhat superficial romp through Wright garnished with frequent and often puzzling analogies with-and an assortment of names and concepts from the whole sweep of history such as (to mention only a few) Nietzsche, Fenimore Cooper, Hadrian's Villa at Tivoli, Albert Camus, Bronze-Age Greece, Herman Melville, prehistoric Malta, and Thomas Jefferson. It is conceivable that in 300 pages some of these analogies might be meaningfully explored—in thirty, no. The uninformed reader will indulgently accept them as examples of inscrutable scholarship. For the informed reader, many of the ideas which Scully raises prick the interest only to be dropped as the text rushes on to the 'next phase' of the career.

In speaking of the Robie House, Scully, after a brief mention of the plan of the living-room floor to which the companion illustration (no. 40) is unfortunately that of the basement, launches into a statement of the putative relation of Wright at that moment and the aims of the Cubists, while, at the same time, he sets Wright up as the final embodiment of the westward push of our nation. It makes for hard going. He says: 'The two persistent American images, the first of mobility—of flight, of "getting away"—the second of rootedness and security, are now locked together in one climactic work that culminates a century or more of American art. At the same time the brick masses of the lower floor, solid and heavy, are being lifted too on their steel beams, like those which support the wide cantilevers above. Entrance is at the rear, so that the whole composition toward the street can remain one of pure and unbroken horizontals rising in