

des chambres, son abri d'auto et enfin sa forme basse et largement déployée. L'auteur suggère que l'influence des maisons de Wright a été à un tel point envahissante – «The ubiquitous influence of organic architecture» est l'un des sous-titres de l'avant-dernier chapitre – que le lecteur risque d'oublier la contribution d'architectes comme Breuer et Neutra à l'évolution de l'architecture domestique américaine. Wright aurait rendu populaire la pratique de construire soi-même sa propre maison (pp. 164 et 166) et Sergeant trace un lien entre les expériences coopératives du maître de Taliesin et les colonies de groupes hippies et autres qui se sont répandues en Amérique dans les années 1960. Il ne va pas jusqu'à lui attribuer une vision prophétique, mais ces rapprochements visent à démontrer que le grand architecte est bien de notre temps. Surtout il s'applique à souligner que l'architecture et l'urbanisme de Wright sont respectueux des conditions écologiques, s'adaptent aux données naturelles et s'harmonisent avec elles plutôt que de les combattre à grand renfort d'énergie. Dans les dernières pages il expose, très adroitement parfois, que les techniques les plus actuelles, comme l'énergie solaire, ou les théories les plus récentes sur l'agriculture et la fertilisation du sol encouragent une faible densité d'occupation encore plus qu'au temps de Wright.

Malgré ce plaidoyer en faveur de *Broadacre City* et de la décentralisation, il n'est pas sûr que cette thèse va rallier toutes les personnes intéressées. S'il est reconnu qu'un mode de peuplement à la manière de New York n'est pas une solution recommandable, il est également bien connu que l'étalement des populations dans les banlieues ne représente pas un problème moins onéreux. Bien sûr, la banlieue telle que nous la connaissons est loin de la conception de Wright, mais dans *Broadacre City* presque tous les habitants doivent continuer à se déplacer quotidiennement avec leur propre automobile pour se rendre à leur travail ou entretenir des rapports sociaux, peu importe si chacun cultive ses fruits et ses légumes sur son acre de terre autour de sa maison. Architectes et urbanistes auraient sûrement intérêt à étudier plus attentivement des solu-

tions déjà proposées par Wright, et l'on s'étonne en fait que certaines d'entre elles, dont la *berm insulation*, n'aient pas connu plus de succès. Mais *Broadacre City* devra toujours être considérée comme le produit de l'époque machiniste qui nous a aussi donné la «ville radieuse». Qu'elle ait été contemporaine de l'expansion suburbaine ne prouve pas qu'elle représente la forme idéale d'habitat pour l'avenir.

Quoi qu'il en soit, il ressort avec évidence que cette forme de peuplement ainsi que la philosophie qui l'accompagne prennent un visage différent sous l'éclairage de préoccupations nouvelles nées avec la crise de l'énergie et de découvertes récentes qui contredisent la conviction aveugle selon laquelle la technologie pourra toujours surmonter les obstacles naturels pour le plus grand bien de tous. Nous devons à John Sergeant d'avoir placé l'œuvre de Frank Lloyd Wright sous cet éclairage nouveau.

C. B.

J.J. COULTON *Ancient Greek Architects at Work*. Ithaca, Cornell University Press, 1977. 196 pp., 84 illus., \$15.00.

Books on antiquity from the Cornell University Press – be they in the series 'Aspects of Greek and Roman Life,' 'Studies in Ancient Art and Archaeology,' or books published separately like this one – are always well conceived and edited; they frequently provide a fresh view or a sound synopsis of a field, always welcome. J.J. Coulton's book under review here is a representative example: it is short and dense, clearly written and organized, useful and stimulating as well.

The history of Greek architecture suffers from both neglect and crude attentions; sometimes its exponents are unimaginative, sometimes oppressively gallant. Primary and secondary archaeological work is frequently not revised and brought up to date for current use (for example, the buildings at Delos in relation to Hellenistic architecture). The methodology of studies

on specific topics – for example, Bundegaard on Mnesicles and the Propylaea – is not extended into other areas and to monuments capable of being analysed in a similar manner. Survey works and studies of related topics (space, city planning, special types, architecture and the other arts together) are sometimes allowed to go out of date factually, and they are too numerous when merely adequate and too rare when good. Finally, in the field of technical studies in architecture, the encyclopaedic organization of the various excellent *manuals* frequently discourages historical and artistic analysis of Greek architectural phenomena.

Coulton has addressed himself to a major problem in this last field, that of technical studies. His topic is the means by which Greek architects overcame the limitations imposed on their work by tradition, patron, mechanical, and theoretical or aesthetic considerations. Coulton's thesis is that the inherited forms of architecture, particularly the Doric order, gave to buildings in the Archaic, Classical, and early Hellenistic periods a conservative, even timid, character. An architect at work would find his highest creativity in using traditional forms with elegance and expressiveness; alternative design ideas, such as an interest in dramatic grouping and in interior space, were not developed until late Hellenistic and Roman times. Moreover, the exact function of the architect – how he worked in the execution of the building – is identified as carrying certain financial, contractual, and practical obligations which did not incubate 'experimentation' in architecture. Finally, Coulton bases his exposition of Greek architects' work on two principles: that of structure (including the procurement and handling of materials) and that of design.

In the first chapter, 'Architect, Patron and Project,' Coulton outlines the documentation concerning the initiation of projects and the position of the architects. There are certain fundamentals here: the initiation of projects in the Archaic and Classical periods was an aristocratic, tyrannical, or government privilege; the supervision of the execution was sometimes personal, most often done by a committee; and the position of the architect,

while subject to change, was usually as the executive of a tyrant or a committee. Architecture did indeed confer prestige, but only secondarily upon the architect.

More important in Coulton's work are the issues raised in chapters 2 and 3, 'The Problem of Beginning,' and 'The Problem of Design.' More questions are asked here than are answered. In chapter 2, both the origins and the ground-breaking problems associated with the Doric order are discussed. Regarding origins, Coulton indicates that Egyptian sources, not specifically enumerated, are possible (after the foundation of Naukratis in the seventh century) and that wooden prototypes are doubtful. Rather, the Doric order was the result of an original synthesis of existing forms by a seventh-century architect or group of architects working in the Peloponnese: his or their synthesis must be 'read' indirectly by considering later temples: Artemis at Kerkyra, Apollo at Thermon, and so on. The argument, as far as it goes, cannot be challenged in the absence of documentary or archaeological evidence. The origins of the Doric capital are described by Coulton as perhaps being the result of architects' seeing the engaged columns of Mycenaean 'treasuries' or the Lion Gate; this, too, cannot be challenged for want of proof or disproof. It raises the question, not discussed in detail by Coulton but vital to our understanding of the Archaic period, of Mycenaean (or, better, 'Achaian') imagery in early Greek temples as it existed in vase-painting, in monumental sculpture (synchronously with the appearance of monumental temples), and in other cultural developments. The ethical and social character of monumental stone buildings and sculpture conferred by the prestige of the Mycenaean past gives a clue, I think, to the motivations and thus possibly to the sources of Doric form. Coulton does not elaborate on this aspect of 'beginnings.'

The design components of Doric architecture are broached in chapter 2. Architectural drawing – very crudely developed – and written specifications – very sophisticated – existed, as did full-size model-making (the *paradeigma*) and template-making for moulding-sections (the *anagrapheus*, according

to Coulton). The rest of the chapter discusses how the columns were set out on the stylobate and the consequent problems associated with angle-contraction of the frieze elements (triglyphs and metopes) and/or columns at the corner. The exposition of these difficult technical problems is lucid and complete.

Scale, form, mass, and space are discussed in chapters 4 and 5, and it is here that Coulton's reserve works both positively and negatively. Problems of size and the adjustment of proportion to the size of a building are discussed in terms of the early temples at Paestum. Size, roofing, and the development of colossal hypaethral (open-roofed) temples in Ionia and Sicily are reviewed, and the contribution of Vitruvius's ideas are brilliantly brought to bear on the adjustments made to proportions in relation to the size of a building. Sections on the relative sizes of temples and of stoa colonnades, and the design of the latter, introduce what should be, but is not, the most interesting part of Coulton's book: the discussion of form, mass, and space in chapter 5. This discussion is structured as follows: the Doric 'refinements,' as presented by Philon of Byzantium, and Vitruvius's principles of architectural excellence are cited and contrasted, but with a brevity which does not help us to understand the issues nor to grasp Coulton's thoughts on them. Granted, there is much that is complex, abundant, and difficult here, and in a book of this scope a thorough discussion of, for example, Vitruvius's Hellenistic sources might be difficult to include; still, Coulton might have given us the benefit of his ideas. Instead, he goes on to discuss the development of Ionic bases and the Doric capital, 'not,' as he says, '[to] show why changes took place, but ... [to] indicate how they took place.' Later, Coulton returns to the 'refinements' and describes their *raison d'être* either as corrections of optical illusions (beetling, concavity of edges over long distances) or as elements creating 'a tension between mind and eye.' Coulton prefers the first explanation of Doric 'refinements' on historical and linguistic grounds, but what seems to be missing here is a richer and deeper discussion of the philosophic, aesthetic, and literary

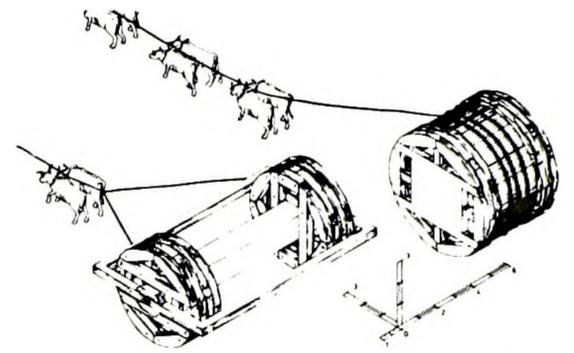


FIGURE 1. Isometric restorations of machines used in the transport of colossal stones. From Coulton.

basis of the theory of 'refinements' which led to their development and eventual extinction. Architects, like other men, do not live by bread alone, and ideas and theories of architectural design are as much a part of architects' work as anything else. Coulton's brevity and reserve stimulate without satisfying. This is all the more a pity because the rest of the chapter devoted to space and its very slight development in Classical and early Hellenistic times terminates this important section rather abruptly.

There is no discussion of a dimension in Greek design – namely, the grouping of buildings in significant integrated relationship – of which Coulton is fully aware (he cites Birgitta Bergquist's work on Greek *temenoi*). Are we to conclude that Coulton is not interested in the problems of *temenos* design as investigated by Doxiadis, Martiensen, Bergquist, and Scully? Except for Martiensen and Bergquist, these authors are not working with Coulton's finesse, grasp of sources and detail, nor with his capacity for succinct summary; it is therefore a little disappointing for Coulton not to give us his ideas on a topic which he is in a position to discuss authoritatively.

The concluding chapters, 'Some later problems with the orders' and 'Aspects of structure and technique,' deal with developments in the Ionic and Doric orders (Athena at Priene, Apollo at Bassai, various stoai) in relation to interior spaces, two-story façades, and re-entrant angles (inner corners of L- or U-shaped porticoes). A final section on machines and structures used to move and lift big stones, weight-minimizing techniques, cantilevers, corbelling, vaulting, and arches and roofing complete the work. The presentation throughout is clear, detailed, and beautifully

illustrated by the author's own line drawings, which cannot be too highly praised (see Fig. 1).

A glossary, map, and index are included. The presence of the glossary and map, while very welcome, seems to indicate that the book is intended for the general reader and the undergraduate student; however, it is my opinion that the text itself is at a level of sophistication and complexity which makes the book more suitable for the scholar and the advanced student.

In conclusion, Coulton's work under review here, as well as his other books and numerous contributions to journals, have established him as a leading exponent of Greek architecture. The handling of sources, technical data, and illustrations are perfect, and the grasp of detail and intimate knowledge of the material are impressive. The lack of a complete and adequate consideration of aesthetic and intellectual dimensions in Greek architecture is a void which, I am sure, Coulton will soon fill.

GUY P.R. MÉTRAUX
York University
Toronto

MARCELL RESTLE *Reclams Kunstführer Istanbul, Bursa, Edirne, Iznik*. Stuttgart, Philipp Reclam Jr., 1977. 632 pp., 64 illus., DM. 42,80.

Anyone who attempts to write a book on the antiquities and art of Istanbul faces a formidable task. Not only is the bibliography extensive, but, more seriously, the actual state of various extant monuments is a source of problems. Civilizations have succeeded one another and centuries have piled layers of structures one upon another. Time, ignorance, and human malice have contributed to destruction. We must think of the history of Byzantium, the Greek colony by the sea of Marmora, and later the city of Constantine, Constantinople, the New Rome, for centuries the capital of the Byzantine empire whose splendour and refinement were the legend of the West. There was the magnitude of its palaces which dazzled the foreign ambassadors, the

Great Palace whose legendary magnificence filled so many mediaeval pages, the 'golden' halls, gilt domes, and terraces where pomp and imperial majesty were displayed. The churches, each a jewel of architecture and decoration, but also each a stone in the edifice of the history of mediaeval Hellenism, to this day constitute the richest remains of the city of Constantine. We must think of the city's silent enclosures, the famous walls, according to legend traced by the hand of an angel, the walls grassy and anemone-covered in the spring, from which one gets a breathtaking view of the blue sea; we must think of the walls' ruined turrets, marching up the hill, and of the minarets spread throughout Istanbul, marking another phase which started after the fall of Constantinople in 1453. Constantinople became Istanbul. The churches were changed into mosques, while new Islamic sacred buildings were constructed, mosques whose splendour paralleled those of the churches and of the destroyed Byzantine palaces. Their minarets still satisfy the romantic tourist who persists in imagining Istanbul to be a piece from the *Arabian Nights*.

The author of the book under review faces this enormous task easily and brings it to a huge success. He is not only a most reliable guide but also a most imaginative one. Marcell Restle, one of the foremost Byzantinists of today, is fully at home with Islamic art and moves freely through the labyrinth of Byzantine and Turkish bricks, sites, and crowded museums. For many years, while preparing his monumental book, *Byzantine Wall Paintings in Asia Minor*, he explored Turkey and, as he tells us in his preface, had the chance to conduct seminars for his students in Constantinople. His knowledge and experiences are distilled in this excellent volume.

A dense introduction to the history and city planning of Byzantium. Constantinoupolis, Istanbul, and its boroughs, opens the book. It is followed by a useful table of dates and historical events down to 1923, when a republic was declared and Ankara became the capital of Turkey. The visitor is guided through all of the sites I have already referred to above, but in reverse order, which is in fact proper: city walls,

sacred buildings, churches and mosques, palaces, Seraglios with gardens and pavilions, hippodrome, water systems, and finally museums. Each category and monument is introduced with a short, factual history. These are exemplary essays in scholarship and accuracy. The unique features of each monument are pointed out and in most cases there are plans which have been checked *in situ* by the author; they are complemented with illustrations.

The most important collections of the four large museums are presented in the same manner: the archaeological museum, that of the oriental cultures, the collection of the Topkapi-Saray, and the Turkish-Islamic Museum. There is an overall introduction to each collection and the most important works of art are represented with brief but seminal remarks. For example, in presenting the beautiful head of the emperor Arcadius (no. 5028), Restle writes: 'One of the powerful works of the Theodosian style at the turn of the fourth to the fifth century. It must be compared to the head of Valentinian II on the one hand and to the new stylistic trends apparent in the statues of the civil servants from Aphrodisias, on the other – all in the same hall.'

This is not a book for the general tourist, but a reference book for the art student and scholar. Suffice it to mention the superb presentation of Aya Sofya, Hagia Sophia (Restle always gives Greek and Turkish names and spellings, side by side). In thirty pages, Restle has been able to include everything about this unique building, unsurpassed in the history of world architecture. The section dealing with the system of fenestration and lighting illustrates the author's mastery of accurate condensation of scholarly knowledge. In the Topkapi-Saray Museum, he points to the poetic-lyric compositions of a painter by the name of Ahmet Musa (1316-36). Known as the artist who renewed Persian painting, Musa's style is close to the so-called Bagdad school of painting and his works are concerned with a mystical, formal eclecticism. These artistic jewels are miniatures illustrating the Ascension of Mohamed, shown pulled by an angel to heaven – a theme which echoes the Christian Ascen-