C. OCTAVIUS WRIGHT
AND W. ARTHUR RUDD

Model Drawing

MODEL DRAWING

GEOMETRICAL AND PERSPECTIVE

WITH ARCHITECTURAL EXAMPLES

BY

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Art Master's Certificate (Board of Education)

AND

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ILLUSTRATED BY OVER 300 *DIAGRAMS*

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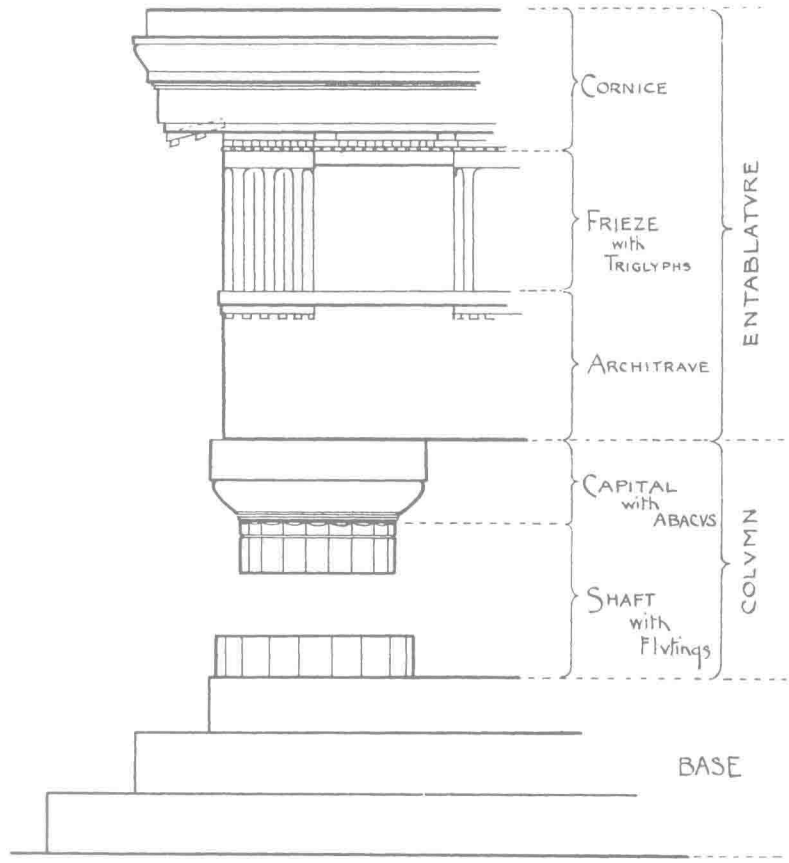
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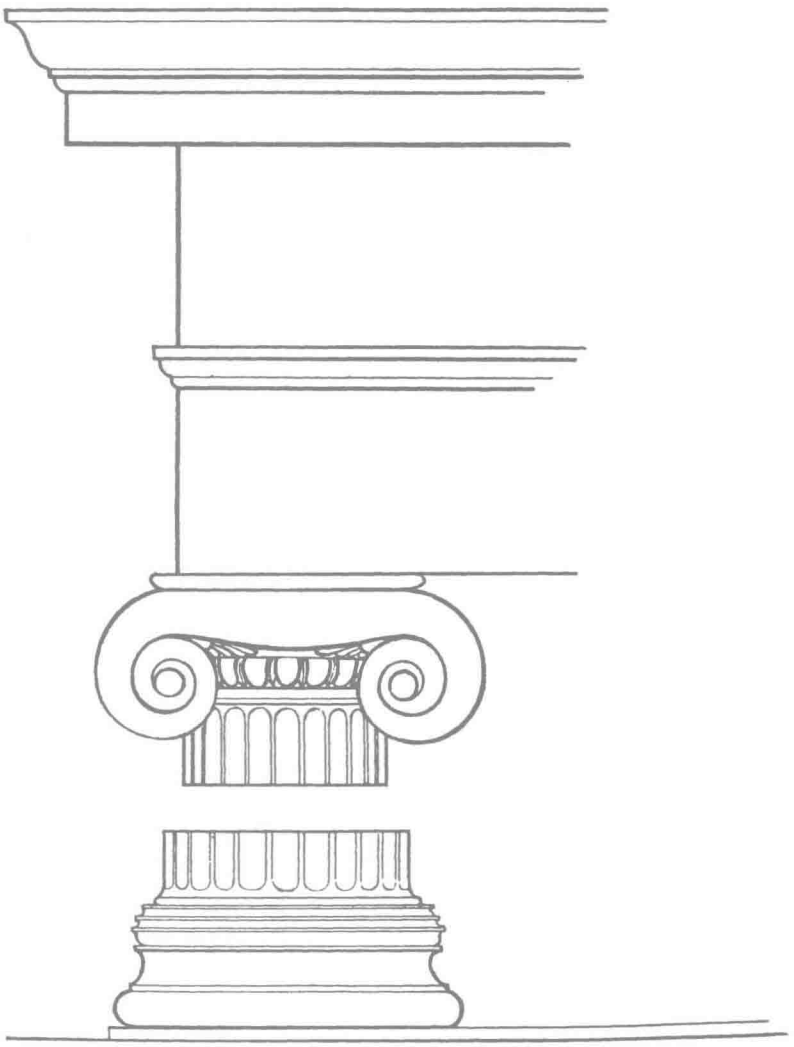

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PREFACE

LONG experience in the teaching of Model Drawing has convinced the authors that the use of the ordinary apparatus of the art—the cube, the sphere and other formal geometrical models—fails in most cases to arouse the interest of the student or to inspire him with the imagination which is essential to the development of artistic talent.

An experiment was made in the employment of architectural forms with the customary models, and the success which has attended this experiment has encouraged the authors to a systematic treatment of the subject, and to its presentation through this volume to a larger public.

Although in the present treatment of the subject there will be found an undercurrent of suggestion of the historical development of architecture, the work is not intended to be an architectural text-book. If it is found to be of value in presenting in an interesting form the theory of correct drawing, and in acting as an incentive to original work, the object of its production will have been attained.

Apart from its use of architectural forms the book contains several new features. No measuring points are employed. Useful perspective tests are introduced which with a little practice can be applied with facility, and should be of great benefit to the student in his more advanced work. The authors believe that the perspective treatment of the circle is quite new, and they have found that pupils can use the method with ease and advantage. Comparisons of representations on changing picture planes are given, and their relative advantages are discussed. Frequent opportunities are afforded for sketching from memory. Free use is indicated of tracing-paper in observation work, and of clay in modelling.

C. O. W.
W. A. R.

June 1916

'To distinguish between correctness of drawing and that part which respects the imagination, we may say the one approaches to the mechanical, and the other to the poetical. To encourage a solid and vigorous course of study, it may not be amiss to suggest, that perhaps a confidence in the mechanic produces a boldness in the poetic.'

Sir Joshua Reynolds
(13th Discourse).

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A SURVEY

The earliest known examples of art are the figures of animals drawn by cave-men. These drawings gave birth to the art of writing. Architecture, however, seems to have arisen from the worship of mighty stones, and it was through this reverence that the Egyptians built the great pyramids as everlasting resting-places for the dead.

The art of building seems first to have grown to strength in the valleys of the Nile and Tigris, and the art of the valley of the Tigris may have been prior to that of Egypt. More is known, however, of the origin of the buildings of Egypt than of those of Western Asia, and it is therefore with Egypt that the story of architecture begins.

A few years ago it was thought that no Egyptian work existed of a date prior to that of the *Great Pyramid* (p. 80) of the fourth dynasty, but recently much work of the first three dynasties has been found. The earliest tombs took the form of almost solid masses in rough brick whose walls leaned inwards; and the finest tomb of this type which has been explored is at Meydum, where the first pyramid proper is found.

There is a connection between these rough brick tombs or *mastabas* (p. 194) and the later pyramids; the primitive grave developed into the mastaba. This was transformed into the step-pyramid, which developed naturally into the final or perfect form of the true pyramid. The Great Pyramid is practically a great mastaba.

As early as the beginning of the dynasties, the vault, the dome, and the arch appear in Egypt. An arch in its simplest form is the upper part of a horizontal hollow in a mass of clay or gravel. The vault was thought of as a continuous convex shell, although

it was produced by the addition of cakes of mud of equal size. It was this uniform vault which later under the Romans became the basis of the magnificent concrete construction of that people. The wedge arch might quite naturally have had a separate origin. Children have often been observed to make experiments in bridging empty spaces, and similar experiments might well have accounted for the origin of the true arch of masonry which is not found in Egypt except as a later development after the brick arch had existed for some 2000 years.

Arches frequently appear on the Assyrian slabs. The art of the valley of the Tigris, as early as the eighth and ninth centuries B.C., displays many similarities to Greek art; and in later days strong and constant Greek influence may be seen in the art of Western Asia. Though in Egypt, Babylon, and Crete there were three different centres of early civilization representing three different continents, architecture is usually considered to a large extent an Egyptian art.

The first appearance of European art is shown to have been in the islands of the Aegean with its centre at Crete, and discoveries show clearly that there was at that time communication between this civilization and that of Egypt. Remarkable finds have been made recently in Crete pointing to a very highly developed culture; and round tombs with beehive domes found here closely resemble the *chambers* (p. 80) in some Egyptian pyramids. The chambered mounds of Brittany probably belong to the period of these pyramids; and possibly Stonehenge, which is not savage but built of wrought stone, has something of the same style in it.

No direct connection has been found between early Aegean art and Greek art, but it seems that it was for Greece to undertake the task of collecting and perfecting the gifts of Egypt. The most remarkable feature of Greek art is the rapidity of its rise to its zenith, and of its subsequent decline.

Greek architecture has two modes, the *Doric* (Frontispiece) and the *Ionic* (Frontispiece), names which correspond to those of 'native' and 'colonial,' or 'old' and 'new.' The typical *plan of a Doric temple* (p. 47) with a cella having a portico is derived from the architecture of the Aegean age. The curious Doric frieze with

its *triglyphs* (p. 93) follows an old type of slab construction, and the cornice is an eaves-course of projecting rafter ends copied in stone. The older Parthenon at Athens was a fine example of seventh century Doric architecture. The Ionic style was more slender and graceful than the vigorous and masculine Doric. Its chief characteristic was a capital which was cut not from a square block but from a block which was longer one way than the other, the ends being curved into a spiral. The Ionic cornice with its *dentils* (p. 48) is simply a rendering in stone of the overhanging part of a flat roof.

The most famous example of Greek art at its highest development is the Parthenon, which was completed about 435 B.C. The Ionic order was probably adopted about the middle of the sixth century B.C. From a highly enriched form of the Ionic was evolved the luxurious *Corinthian order* (p. 171), an interesting example of which is the monument of Lysicrates at Athens.

To the Greeks we owe the most perfect type of tomb, also of theatres, and of stoae or covered colonnades; and to descend to detail it is to their invention or improvement that we owe the modern mosaic floor, panelled doors, the *spiral stairway* (p. 174), and the turned legs of furniture. Nor, of course, are the gifts of Greece to the world confined to the list just given: for through Rome and Roman civilization Greece handed on some of its influence to the whole of Europe.

The debt of Rome to Greece, in this as in all the other arts, needs no proof; she received her gifts especially through the medium of Sicily where magnificent schools of architecture existed from an early period. When Rome had acquired all she desired of Greek art she soon outstripped all competitors, and in the first and second centuries A.D. she became the mistress of the world and the centre of its culture. Engineering, particularly military engineering, is the prominent feature in her architecture, and as such it is peculiarly rich in hints to modern builders, who may gather from her work methods of vaulting in concrete, and of building with pots and pipes, and even 'tricks of the trade' such as the use of crushed brick in mortar. The most typical Roman work was in concrete, and all the greatest buildings of Rome were faced with plaster.