Temple at Aegina, known as the “New Temple.” After Furtwangler’s reconstruction.
COLOR, as a vehicle for effect, has quite another significance or capacity in the mind of the painter than it has, for instance, in the estimation of the textile designer. With the painter, it is essentially a medium for imaginative stimulation; in the purely decorative arts its capacity is directed towards the creation of sense appeal; each of these artistic activities utilizes color for the realization of different ideals. As the dominant ideals of arts are never identical or interchangeable, methods of procedure evolved in the expression of those ideals are inseparably identified with the art in which they originated. This involves an important consideration which must be kept in mind when we review color methods which might serve for our guidance and assist us to determine that precise character of color effect which is appropriate to architecture. The contribution to effect which a decorative practice has the capacity to make to any particular art, cannot be paralleled in another art, merely by adopting mental or technical methods of procedure which achieve successful issue in their original association.

When an architect wishes to introduce color effect in his design for a building, without acquaintance with the laws which govern its architectural use, his natural inclination will lead him to simulate the painter's sensibility towards color, in order that he may establish scenic value. Considered from that point of view, his design becomes a "subject," upon which color interest must be developed as a separate artistic activity from his initial impulses, which were purely architectonic. Owing to the great dissimilarity which exists between the major aesthetic aspirations identified with pictorial and architectural effect, the realization will soon be forced upon him that progress in the direction of the painter's ideals entails the jeopardy of vital architectonic values.

This untenable position will compel the abandonment of the painter's standpoint
when formulating plans for architectural polychromy. The attitude of the decorative artist towards color as a medium for effect would in all probability be studied next by the architect. Here again disappointment awaits him, as he will have another opportunity of appreciating the impossibility of achieving equivalent results in two arts by using identical means; in addition, the decorative artist’s vast resources of processes, textures, and materials have no counterpart in architectural usage; manipulation of tone value and quality, which performs so important a part in the creation of decorative effect, is debarred form use for reasons we will give later.

We must not forget that color, independently of its artistic association, possesses an inherent capacity to excite an elementary form of aesthetic consciousness merely by the visual gratification which it excites; in the strictest sense of the term it is a decorative element. Color effect in architecture can obviously rank only as a secondary and subordinate decorative interest; in the pictorial and decorative arts it constitutes a dominant factor. If, when planning color for architectural embellishment, we were actuated by all artistic impulse which, when operative in another art, causes color effect to become a major value, we should be employing an activity differs essentially from our requirement; because the result we strive to obtain must necessarily be of the minor order. As the effect created with color in architecture must be of a contributory architectonic character, its decorative expression must have as direct a relation to the predominant aesthetic aspirations in architecture, as those which are identified with its use in the fabrication of impressions through painting or decoration. Its decorative significance must be purely architectonic; that is to say, the legitimate use of color is restricted to the investment of certain structural features with an additional form of scenic interest; architectural interest preponderating over color interest.

THE RELATION OF COLOR EFFECT TO MAJOR ARCHITECTONIC PROPERTIES.

In considering the employment of an indeterminate decorative quantity, such as polychromy, in architectural effect, where it will figure as an auxiliary to a closely inter-related group of artistic activities, its serviceableness is commensurate to its possible contribution to that content which is known as the “art” or “characteristic” beauty. This supreme quality results from the co-ordination of all integral aesthetic impulses, qualities and properties, which, during the creation of a work of art, have come into contributory being. This highest order of beauty is comprehensive and receptive in character—in a sense antithetical to the contributory nature of its ingredient elements. The characteristic beauty of architecture is that aesthetic content which exists in sublime examples, in which all other qualities are merged and linked together by their common factor of artistic contribution. It is so indefinite and comprehensive through the infinite variety of its component elements that the term “quality” is too specific for its description. This entity of architectonic beauty, evolved by a perfect adjustment of varied creative impulses, is itself void of impulse; it is as a sense that it affects our aesthetic perception. Such a sense affects us in the contemplation of the purest examples; it absorbs and dominates all individual excellences, enduring in contemplation as the ultimate objective of each aim; it might be designated as the sense of beauty in statistical force. If this may be accepted as the characteristic beauty of Greek architecture, or the super-quality which absorbs all others, we must endeavor to discover whether color use was considered from the contributory angle as being capable of adding to that content when conceived relatively, or of detracting

*During the periods of greatest virility in Greek architecture, the existence of statical forces in physics was a subject of philosophical speculation. In the third century B. C. it was reduced to scientific form by Archimedes. It is not suggested that the great builders of Greece accepted a philosophic principle as a goal towards which inspiration was be directed, but merely makes record that this preeminent quality which reveals itself in their structures had a contemporary scientific equivalent.
2. TEMPLE ON THE AKROPOLIS. RESTORATION BY WIEGAND.
3. PORTICO OF THE THESION. RESTORATION BY FENGER. TREATMENT OF COLOR ON FRIEZE INACCURATE.
from it when developed independently.

The achievement of beauty in architecture depends in a great measure upon the degree of skill with which elements of effect are coordinated through design. Color is the most potent vehicle for emphasis in any form of scenic effect. Emphasis which is misplaced disorganizes the proportions and mutual relationship of previously adjusted aesthetic factors in a work of art, be it in a painting, in music, dancing, prose or poetry. If we introduce into an architectural scheme a decorative element which possesses an active capacity for emphasis, such as color, its presence alone accentuates the scenic importance of any member or item upon which it figures, thus altering the ratio of effect value which was allotted to that item in the original architectural conception. It is obvious, therefore, that the location and decorative development of color must be in a direct relation, and in complete subordination, to that adjustment of architectonic values which is the basis of excellence in architecture.

To test this theory it is necessary to ascertain whether there is any evidence in the highly organized architectural system of the Greeks, proving that they considered the
5. POLYCHROME TREATMENT OF THE INTERIOR OF THE PROPYLEUM. RESTORATION BY FENGER.
addition of color capable of influencing architectonic values established in design. Polychromy was universally used in architectural effect by the Greeks. Insofar as the general location of color is concerned, they established a uniformity approaching standardization which characterizes their surviving examples. We must observe whether they avoided the application of color emphasis to items performing certain structural functions; also, whether essential and characteristic structural properties of specific architectural items were not enhanced when color effect was restricted to items of a reverse character. In other words, if the presence of color detracts from the apparent strength of essentially supporting members, their function might be emphasized should the apparent weight of the items they support seem less through color treatment.

THE RELATIONS ESTABLISHED BY THE GREEKS BETWEEN COLOR EFFECT AND STRUCTURAL VALUES IN ARCHITECTURAL COMPOSITION.

The architectural members of an exterior design may be separated into two main groups according to their structural significance: those which perform the function of weight-carrying, and those which are supported or are purely decorative in character. This method of analysis was adopted in the examination of those Greek structures of which the original polychromy has been reconstructed from data by archaeologists of unequivocal repute. The examples chiefly used were Curtius' and Adler's reconstructions of the temple of Zeus, the Treasury of Gela and the Heraion, at Olympia; those of Wiegand for the temples of the Akropolis and those Furtwangler at Aegina. Many other works were consulted; but as many of those previous to the Olympia excavations, about 1887 have their gaps in data bravely filled with fanciful designing (which subsequent investigation and comparison have proven inaccurate) they were useless as data for the reconstruction of polychrome methods. Their utility was restricted to actual facts recorded relative to treatment of detail, which was of corroborative value. This criticism applies to the works of Hittorf and the restoration of the temple of Empædocles made under the auspices of the Ecole des Beaux Arts. The key to the Greek polychrome system was discovered at Olympia, where the wealth of data recovered and the rigid adherence of the archaeologists to facts, enabled their successors to proceed upon secure ground.

Following the classification outlined above, the weight-sustaining group will include such items as column shafts and bases, the retaining walls, and the architrave; while the second group will comprise the cornice, all moldings and string-courses, the pediments and their sculptures, caps and abaci, anthemions, gargoyles, decorative roof tiles, and other such items. A valuable observation will at once be recorded; no color figures on any of the architectural items in the weight-sustaining group, whereas all those of the second group bear color in varying degrees.

As the degree of elaboration corresponded, on similar items of the different buildings examined, there was obviously some reason for this uniformity. In order to ascertain whether the degree of color development was regulated by architectonic considerations, all colored items were next grouped in order, according to the extent to which color featured upon them, beginning with the polychrome designs of five, four or three colors and ending with color hands and lines. The result brought forth a striking proof of the extent to which the Greeks subordinated color effect to structural properties in architectural effect. The items of this last group, which were arranged according to color treatment, were found to be in the order of their relative structural significance. The greatest degree of elaboration characterized the treatment of those features which were essentially decorative, such as the anthemions, gargoyles and mouldings, a simpler treatment was
employed for applied architectural members such as the triglyphs and string-courses, a single color invariably decorating the former; on the echinus of the Doric cap, and at the top of the shaft, color lines alone were used. The degree of color elaboration decreased from five color combinations to single lines, as the structural significance of the items decorated increased.

By obvious deductions drawn from these observations, the following rule was formulated to guide color location in architectural polychromy: The presence of color upon any sustaining item of an exterior elevation tends to depreciate its appearance of structural strength. By confining its location to those items which are supported, are applied to surfaces, or are essentially decorative in character, color contributes to vital structural attributes by apparently reducing the impression of weight in those features. Color design must be adjusted in such a fashion that its elaboration increases as the structural significance of the items decorated decreases.

This rule should be applicable to the polychrome treatment of buildings designed after any of the structurally organized types of stylistic treatment. Any detriment to architectonic values ensuing from the introduction of color is inconceivable if its location and decorative development be regulated in accordance with what we believe was the Greek principle. It disposes arbitrarily of the initial and most perplexing problem—that of color location. As the architect plans the development of color effect upon a building, debatable points arise as to the advisability of polychromy upon certain features; also, as to the relative degree of color embellishment which lie may permit himself on those features selected for adornment; such considerations are all met by the polychrome rule. The undertaking then resolves itself into a question of the individual's capacity to create effect with design. Examples of systematized polychromy in modern work are practically non-existent. The archaeological works bearing upon the subject are few in number, difficult to procure, and available only in certain of the greater libraries. They are written in, various languages, and few readers have the good fortune to be masters of them all. Examples which typify principles are not of themselves illuminating and are of little service for guidance in dissimilar problems if the principles they demonstrate are unformulated. The recognition of basic principles which guide the direction of effort, is the best insurance against squandering energy to ultimate error.

6. POLYCHROME TERRA COTTA.

Hair, Eyes and Brows, Black; Lips and Ear-rings, Red; Necklace and Design of Diadem, Purple; Petals of Palmette, Honey-comb, Chevrons and Moulded Leaves, Alternately Black and Purple. Figurative Terra Cottas, E.D. Van Buren