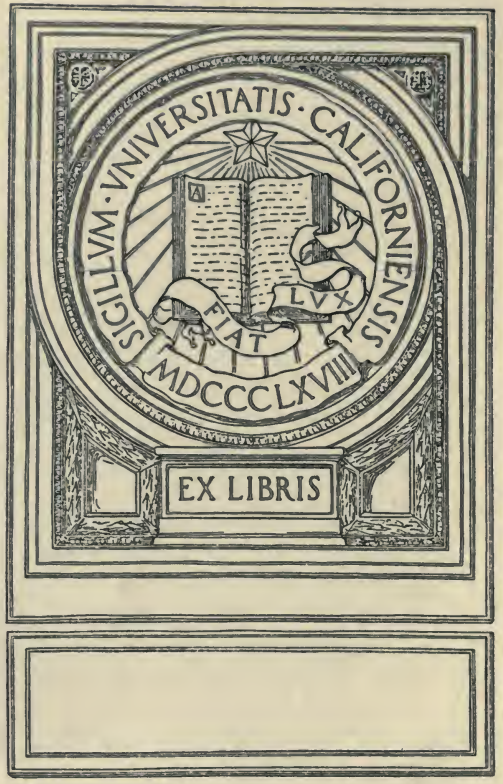
THE MEANING OF ARCHITECTURE

IRVING K. POND, C.E., A.M. (HON.)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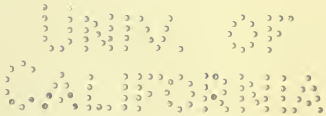

INDIVIDUAL DEVELOPMENT
THROUGH RHYTHMIC AND CONCERTED ACTION

FRONTISPIECE

MAY 1917

THE MEANING OF ARCHITECTURE

An Essay in Constructive Criticism

BY

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ILLUSTRATED WITH DRAWINGS BY THE AUTHOR

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This book is dedicated to my brother
—my lifelong companion and partner
ALLEN BARTLIT POND

Through his sympathy and understanding, in the light of his clear thought, and under his inspiration I have been better able to follow those paths of individual, professional, and civic endeavor in which a rare ancestry bade us walk

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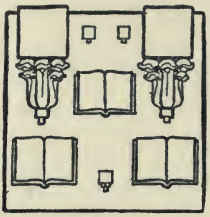
INTRODUCTION



INTRODUCTION

IN these pages I have attempted to enunciate an architectural principle which I believe to be basic; to analyze the forms in which the animating spirit has in the past found satisfying embodiment; and in the light of this analysis to study analytically and synthetically certain aspects of present-day expression. Much of this matter I have, at one time or another, outlined to the students in architecture in some half dozen of the leading universities and technical schools of this country and, now and again, have discussed its various phases in short essays and club papers. Very frequently I was asked to enlarge upon the theme and to name books which would be of aid in a more extended study of the subject. In response to the first of these requests I have prepared this material; and until it appears I shall hardly be able, even in part, to comply with the second, for, to the best of my knowledge, no book exists wherein my principal theme is developed

adequately, or indeed at all. During many years I have been seeking to fathom the relationship which I knew must exist between the form and the spirit in art, and gradually there has shaped itself in my mind an architectural interpretation which appeals to me as fundamentally sound and highly illuminating. I hope that my readers may find it stimulating and suggestive, and that the spirit I seem to see animating the form will appear to them in as lovely a guise as it appears to me; and if it does I know that there will be awakened within them a fresh realization of how deeply our race is indebted to those devoted ones who fostered that spirit throughout the ages; above all to those early Greeks, who, in so far as we can now determine, were the first to kindle the altar fire at the shrine of this ideal; and, after them, those unnamed builders of the Romanesque who nursed the embers throughout the Dark Ages, so called; and then, the great spirits of mediævalism who fanned the spark into a glowing flame. To these fire bringers each lover of light should bow in reverence and should ask himself if the lovely flame is now to become extinguished, or if it is again to be a torch lighting the face of art as it seeks to confer charm and nobility on all sincere human endeavor — again to illumine architecture as it seeks with high idealism

to interpret the meaning of life. It will become each lover of his kind to search his heart in all humility to determine what may be his personal responsibility and his real attitude as he stands in worship, or in smug self-satisfaction, at the shrine of the ideal.

Although I do not know of any book dealing specifically with my main thesis, yet I shall name a few volumes which will aid my readers in establishing a viewpoint from which we may with mutual understanding survey the broad field of art. In this wider view we shall detect objects which have a direct bearing upon the subject in hand. It seems almost invidious to single out so few when so many books have "lent their arguments"; however, these that I mention, not only develop their particular themes, but contain bibliographies sufficient to the needs of even the very advanced student of "art as the expression of life." They are: A series of essays by Lisle March Phillipps that appeared originally in the Edinburgh and the Contemporary Reviews and which are now published in the United States under the title of "Art and Environment" (Henry Holt and Company, 1911); "The Classical Heritage of the Middle Ages," by Henry Osborn Taylor (The Macmillan Company, 1911); "The New Laokoon, an Essay on the

Confusion of the Arts," by Prof. Irving Babbitt (Houghton Mifflin Company, 1910); "The Ascending Effort," by George Bourne (E. P. Dutton and Company, 1911); "Greek Art and National Life," by S. C. Kaines Smith (Charles Scribner's Sons, 1914); "Four Stages of Greek Religion," by Gilbert Murray (Columbia University Press, 1912); and an altogether sane little volume by Ian B. Stoughton Holborn, entitled "An Introduction to the Architectures of European Religions" (T. and T. Clark, Edinburgh, 1909). These books are recommended, as stated, for the purpose of establishing a mutual viewpoint and not because I am in accord with all the ideas and theories advanced; for the careful reader will note in this volume several points of divergence, and note them, I hope, with approval.

It has always been my conviction that art proceeds out of life; and while I maintain that as life changes its bearings, art changes its forms, yet, as life does not end in one phase and begin anew in another, but continues through a process of evolution, so true art does not assume a novel dress unrelated to past idealism, but changes its forms in historical and logical sequence. Therefore, I have studied the past that I might the more clearly detect the bearing and direction of the present.

The earlier chapters of this book present the results of that study. In the later chapters there is an analysis of modern conditions in the light which this study of the past sheds upon them. In the final chapter is presented my own individual application to modern conditions, of my theory of life and art as deduced from my study of past and present. I am diffident about setting down in cold type the record of this individual effort at architectural interpretation. It has been given a more or less consistent expression in many of the works of my firm during these past years. We have been austere with ourselves as the record will show. The past has revealed many beautiful forms; but we have not adopted one or another of those forms just because we have loved it nor because we have seen it amid pleasant surroundings. However, when a form, new or old, has justified itself under new or changed conditions we have not shunned but have welcomed it. In my final chapter I have attempted, though, as I say, with great diffidence, to extend the theory, and I do so because it is my belief that every artist owes it to himself and to his time to develop to the fullest his individual expression of the best of his time and place; for only so, and especially so in a democracy, shall the race reach the full æsthetic expression of its own idealism.

I

THE ANIMATING SPIRIT

THE ANIMATING SPIRIT

THIS volume is intended to fulfill the function neither of history nor of prophecy in the commonly accepted meanings of the terms. It is intended, however, to present, in definite measure, the results of an earnest and constant search for the sublime essence of a spirit which has found embodiment in the great architecture of the past; an animating spirit which manifested itself in crystalline clarity in the art of the Greeks and which has continued to abide in architecture even to the present day, though again and again during the advancing ages its presence has been ignored or its existence denied, while the forms of its manifestation have been accepted, ofttimes to be employed rightly, but more generally to be misinterpreted, misapplied, and sorely abused. A logical and sequential presentation, such as I hope to make, of the forms and manners in which this spirit has, in various epochs, found embodiment in architecture will, in a measure, con-

stitute history; and the demonstration that its influence has persisted from a remote past even to the very present would, after a manner, seem to constitute prophecy — a prophecy that this spirit will continue to exert its potent influence, at least so long as human nature retains its apparently permanent characteristics and attributes. But the writing of architectural history as such, or the utterance of architectural prophecy in any sort, are aside from my purpose in preparing this essay. That there may be, on the part of the reader, a clear understanding of the media through which the spirit of art must manifest itself in its architectural embodiments I shall deal, among other topics and as supplementary to the main theme, with the significance of mass and form — with rhythm — with the meaning, character, and disposition of ornament — and with color as giving definition, producing atmosphere, and bestowing charm. As preliminary, I shall generalize, for a brief space, on art.

Man has been struggling upward throughout the ages, struggling to attain the ideal. By this struggle, conscious as it has been, and with definite purpose, he is marked as of an order higher than the beasts, which struggle for existence impelled by habit and guided by instinct only. Habit is life in the brute creation; but habit in man has been

aptly denominated " the soul's tomb." In reviewing the struggles and achievements of man it will become apparent that habit builds the tomb of art; that when the spirit no longer inspires, but forms are repeated from mere habit and for form's sake, art has ceased to live and the architecture reared in her name is her tomb. Art is the attempt to realize the ideal, to reach a standard which humanity has always set before itself and which is always advancing as the race advances. Art is the attempt to achieve beauty — to encompass the ideal. " Beauty is the Ideal." To make the matter concrete let us say that beauty is the individual's conception of perfection. The fact that standards vary does not alter the principle. Standards of beauty must differ as individuals differ. Underlying and unifying these standards is the subconscious movement of the race spirit. The individual acts consciously. His power to apprehend beauty depends upon the nature of his spirit; his capacity for refinement of distinction as regards beauty depends upon the quality of his mind; his ability to express himself in terms of beauty — that is to create beauty — depends upon the ingredients and compound of his individual character; on his attitude toward life. Art is an expression of life and life is perpetual change; therefore, art must ever change its forms as life

changes, as environments vary, as circumscribing conditions alter; but the art principle remains constant — it dwells in the pursuit of the ideal. Art is not the product of any single period or group of periods. It is not the possession of any one man or group of men, nor of any one race or group of races; it belongs to the ages and is the common heritage of mankind. It is the portion of the peasant who is trying through his work to make today happier and brighter and more attractive than was yesterday, as well as of the potentate who commands the erection of galleries and the painting of his own august portrait. This is not to say that all individuals or all races at all times are endowed with the same capacity for the apprehension of beauty, for self-analysis or for self-expression; but that the love of beauty inheres in all; that some ideal at some time is before each and every one, and that the æsthetic expression of this ideal is craved by all and in greater or lesser measure achieved. The culture which does not recognize this is an incomplete culture; and the society which does not place before its members and set up for the free enjoyment of even the lowliest noble and inspiring examples of art and which does not supply opportunity for the individual and the community to approach the ideal in the relations of every-day life is an unenlight-

ened society. Art has sometimes been made to seem a thing apart; a thing whose products are to be acquired by the rich or gathered in chilly museums or mausoleums and on holidays or during off hours contemplated, depending upon the observer, with awe or with reverence or with delight or abstractly and impersonally. But when we know its lovely form and face, we realize that art is for each and every one of us and is essential to our higher being. We should place it in the same category with our philosophy and with our religion, for all three are inextricably bound up in the ideal. Philosophy is the child of intellect; its field is contemplation, and its search is for ultimate truth. Religion is the child of the emotions and its field is action; its search is for ultimate goodness. Art is the child of intellect and the emotions; its field, also, is action and its search is for ultimate beauty. I am using religion here in the sense in which it was understood and employed by the contemporary disciples of Him who gave His name to our Era and impressed Himself upon our civilization. I have not in mind the creeds, dogmas, and rituals which later grew up around His name. They belong in the realm of speculation and, not infrequently, of superstition. I have not in mind, even, that emotional state which is superinduced by forms of art

exercising their potent psychological influence upon a normal mind whether it accepts creeds and dogmas or no. The religion of which I speak may be summed up in the phrase: He went about doing good. Religion, then, is feeling and doing in terms of goodness; art is thinking and feeling and doing in terms of beauty. Religion and art are elemental and independent human expressions, the activities of which it is the province of philosophy to hold in contemplation and to relate to life. The goal of life is perfection. In art the ideal sought is the perfection of beauty; in religion it is the perfection of goodness. In science the ideal sought is perfect synthesis; in philosophy it is the perfection of logic flowering in abstract truth. Truth is not always and at all times apprehended and ideals sometimes become confused. Confusion is not altogether confined to the realm of the ideal. The functions of art and religion are ofttimes confused and the relation between them misinterpreted. Art has been called the handmaiden of religion; and so indeed it is, just as it is the handmaiden of life, ministering to each and every factor of life impartially. Art can and does with propriety play about the forms of religion; and it transforms the habiliments of philosophy into literature without endangering the content. But the highest art

cannot add virtue to religion, nor can the purest religion, even, add aught of beauty to art. If art can add no virtue to goodness, by the same token it cannot make vileness any the less vile, though vileness so often seeks to make its appeal in the name of art.

Art is the handmaiden of life, and the forms and phases of its ministration are many and varied. This essay is concerned primarily with functional art, and in it I shall endeavor to define the concrete as well as the abstract relationship of art to life; to do so I shall have recourse to the Greeks, the supreme idealists in art and life. A study of the Greek forms and their derivatives suggests that there are two philosophies of life which should receive consideration in a discussion of functional art. The first philosophy frankly accepts the presence of stress and strain in life and makes of them the means to a beautiful end. The basic concept of this philosophy is "to be beautiful." The second philosophy discloses a recognition of the fact of stress and strain by its determined effort to find a form of expression that conceals them. The main content of this philosophy lies apparently in the injunction to "seem beautiful." A third form — a pseudo-philosophy — denies the fact. This form, disavowing fundamental realities, holds no place for

art. He who manifests a Stoic indifference may feel; but he who, with history an open book in his hand and the experience of life spread out before him, denies the reality of stress and strain, of struggle and victory and the joy of it all, of struggle and defeat and the pain of it, who denies the fruitful instrumentality of struggle and strife in character unfolding, however intelligent he may be, as the animal is intelligent, is not endowed with the rarer qualities of the intellect and of the emotions; and, therefore, however much he may crave ornament and seek to clothe his works in its superficialities, he must yet remain insensible to the deeper appeal of art. To him a discussion of functional art will be fraught with little meaning. But to him who conceives of life as a struggle — a battle royal — and to him, especially, whose philosophy holds that the struggle is not to be ignored but that it is to be made a means to the final achievement of the ideal, such discussion, sincerely and earnestly pursued, will be charged with deep significance.

The analysis of the Greek spirit set forth in these pages, together with the interpretation of the forms which characterize and distinguish the Greek orders, has not, to my knowledge, been heretofore presented by another, at least not in an extended form; but the underlying thought

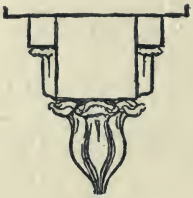
cannot have found lodgment in one mind alone. The idea is altogether obvious; while the subject is too alluring to have escaped a full exposition, at some time, by some sympathetic student of Greek art. Rosengarten, in a very brief, though suggestive, discussion of the æsthetic phase in Greek architecture, says: "Special mention must here be made of the way in which the Grecian column and its capital exemplify the conflict of supporting and supported bodies . . . this is shown in the Doric capital by the echinus and the necking. . . . The shaft . . . by its entasis expresses its inherent strength which is merely checked by the incumbrance of the superstructure, whilst the flutings add materially to the soaring effect. . . ." In this statement is a germ susceptible of a development parallel, at least, to that herein attempted; an idea kindred to that which gives this volume its reason for being.

To go directly to the heart of the matter, I have a deep conviction that the Greek capital does more than "exemplify a conflict"; that it is, indeed, the true artist's symbol — and to me the true artist is he who truly interprets life in terms of beauty — it is the true artist's symbol of a reconciliation to the struggle, the symbol of a frank acknowledgment by aspiring humanity of the existence of the stress and strain, the accept-

ance of the implied challenge, and the ultimate achievement of the ideal, not in spite of adverse conditions, but through such conditions; through the imposed limitations of finitude; through even the superimposed limitation of absolute finality. I hold, also, that the same rare insight into the laws of beauty which the Greek demonstrated when he expressed in the column his philosophy of life did not fail him when he came to objectify the forces which play in that other constituent and vastly more complex part of his architectural scheme, the lintel or entablature. The discerning student of Greek civilization has always seemed to recognize in the Parthenon an exposition of the ethical philosophy of that race. And well he should; for Greek art, of which the Parthenon is a lofty exemplar, is a clear and lucid expression of all the factors of Greek idealism, an embodiment of all that the Greeks held highest in the domains of religion, morals, and philosophy. The Greek temple stood as an ever-present inspiration to a life of moderation and of self-restraint; to a life of high purpose and to character made perfect through ordered and controlled resistance. Through it sounded the clarion call of the ideal in terms of the good, the true, and the beautiful.

II

THE MEANING OF ARCHITECTURE



THE MEANING OF ARCHITECTURE

DEFINITIONS at best are incomplete. A satisfactory working definition of art is this: Art is the expression, in terms of beauty, of a reconciliation to the struggle of life; just as a working definition of religion is that it is an expression, in terms of goodness, of an acceptance of the conditions which environ existence. The definition of art is frequently condensed into: Art is an expression of life. But art is all that and more; for to be art it must be the ordered and unified expression of an ideal which life holds. Architecture, as a phase of art, is an expression in building of that idealism which is capable of translation into structural terms; that idealism which may be realized in an interpretation of the laws governing structure; an idealism which may find in terms of structural force a deep symbolism of its own true essence. A building under this definition is not architecture just because structural laws have been obeyed, but because underlying and directing

its structural expression is an ideal. A building under this definition is not architecture merely because it symbolizes some great vital factor of life, such as a religion or a philosophy, or any great intellectual or spiritual concept, but because it symbolizes or expresses it in objectifying the inhering structural forces. Hence the temples, tombs, and pyramids of Egypt — impressive, overpowering, awe-inspiring works of art as they are — cannot be said to be pure architecture; or architecture at all in what I shall denominate the Greek significance of the term. The form of the mass, the forms of the details of the mass, the inert mass itself, symbolize a great ideal, but not one which could find expression in the objectifying of structural forces. The more completely the idea of structure could be eliminated from these wonderful embodiments of the essence of Egyptian philosophy and religious belief the more vividly would the real significance and symbolism of the building, or dominant mass, stand forth. The mission of art lies in the pursuit of perfection, and Greek art is generally recognized as having fulfilled that mission and as having achieved that perfection which was the object of its pursuit. That same high goal of achievement is not universally conceded to have been attained by the art of Egypt. And yet this seeming shortcoming

may be altogether in the point of view. It is impossible to conceive how the Egyptians could have better expressed their ideal than they did express it in their wonderful art — just as impossible as to conceive how the Greeks could have expressed their ideal in more perfect form than they did in the various phases of their equally wonderful art. The difference lies in the ideals which demanded such widely varied forms of expression rather than in the approach to perfection in the forms in which these fundamentally different ideals found complete and satisfactory embodiment. In the Greek temple every form functioned structurally, just as every act of life, mental, physical or spiritual, was supposed to function in the development of the perfected Greek character. In the Egyptian, no form was conceived of as functioning structurally but as symbolizing a vital factor in the life and destiny of the race. Had there been any other medium for such impressive and compelling symbolism as could be set forth in building, the Egyptian would have found and employed it, and history would not have known the Egyptian temples and pyramids, or would have known them as only secondary examples of Egyptian art. But there was none other — there is none other. Sculpture and painting, potent media for symbolism as they are,

could be but accessory. The Greek, however, sought structure for itself that he might express himself through an interpretation of its laws. The difference between the two races is vividly marked. The Greek in all his art sought to express a character radiant in clarity; self-confidence, poise, and self-control; with nothing wanting, nothing in excess; with a perfect balance between thought and act; with a harmonious interrelation of the parts and a sublime unity of the whole. The Egyptian in his art sought to symbolize an idea which permeated all his philosophy and religion and colored his lightest act, his deepest thought, his highest hope; and that idea was immortality. The Egyptian found in building the most appealing and appropriate medium for the embodiment of this idea, and to its fullest embodiment he labored and to that end alone. He did not conceive of structural form as a thing to be developed for the lesson it might be made to convey. In his temples he did employ the pillar and the simplest and most direct imaginable device for spanning a void — the lintel — for this method of building was the best possible to serve his purposes; and while it embodied a correct principle of construction, that element made slight appeal to the Egyptian symbolist. The fact that the pillar and the lintel could be shaped to mass

and to form indestructible, or symbolic of indestructibility, confirmed him in their employment. I have purposely avoided the use of the term "column" in discussing Egyptian structures, for the terms "column" and "lintel" in conjunction imply a relationship which the Egyptian builder did not see fit to recognize. The term "column" implies a shaping or proportioning of the vertical member in relation to the superimposed weight carried to it through the lintel. This idea it was given to the Greeks to conceive and to develop, and in their architecture alone is this subtle interrelation carried to the ultimate of refinement. The pier and the pillar become the column; the lintel becomes the entablature with all its complex functioning. Contemporaneously with the early Egyptian there existed in the Ægean a civilization which developed in its structures a slender pillar seemingly akin in its nature and employment to the column of the Greek. There are evidences that the commerce of this pre-Hellenic race of builders extended to Egypt, so the Egyptians may well have known of the lighter, and possibly more functionally related, forms of this construction. Even had they this knowledge the forms were not for them. The purpose of Egypt was to build for eternity, for in her structures she was symbolizing immortality. Almost every vestige of

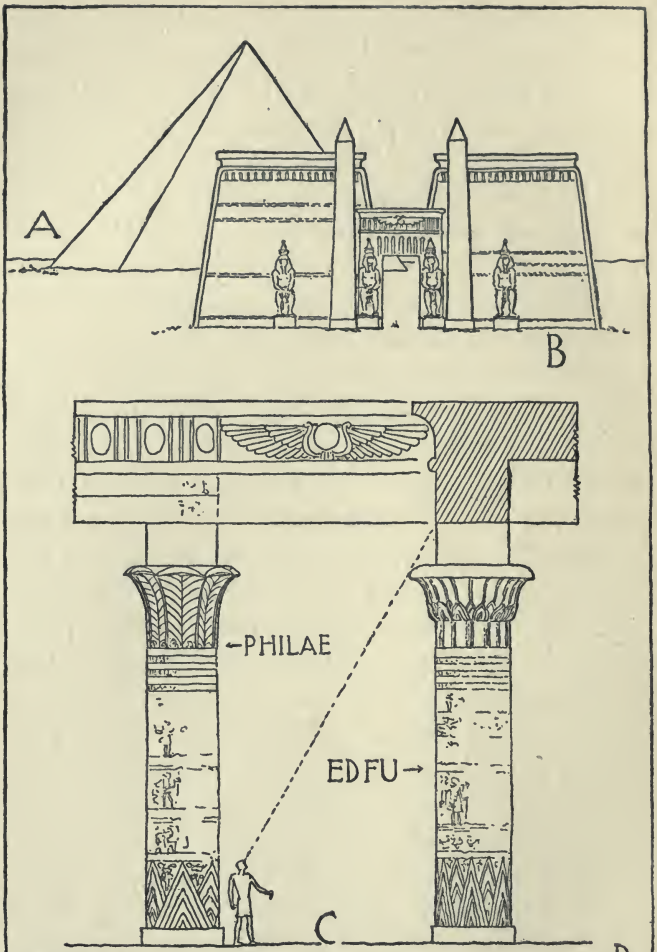


Fig 1 EGYPTIAN

that contemporary civilization has been swept away. The Egyptian temples and pyramids still stand.

I dwell at such length upon the spirit which dictated the forms appearing in the Egyptian structures that the difference between it and the ideal which inspired the forms in Greek architecture may be clearly recognized and the entire lack of relationship between these two wonderful manifestations of the spirit of art be fully apprehended. The simple circumstance that both systems employed vertical supports for a horizontal member, that is, a post and beam type of construction, in no way serves to relate them; though what distinctly differentiates them is the manner in which the elements were employed — the spirit in which they were employed as well as the forms to which they were fashioned. The Egyptian deliberately chose the pillar and lintel because that form of construction best lent itself to the presentation of that powerful symbolism which stirred his richest imaginings and ministered to his deepest nature. The Greek deliberately chose the same structural system and developed within it the column and the entablature, for in these forms he could best, and with the greatest clarity of definition, enunciate that clean-cut philosophy of life which was the flower of his moral being

and deep æsthetic instinct. It were idle to search for forms which the Greek may be supposed to have borrowed from the Egyptian. The philosophies of the two races and their ideals of life were altogether distinct and individual and self-developed, and the great arts which so perfectly and absolutely embodied these separate racial expressions were equally distinct and individual and self-developed.

In Egypt the pyramid was the basic form of the home of the dead, or, as we would say, the tomb (Fig. 1–A). To appreciate the full significance of its appeal one must understand the Egyptian's attitude toward life, his intense longing for immortality, and his deep dread of death. The trivial theory, still extant, that the pyramid is a glorified development of the early mud tomb which had been battered or molded into pyramidal semblance by the continued action of the elements, is one which can be entertained only by him who has small conception of the Egyptian character, no sensitiveness to line, and no knowledge of the psychology of mass and form. Whatever may, or may not, have been the original shape of these mounds of mud or brick, it is certain that the pyramid is preëminently the most satisfying geometrical symbol of immutability the human mind can conceive; and that is quite suffi-

cient to account for its adoption by the immortality-craving Egyptian for his tomb. Not only did the form symbolize eternity, but the bulk seemed to the Egyptian to be a positive protection against the entrance of death or decay into that inner chamber wherein the sleeping image rested while the real man, the spirit, the absolute double in form, in feature, and in bulk, watched, ever living above it, awaiting the divine call to return to, revivify, and forever inhabit, the clay. Inward sloping lines and battered surfaces forming truncated pyramids characterized the mastabas and marked the piers, and pylons of the temple gates, as, also, the temple walls. Other races used the pyramidal motive, for reasons which will develop later, but none other used the pyramid as it was employed in Egypt (Fig. 1–B).

The Greek temple was an abstract mental concept, the lines of which were not derived from natural forms. The Egyptian temple was a symbol of an unending and indestructible universe; the massive pillars were shaped into arboreal forms, into bundles of reeds, into groups of beautifully conventionalized palm trees, into rare arrangements of lotus leaf and flower; shaped into the symbolic representation of terrestrial life including man and beast. Into the pavement were let water basins to represent the lakes and seas,

and these were decorated, as were the tiles and mosaics of the pave itself, with molded or with outline representations of the forms of aquatic life. The ceiling of the temple was formed of massive slabs of stone resting upon more massive lintels of the same substance. The ceiling was studded with stars of gold and silver, which shone and twinkled in the flickering light of the torches. On the lintels, in relief and color or, again, incised, were representations of the birds of the air and other forms of aërial life, and these figures also decorated the ceiling slabs; thus, the temple was an epitome of the physical universe in massive form and indestructible material. But that which challenges the attention at this stage is the treatment of the structure at the point of contact between pillar and lintel; not a line or form is there to "exemplify the conflict of supporting and supported bodies," but instead there is interposed, in the most highly developed types, a small pillow block, not intended to be in evidence from the pavement, which serves effectually to separate the ceiling beams from the posts, thus heightening the desired illusion that the ceiling, which typifies the everlasting firmament, is self-supported and does not rest upon the pillars which are wrought to simulate in enduring mass arboreal, vegetable, or floral forms (Fig. 1–C).

Although I have hesitated to speak of the Egyptian temples as architecture within the definition of architecture I have chosen to employ, yet in effect they are wonderfully architectural. This primarily is because, as indicated, their basic structural principle is sound. Moreover in their plan, arrangement, and composition the cardinal laws of unity and purpose have met fulfillment; and because of this, and for the further reason that in them the note of essential harmony rings clear, these great manifestations of Egyptian art exert a powerful imaginative appeal and are pervaded with that mystery which inheres in any work, however simple, however complex, however involved, which is conceived and carried out in the vital spirit of art. Whether or not the Egyptian understood and consciously obeyed the canons of æsthetics in the practice of his art is a much discussed question the negative of which has been maintained with some show of reason. I am hardly prepared to accept this negative judgment, though I shall not debate the matter now, for it lies outside the province of this essay. But whatever conflicting ideas may obtain concerning the intellectual element in Egyptian art, no division of opinion is possible in the case of the Greek, for he knew every process of his art and why he used it, and could give a clear account of himself

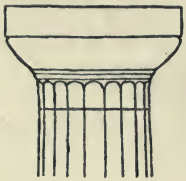
at every stage. The refinements of Greek art were never achieved except under the keenest of intellectual supervision.

And so through a comparison of these two clear-cut forms of expression, we gain a reasonable conception of what inheres in architecture. To us of the West the deeper meaning lies in the Greek expression, for consciously or sub-consciously Greek idealism throughout the ages has influenced our philosophic attitude toward life. Orientalism makes but slight impress upon our minds; and except as its essence has been distilled through the alembic of the Greek or has filtered into our spirit through the mystic phases of mediævalism, which touched the hem of the Eastern garment and gained some virtue through the contact, Oriental thought and expression are matters of secondary interest to us. The processes of the Oriental mind are too involved for us to follow with profit in this adventure. It is to the Greek that we must turn. A study of the Greek mind and its manner and method of self-expression may reveal to us that of ourselves of which we ourselves are, perhaps, not wholly conscious, and inspire us to a higher spiritual activity in the realm of art and of life.

III

THE GREEK EXPRESSION

THE UNDERLYING CONCEPTION. THE DORIC



THE GREEK EXPRESSION

THE UNDERLYING CONCEPTION. THE DORIC

ALTHOUGH the Egyptian in his temple building obeyed the æsthetic laws of unity and purpose, he did not choose to operate under the law of measure. It may be doubted if he had knowledge of the law. There was little in his nature to demand a formulation of it, for in everything he went to excess, even in his philosophy of immortality and in his efforts to contravene the power of death. From an alien standpoint, in delineating or, fabricating his gods, he left the realm of fancy and invaded the domain of fantasy; and that means excess. In the architecture of the pre-Hellenic civilization of the Ægean, especially in the Cretan development, there were forms functioning structurally which appear to have met certain æsthetic demands as well, though proportion, as conceived by the Greeks, seemingly did not enter into the scheme; nor was proportion fundamental in the art of the East or in any art which could have influenced Greek idealism. It

was the Greek who first set up the standard of measure in life and conduct and applied the principle in the development of his art. It were better to say that the Greek lived the principle in his art, for art and life with him were one and the same; he thought and built and wrought in terms of the ideal. When an obstacle was to be overcome, the Greek met it with just the force necessary and with no wasted effort; because of the fineness of his feeling for expression that was the impression he conveyed. When he encountered that which was pregnant with the possibilities of ugliness, he opposed a resistance which seemed inevitably to express itself in a line of beauty, a line which imparted a feeling of serenity and poise and emotional restraint that was an inspiration to the beholder. He did not dissipate his effort by distributing it over the entire field, but applied it at the point where it would be most effective in bringing functional activities into proper relationship. In his obedience to the law of measure he proportioned not only thought to thought and act to act, but he balanced thought and act, ideal and expression. It was here that the ethics and the æsthetics of the Greek merged and became as one. To effect this result the Greek exercised his power of choice, exercised his free will, and discarded much that would have

pleased another and which he might have allowed himself to enjoy had he been less austere with himself; but the end justified the sacrifice if such it really were. He did not attain to this exalted and balanced state of mind or develop this clarity and purity of expression without a struggle, without many an experiment the results of which did not satisfy him; but he became stronger with each attempt. He was hospitable to outside influences but did not let them control him. He remained in command. It may be as well to state here, as touching the Greek, a general principle, one fundamental to the development of any great or national art, that the expression of an ideal is possible because and when, and only when, that ideal dominates the race. The Greek idealist made his appeal to a sympathetic and comprehending constituency. He was not forced to create an ideal, and then to bring the race up to an appreciation of it. The race in its own idealism urged him ever onward and upward. There is indeed a reciprocal action, for the individual grows in power of thought and expression by achievement and the race advances toward perfection through the constant contemplation of a truthful interpretation of its higher self; but it is for life to furnish the motive and for art to express.

The mental and spiritual state of the beauty-loving Greek when he finds himself face to face with the inevitable he has exemplified in the highest degree in his architecture. He not only is reconciled to the struggle, but he welcomes it for the opportunity it affords him for self-expression. At the point where the rising forces in the column meet the resistance of the entablature, at this point of transition and of conflict, at this crucial point in the battle where the aspiring spirit will prevail in beauty or brute force will overpower, the Greek makes the supreme application of his theory of life and registers his moral conviction as to what the outcome should be and his æsthetic judgment of how best it should be expressed. Having gained a victory at this point he has prepared himself for the further and final effort through which he hopes to achieve that perfect relation of part to part and that perfect unity of the whole which are the end and aim, the crown and finish, of his ever-ascending effort. As to whether achievement entitled one to or fitted one for immortality the Greek left to the Egyptian; he himself discussed academically the problem of conduct as affecting a future state; but such discussion did not affect his philosophy of life which embraced the propositions that the achievement of the ideal justified itself and that nothing short

of unity and completion of purpose was to be considered worthy in the expression of that ideal.

The struggle of man upward, always upward until perfection is achieved, receives full and rich expression in the architecture of the Greek. The forms interpret not only rising force developing character under a down pressing material mass, as exemplified in the columns, but in the lines of the entablature there appears an interpretation of that more subtle, more involved, attitude which is encountered when the ardent aspiring spirit approaches what I have called the superimposed limitation of finality; when it receives the command "thus far shalt thou go and no farther" and realizes that in meeting this fixed, impenetrable, impassable spiritual barrier it will demonstrate the truth or falsity of its philosophy, the reality or pretense of that beauty it developed in the earlier stages of its ascent. The rare pathos of the situation, the calm though eager acceptance manifested in the Greek answer stir the imaginative mind to its depths. Fate, level, calm, inexorable is symbolized in the entablature; fate against which the aspiring spirit presses with the resultant return upon self in perfection of character; fate, upward and through the calm, level restraint of which the perfected character sends the impulse of its unconquered aspiration.

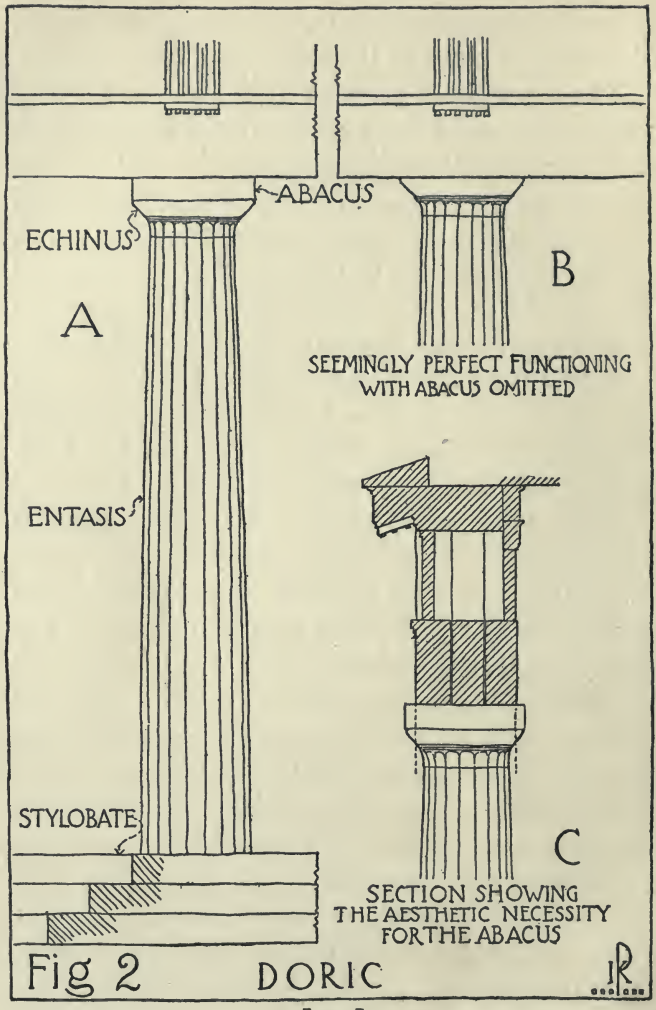

ABACUS
ECHINUS
A
ENTASIS
STYLOBATE
B
SEEMINGLY PERFECT FUNCTIONING
WITH ABACUS OMITTED
C
SECTION SHOWING
THE AESTHETIC NECESSITY
FOR THE ABACUS

Fig 2 DORIC

Realizing, then, something of its spiritual content, let us look at the architecture in detail, taking first the Doric as representing the simplest as well as the oldest and most virile expression. The column springs directly from the stylobate without an intervening base. It is as though the vital forces of the earth were gathering and rising to the fray. The rising force expresses its vitality in the flutings or channelings which extend throughout the entire height of the shaft. Compared with a fluted shaft a plain one is cold and dead; it is life which is rising in these Doric columns. The shaft does not rise in a straight line but develops a curve as the diameter of the column begins to decrease toward the necking of the capital. This curve, called the entasis, is very subtle, being parabolic or hyperbolic, and imparts the feeling that the movement within the shaft is gathering in force, in vitality and in concentration, until, meeting the restraint imposed by the entablature, it expands into the beautiful, firm, resilient supporting form of the echinus. The impression conveyed is so strong that the movement within the column was merely an aspiring desire until the weight of the entablature was superimposed, and then it became a living force meeting the obstacle with a characteristically beautiful line (Fig. 2–A). The echinus does not

meet the lower member of the entablature directly, but there is interposed a heavy rectangular block called the abacus. This abacus signifies more than is apparent at first sight. Its presence permits the structure to comply with that æsthetic law mentioned as having been discovered by the Greeks, the law of measure, obedience to which insures perfect relationship, correct proportions; just enough of this to satisfy that; poise, self-restraint. As I have already said, a certain relationship between them transforms the post and lintel into the column and entablature and the abacus permits the establishment of this relation in its Doric perfection. As seen directly in front view there appears to be no reason for the abacus, the echinus seeming to function perfectly against the soffit of the epistyle or lower member of the entablature (Fig. 2–B). But in perspective or in sectional view the aspect is changed (Fig. 2–C). A soffit or under surface wide enough to cover the entire area of the echinus in plan would imply a superincumbent mass out of all proportion to the supporting columns. To narrow the soffit to less than the upper diameter of the echinus and omit the abacus would be to have a beautiful functional line of resistance resisting nothing; and with that the integrity of the style would disappear and there would be no Doric. Doric architecture did

not exist until an early Greek with æsthetic imagination, and an ideal for it to feed upon, first shaped an echinus and so environed it that it should function perfectly throughout its entire periphery. So, while the abacus might be conceived of as a pillow block, furnishing a firm seat for the entablature, yet the exigencies of the case do not warrant that conception, for the abacus hardly functions structurally at all. In reality its function is purely æsthetic, the abacus being introduced to permit of a correct proportioning of the two main features of the style. Many experiments with the general proportions, and consequently with the line of the echinus and the thickness of the abacus, were made before the perfection of the Parthenon was attained; however, from the very first the truth and logic of the style were compelling. The abacus leads us naturally to the entablature, which will now claim our attention. The effect produced by the Greek temple is of such absolute simplicity and such directness of purpose that one finds it not easy to comprehend what complexity of functioning is really involved. To anticipate, for sake of clarity, let me say that in an arcuated system of construction but one force is in operation, that is, compression. Throughout the seemingly and, indeed, really complex system of mediæval construc-

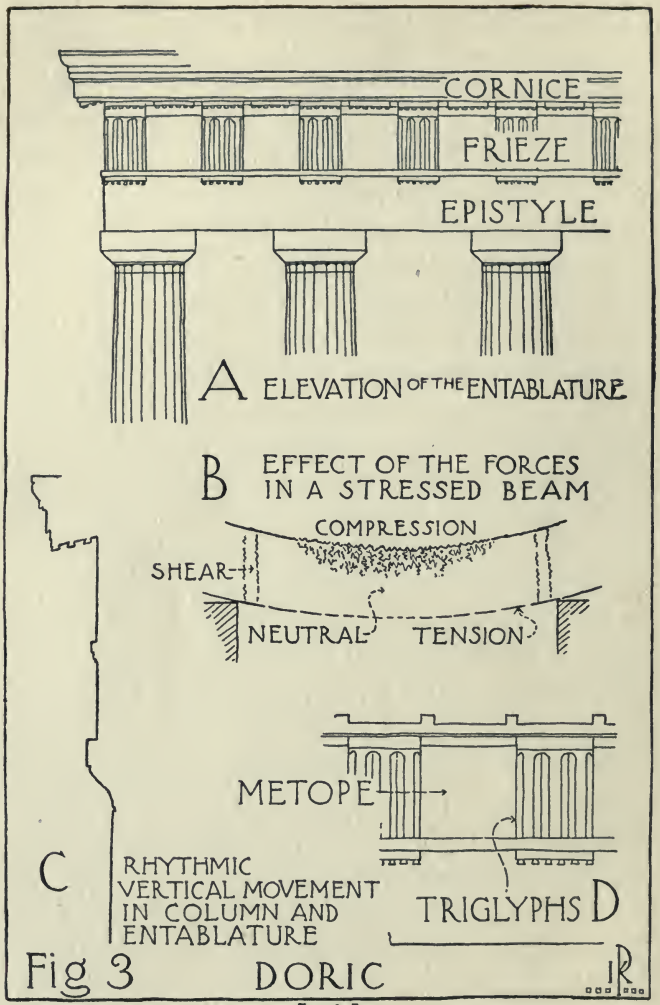

CORNICE
FRIEZE
EPISTYLE
A ELEVATION OF THE ENTABLATURE
B EFFECT OF THE FORCES IN A STRESSED BEAM
COMPRESSION
SHEAR
NEUTRAL
TENSION
METOPE
C RHYTHMIC VERTICAL MOVEMENT IN COLUMN AND ENTABLATURE
TRIGLYPHS D

Fig 3 DORIC

tion with slender piers, ribbed vaults, and flying buttresses, compression alone is operating and its æsthetic expression is never complicated by an ascending movement running transversely or at an angle to it. The movements, structural and spiritual, coincide in each and every member throughout the whole composition. And yet the system is complex and the expression is in a manner involved. In the Greek entablature there are two forces, compression and tension, operating structurally in the horizontal plane and both are to be reckoned with æsthetically; while crossing these vertically is to be expressed that force which, rising through the column and achieving beauty in the capital, is finally to reach in the fullness of perfected character the external limitation imposed upon it. A trabeated system in the hands of a materialist is complicated and bewildering in the extreme (note any series of bridge trusses resting on piers or internally braced supports), but under the touch of an idealist like the Greek it lends itself to the expression of the highest simplicity and unity (Fig. 3–A). The æsthetic expression of the entablature in all the delicacy and refinement of its functioning will not fully appear to us until we view the Ionic forms; but we already have a sufficient groundwork for the study and analysis of the Doric entablature. The Greek

entablature is the apotheosis of the beam, and in order in any degree to appreciate the character of the entablature one must understand the nature of the beam. Take a piece, preferably rectangular in section, of any material which will not fall apart of its own weight and place it on supports at the ends. Press down upon it in the middle and you will observe that the beam, for such it is, bends, tending to lengthen along the lower surface and to shorten along the upper (Fig. 3–B). This distortion is caused by a stretching force tending to tear the beam apart in its lower half, and a crushing force which tends to shorten the beam in its upper half. Between these lies a neutral axis along which neither force is operative, where they fade the one into the other. These forces are called respectively tension and compression. When a beam fails by compression the matter crumples or buckles, forming areas of broken light and shade along the upper edge perhaps as far down as the neutral axis. When it fails by tension fine lines indicative of tearing or stretching appear on the surface.[1] The sensitive mind of the Greek sought an æsthetic expression

[1] In the beam there is always developed a shearing force which in a deep stone lintel may logically be ignored or, if recognized, its movements may be conceived as coinciding with the ascending rhythm which runs through the entablature.

of this phenomenon. How far the presentation was carried, depended upon the intrinsic character of the ultimate expression. Thus, in the Doric, in which the intrinsic characteristic was bold, simple masculinity, the subdivision within the members was minimized and the expression not carried as far as in the Ionic, the intrinsic characteristic of which was graceful feminine refinement.

Now, in the entablature we find fields corresponding to these tensile, neutral, and compressive areas in the beam, and so treated as to bring out the inherent characteristic of each. These fields, known as the members of the entablature, are defined as the epistyle (the lower member, resting on the columns and in tension); the frieze (the middle member and in repose in so far as tension and compression are involved); the cornice (the portion above the frieze and in compression) (Fig. 3–A). In all of these members in the Doric entablature is visible the expression of that aspiring spirit which ascends to respond in beauty to the final call (Fig. 3–C). In the epistyle the presence of this spirit is manifested in the guttæ and the fillet; in the frieze it is seen in the triglyphs; in the cornice the crown mold bears its charm. It is quite possible to conceive that in the early days of the Doric, before the law of measure had found its fullest interpretation, the epi-

style was regarded as the beam while the frieze was given up entirely to the function of vertical support. But that did not seem long to satisfy the broadening conception of functional relations and I, for one, do not doubt that at a very early period the entablature as a whole came to be regarded as the beam. I think that the analysis of the Ionic forms, a little later, will substantiate this view. The Doric builders did not draw the fine-spun lines of tension upon the surface of the epistyle, but the nature of the member becomes apparent when its plain surface is viewed in relation to the field of broken light and shade in the frieze which leads up to the cornice, and, especially, in the cornice itself. The frieze is of extreme interest. It is comprised of alternating members known as the metopes and the triglyphs. The metopes originally, according to all available data, were open spaces functioning for light and air and given over later to the storage of the temple vessels. Still later they were closed up with stone slabs upon which were carved representations of the vessels which formerly had occupied the spaces; and then beautiful sculptured reliefs came to adorn the metopes. These spaces are what I shall denominate zones of repose — areas in which no structural forces are operating. They alternated, as stated, with the triglyphs,

which were blocks of stone introduced to support the cornice and roof. The theory that the triglyphs are survivals in stone of ornamented ends of wooden beams is pretty thoroughly exploded, as, too, is the general theory that columns, guttæ, mutules, and the whole structural fabric are merely translations into stone from wooden forms. It is a trivial and baseless theory which I shall touch upon later; for the time it is only necessary to say that if ever there was an architecture in which the feeling and forms are essentially those of stone that architecture is the Doric. The triglyphs, then, function structurally as supporting members, but æsthetically they serve three very necessary uses, and the forms to which they were shaped (Fig. 3–D), though not always identical in different structures, permitted them to serve, equally, fully and simultaneously these widely differing purposes. First, they serve to carry the force upward through the entablature to a perfect conclusion. In this the triglyphs are aided by the guttæ, which in the higher types are not pendant but spring from the surface of the epistyle and soften the transition. Second, the triglyphs introduce needed variety, alternating as night and day, with a zone of repose contrasting with a field of activity; and they serve, too, as a foil to the long, horizontal lines of the entabla-

ture. Third, they break up the shadow of the cornice and thus assist that member to introduce a vigorous play of light and shade into the upper portion of the entablature, expressing the compressive forces struggling to maintain the integrity of the beam, and filling a desire in the æsthetic mind endowed with a fine appreciation of structural symbolism. The lines and forms which perform so completely these several functions must be highly characteristic. Had the triglyphs been grouped columns of reduced scale, proportion and unity had been wanting; had they been merely fluted blocks, force and character had been lacking. As it is, their sharp, deeply incised lines conserve all this and give powerful aid to the expression of the compressive force in action and all the while conserving the inspiring ascending movement and doing no violence to the neutral zone. The unity, the simplicity, the charm, hold us in admiration and cause us to marvel at the largeness of the spirit which dictated the form.

IV

THE GREEK EXPRESSION

THE IONIC AND THE DECADENCE

THE GREEK EXPRESSION

THE IONIC AND THE DECADENCE

IN contemplating a typical Ionic structure one is not impressed with that sense of power which fills him in the presence of a typical example of the Doric; but another impression, just as complete and satisfying, stamps itself upon the mind. The vigorous masculine assertion of the Doric gives place to the charming and gracious feminine appeal. Were the Greeks themselves conscious of the presence of these ideals; conscious of the masculinity inhering in the Doric and of the essential femininity of the Ionic? The Greeks themselves have answered the question fearing, perhaps, that the ages would produce beings insensate enough to ask it. The Greeks knew that life was incomplete socially, ethically, æsthetically, without the presence for coöperation and for contrast, of these two primal factors; and to their minds religion and art, elemental modes of expression, to satisfy must of necessity employ each and both distinctly differentiated as

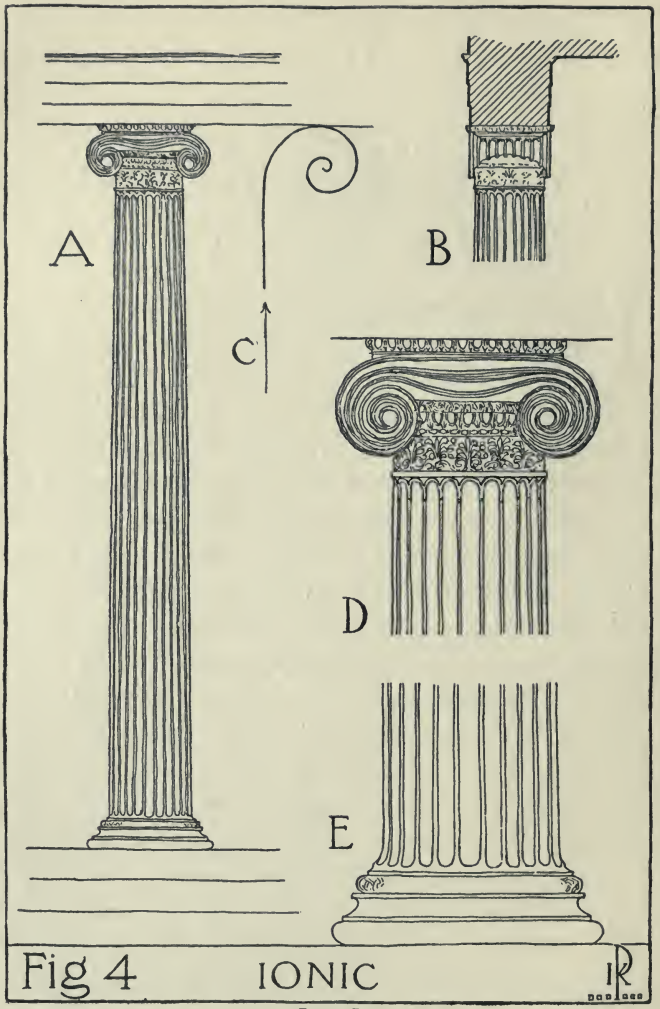


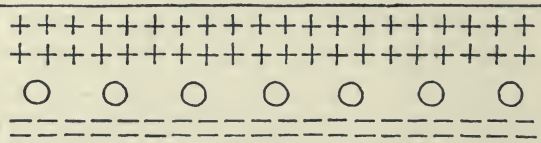
Fig 4 IONIC

in the higher types produced in nature; in witness of this, contemplate the gods and goddesses of the Greek pantheon, the manly men and womanly women of pediment, frieze, and metope. In their architectural abstractions such care was used to keep the types pure and the definition clear that wherever a male figure suggests support the background will be found to be Doric, and wherever the female figure symbolizes structural force the setting will be found to be Ionic. Never does the male figure characterize structure, symbolically, functionally, or interpretatively in the Ionic, nor does the female figure appear in like manner in the Doric. The examples of figures objectifying support which will come most readily to mind are the Atlantes — male figures characterizing support — in the temple of Zeus at Agrigentum, and the Caryatids — female figures really supporting — in the Porch of the Maidens of the Erechtheion at Athens. A recognized distinction between the two orders is that the Doric employed sculpture as ornament while the Ionic incorporated sculpture into the structure. There can be no better exemplification of this than is given in the instances cited. As to which of these particular examples or types embodies the purer æsthetic expression, I shall discuss later; but now, having noted that which characterizes and differentiates

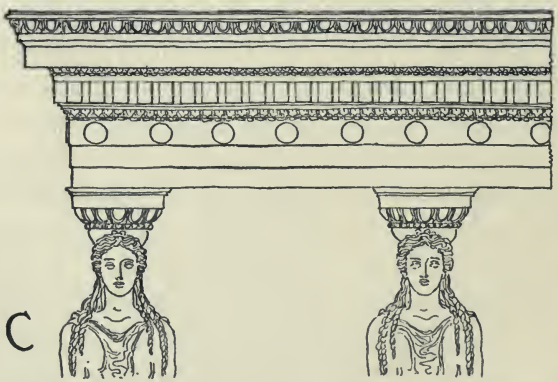
these two orders, we will proceed to study the Ionic (Fig. 4–A). Let us begin with the column noting first its contact with the earth. What will strike us most forcibly is that the impression of upward thrust gained from the Doric is wanting, and, in its stead, we feel a gracefully soaring tendency which starts from the moldings at foot of the column. The most attractive combination is known as the Attic base. This base (Fig. 4–E) is paralleled in music by certain introductory passages such as the " call to attention " which opens the Mendelssohn Wedding March, or by preludes which, while they may or may not call to attention, suggest the mood and epitomize the theme which is to be developed later. We may gain, perhaps, a more complete idea of this essential characteristic of the Ionic by a comparison and contrast. In the Doric we feel the firm tread of a powerful man upon the pavement. In the Ionic the sentiment is that exhaled by a charmingly robed, radiant woman with a dainty, arched foot, and, to cite a modern detail, a gracefully curved heel. The comparison is not altogether inept. From the graceful lines of this base, where the force seems to originate, it rises through the slender shaft with poise and vitality, as evidenced by the fine entasis and rich flutings, to meet with dignity and with gracious acceptance the service it is

to perform in the cause of unified and idealized architectural expression. The Ionic displays no want of force, no lack of character, but it does interpret that truly feminine spirit of yielding grace which man may recognize and appreciate in woman, but which he cannot truly or sincerely make a factor in his own self-expression. In the Ionic the abacus is not employed to assist in gaining a desired proportion, for the capital does not project in advance of the face of the epistyle; but it is used to effect a pleasing transition between the volutes of the capital and the entablature (Fig. 4–B and D). It is quite possible to conceive of the member in which the volutes develop as being a refinement on the Doric abacus, the band or necking crowned with the egg and dart molding corresponding to the echinus with its annuli; but it is much more logical, the character of the Ionic being understood, to regard the typical form of the voluted member as a highly conventionalized expression, adopted for the sake of simplicity and clarity, of the underlying idea of a rising force fulfilling its mission and developing a graceful return upon itself (Fig. 4–C). The egg and dart molding or the ovolo, as the case may be, is undoubtedly a transitional member designed to carry the ascending movement within the shaft up through the capital into the entablature.

A DIAGRAM OF FIELDS OF FORCE
AND NEUTRAL ZONE IN A BEAM



B THE DIAGRAM MADE INTO A PATTERN



C

THE ENTABLATURE PORCH OF THE MAIDENS
Fig 5 ERECHTHEION

But beautiful and expressive as is the Ionic column, with its component parts, it is no more subtle or characteristic than is the Ionic entablature, which is the most clean cut and clear æsthetic interpretation of structural forces correctly functioning that exists in the domain of architecture. We should judge architecture, as we do humanity, from its highest expression and not from its failures or at its lowest ebb; and so I shall direct attention first to the entablature of the Porch of the Maidens of the Erechtheion, for finer than therein æsthetic feeling for function never has been embodied. The extreme of poise and balance was necessary in this particular example that the presentation might not seem brutal; for the rising forces which meet this entablature and sustain it are cast in the female form — the form of the goddess — and the Greek would impose upon the goddess no ruder task than bearing a burden of flowers! I must refer again to those forces which I have mentioned as operating in the entablature, the compression above, the tension below, while between them lies the neutral axis along which neither force is operative. In structural analysis the engineer designates the compressive stress by a plus sign (+) and the tensile strain by a minus sign (—). The area over which, or the axis

along which, no force acts might well be indicated by a zero (o). Let us arrange these signs in the order and position in which the forces they represent are active in the beam (Fig. 5–A), and let us even refine the pattern by a repetition of its parts (Fig. 5–B) and then compare this with a fragment of the Porch entablature (Fig. 5–C). Is not the result of the comparison suggestive, if not startling? I would not for a moment be understood as saying that the Greek laid out a series of + and — signs, and from the diagram shaped the forms of the entablature; but I insist that the æsthetic intuition of the Greek, guided by his reason, compelled him to use in the compressive field the broken lights and shades of the dentils, *et cetera,* which the series of + signs suggests, and in the tensile field the fine-spun lines of tension into which the — sign is so readily translated. The presence of the circular disks in the neutral zone causes me to marvel at the keenness of the Greek's perception and the refinement of his expression, for, to me, it means that the Greek deemed that he had so finely balanced his opposing forces that perfect poise had ensued; that he had so truly expressed this equilibrium that there could be no suggestion of disturbance or unrest even with the delicately disposed disks or rollers intervening between the forces. A member less

perfectly poised and with parts less subtly related would have been out of harmony with the graceful Maidens of the Porch. What we see in this entablature may stand as a type of the Ionic entablature generally; the fine-spun lines of the fasciæ of the epistyle, the neutral zone of the frieze given over to applied ornament, and the broken light and shade of the decorated moldings of the cornice, and of the dentils whenever the latter were employed. Never in his finished product does the Greek make the fatal æsthetic mistake of introducing masses or fields of broken light and shade into the lower portion of the entablature even in the form of decoration.

As we noted in the analysis of the Doric so, too, shall we see in the Ionic: that there is an aspiring force rising through the forms of the entablature seeking perfect expression as the structure approaches the limit which is set for it by its creator. This expression is in obedience to that law of nature which causes the flower to break forth in beauty at the end of the stalk; which causes the oak, the elm, the pine, the modest shrub, to take on each its characteristic and beautiful outline and individual mass. It is, as I have said, the expression of a reconciliation to and an acceptance of what is implied in the command " thus far shalt thou go and no farther," and the donning of a

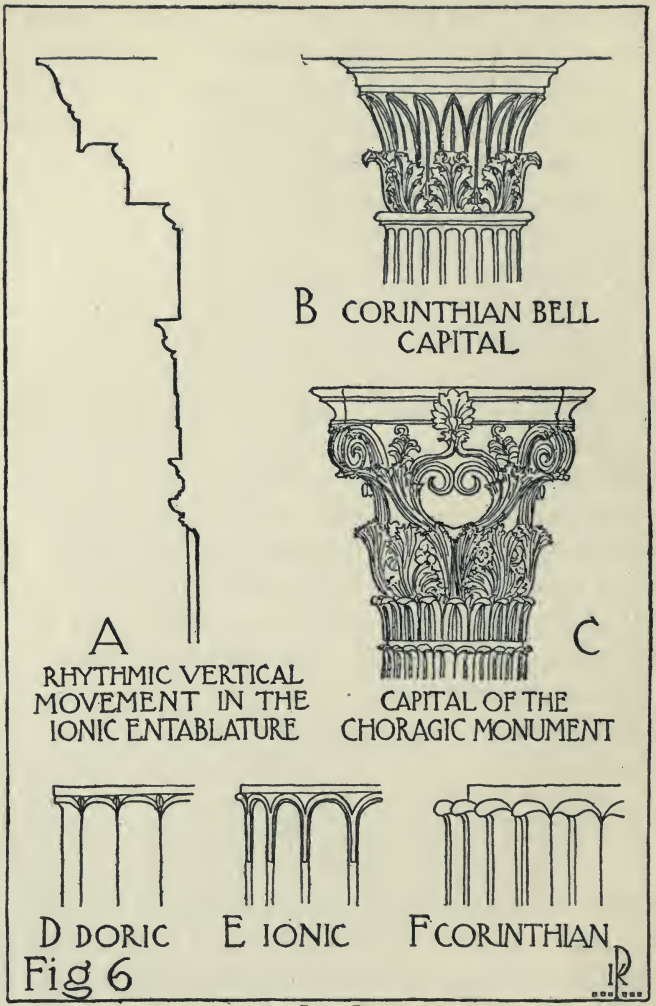

A
RHYTHMIC VERTICAL MOVEMENT IN THE IONIC ENTABLATURE
B CORINTHIAN BELL CAPITAL
C
CAPITAL OF THE CHORAGIC MONUMENT
D DORIC
E IONIC
F CORINTHIAN

Fig 6

beautiful form to express the spirit with which one meets the end. To follow the forms and curves of the members of the entablature as seen in section (Fig. 6–A) will convey to the mind an impression of how beautifully the Ionic Greek arose to the sublime occasion. The rhythmic movement starts upward through the fasciæ of the epistyle, each developing a richer and fuller line of stress as the spirit rises; up through the frieze it springs until it vibrates in the light and shade of the cornice, to emerge in the graceful cyma or crowning molding which suggests rather the repose after struggle than a continued participation therein. The cornice is like the breaking crest of the spent wave, like the flower at the end of the stem, when nature's forces, having achieved that for which they struggled, seek the end in delicious repose. That is the correct interpretation of the crowning members of a structure and the sentiment they should exhale.

With the full and final development of the Doric and Ionic orders ended that phase of Greek architecture in which functional forces were interpreted in altogether abstract forms, and the reign of the literal and concrete set in. This later phase marks the beginning of what in my chapter sub-head I have denominated "the decadence." Holding as I do the exalted view that architecture

should be an expression in the abstract, the term "decadence" expresses the nature of the appeal to me; to many, undoubtedly, the development of the Corinthian was an advance. I seem to see in it a descent from the high intellectual plane to the emotional, or rather, the sentimental. The demands of luxury and the desire for ornament for its own sake should, it seems to me, have been met in some manner other than in perverting or displacing truly functional forms. I yield to no one in my admiration of the acanthus in the hands of the Greek sculptor, but were it to have a place at all was not the place for the "woven acanthus wreath divine" in the frieze or upon the wall panel, in the zones or fields of repose, rather than in the capital? The later Ionic builders must have known the feature thoroughly and may have been tempted to employ it; but fidelity to the ideal forbade and the Ionic order developed in its purity. The Corinthian builders, lovers of ornament for its own sake, were not content with functional expression no matter how highly idealized. They of themselves or through contact with the Doric and the Ionic realized the real meaning of the capital, knew that it "exemplified a conflict," but did not see fit to beautify the struggle; they sought rather to conceal it; and so they bound a beautiful acanthus fillet around the "sore" spot, and hid,

as it were, the functioning forms with a fig leaf. The Corinthian builder in all probability started out with a certain appreciation of the idea which underlay the Doric and the Ionic, for in his earliest work he employed a bell-shaped capital [1] which developed against an abacus a functional curve unlike that in either of its predecessors; and on the surface he sculptured forms which may easily be conceived as expressive of developing force, for they are not unlike the forms which terminate the flutes or channelings in the Temple of Demeter, Paestum (Doric), in the Erechtheion at Athens (Ionic), and which appear highly developed in the monument of Lysicrates, Athens (Corinthian) (Fig. 6–D, E, and F). Take the capital of the Coragic monument. Even in this capital (Fig. 6–C), which embellishes a structure which is almost wholly monumental and decorative in its character, the Corinthian could not entirely rid himself of the earlier influence, and the manner in which it impels him to carry the feeling

[1] This bell capital (Fig. 6–B) bears but superficial resemblance to the Egyptian from which certain authors have seen fit to make the Corinthian derive it. But no bell-shaped Egyptian capital had an abacus or any member corresponding to it; nor did the curve of any Egyptian capital develop functionally against the lintel, though in several instances it would seem so to do. However it was not introduced for that purpose, but for one vastly different, as we have seen.

of the flutings into the lowest member of the capital is almost pathetic. This concession overpowered him, and he gave way immediately and completely to his new-born love of ornament for ornament's sake. There is the hint of a deeper meaning in the forms of the Corinthian capital which I shall have occasion to touch upon when we come to a discussion of democratic ideals, a meaning which was felt in the Middle Ages; but as the ideal which called for its expression never entered as a compelling factor into Greek life, it could not have influenced the forms of Greek art. Had it been an influence I doubt the capacity of the Corinthian to receive and act upon it. In his later and fully typical capitals the Corinthian always introduced a line which returned upon itself under an abacus after the manner of the Ionic volute; but if an idea of force underlay the form, the attenuated form expressed a thoroughly anæmic force. In the Corinthian the members of the entablature were consistently and correctly developed, with special emphasis on ornament, but at the same time with a recognition of that law of aspiration which is so firmly planted in the heart of nature and which so strongly strives for expression in the activities and in the conscious, as well as subconscious, efforts of humanity. Yet in spite of this there was in the Corinthian an evident

confession, though possibly an unconscious confession, of a lowering moral tone.

As I shall repeat later in another connection, architectural forms do not develop from structural necessity but in response to æsthetic demands. The æsthetic imagination of any unified race or nation colors the expression of all its activities, shapes in a measure its social usages and religious forms. Uses may have been dictated by religion; form was dictated by æsthetics. This was true of the Greeks. Religion may have called for the portico and the colonnades surrounding the temples; it probably did, but art gave them their significant forms. In so far as the altar and the statue of the god were concerned all the ceremonial and ministration might have been confined within walls; but an external expression of what was within, of the deep significance of what was going on within, was demanded by the æsthetic instinct; hence the presence of the columns. The column from the dawn of religious consciousness has been revered almost as a god. It was a guide post indicating the way to the gods; a sign post indicating their presence; hence its employment in temple architecture. The Egyptian made it a symbol; the Greek used it as a means of high ethical and æsthetic expression, as we have seen. The entablature drew these columns into a unity; a

unifying ideal drew the gods into a pantheon. The god in this pantheon found expression in the Doric column, the goddess in the Ionic, in each the definition being clear, concise, and adequate. But the gods did not stay adequate in the Greek mind; confusion entered; the expression no longer sufficed, nor was the definition clear. Man, freed from the gods, sought to express himself. Austerity, introspection, idealism gave way to luxury, superficial adornment, and weakening force. The Corinthian began the movement in this direction and completed it so far as classical Greece is concerned. While the image of the god is in its shrine and incense is burned before it and reverence paid it, it is beautiful in its austerity; but when the shrine is desecrated and the image is removed to be set up otherwhere, merely as an object of ornament or of bric-a-brac, its purity of ideal and its austerity of form no longer appeal, and it is draped with ribands to make it pretty and with garlands of natural leaves to cover its nakedness. As this new effect is copied and reproduced by others to whom the true significance is lost, but who crave ornaments or decorations, the garlands are sculptured or molded upon the figure from which the essential characteristic has vanished. The figure no longer symbolizes the godlike attributes; the column no longer indicates

the presence of the god. To me it seems that something has been lost, some light has been shaded, some idealism has vanished; and so I feel that with the coming of the Corinthian came also decadence. It was given, however, to the grandeur that was Rome to tarnish the glory that was Greece; to create or apply, merely for ornament, forms which did not function, columns which did not support, and entablatures which did not span the void.

V

ROME, ROMANESQUE, AND THE GOTHIC

ROME, ROMANESQUE, AND THE GOTHIC

ROME cannot be ignored in a study of the changing forms of manifestation, and the continuing influence, of that vital spirit we have been analyzing, although she did so little toward aiding in any sincere architectural manifestation whatsoever, and did so much toward interrupting the continuity of the influence; for Rome was a great builder, and her buildings were instinct with power. But the Romans were engineers rather than architects, and architecture is as far removed from engineering as poetry is from prose. Architecture, the art, as far transcends engineering as mural painting transcends protective coating, or as the dance transcends mere locomotion. We are interested in Rome at this juncture because she developed a great arcuated system of construction which, later, under the wand of northern and eastern magicians, was touched with the vital spirit and became real architecture. We are interested, also,

because Rome exemplified in all her endeavors in art that philosophy of life which bids its followers " seem beautiful." She seemed to realize her own inability to create ideal beauty — she probably had little conception of it — but she craved ornament in which to cloak her structures and give appropriate setting to her sensuous and overpowering social and governmental life. She seemed to recognize in the architecture of Greece and her colonies a fitting form of embellishment; not knowing architecture as an expression of life but merely as the skin coat of a building. And so Rome imported artisans from Greece and bade them apply the exotic Greek forms to the native Roman structures, with the resultant hybrid which has been the bane of architecture in the Western World. How different had been the architecture of the Renaissance had Rome bidden her Greek servants apply their genius to a real solution of the problem of idealizing the Roman form of construction! The western Empire was never fair to Greek genius as the eastern Empire always tried to be — conserving the Greek spirit and giving the world through it the wonderful structure of Hagia Sophia. But what was needed to interpret Roman life was not Greek genius, but Roman genius, and that Rome could not produce. There is no gainsaying the power, the magnifi-

cence, and the dominating character of the Roman structures even behind or through the pseudo-Greek mask; while the great engineering works, like the aqueducts, the viaducts, and the unmasked Pantheon, approach real architecture perhaps nearer than poetical prose approaches real poetry. It must be said in justice to the Greeks who were called to produce architecture for Rome that when they were not degrading Greek forms by applying them to an arcuated structure, but were working in the trabeated system purely, they carried out the structural expression in the entablature with fine logic and to a degree of richness quite commensurate with the power and grandeur of Rome, and quite surpassing anything which had been attempted even in the most ornate examples of the Greek. In expressing the upward movement within the entablature, in objectifying those forces which rise to carry the cornice and the roof and complete the design as it approaches the superimposed "limitation of finality," these Greek architects of Rome in many instances developed grace and charm in the highest degree and enunciated clearly, though as it might have seemed to the early Greek redundantly, a philosophy of life far in advance of that system which enjoins one "to seem beautiful," a philosophy which demands of its adherents that in all their

acts they "be beautiful." The fact that these architects did seem to comprehend so fully the functioning of the entablature makes it all the more surprising and distressing that they should have used this feature as a string course; that they did not change the forms of the members, eliminating entirely the expression of tension, and strengthening the impression of vertical support; for a string course cannot function in tension, nor can it function compressively in the horizontal plane. Rome furnishes in her arcuated structures with their superficial adornment a supreme object lesson in that perversion and degradation which follow when taste is vulgarized by wealth, and vanity directs the expression of power. Often the entablature is bent around the arch into semi-circular or segmental form without a change in its sectional outline. Thus the arch, which always is in compression in all its sectional area, retains superficially an expression of tensional functioning in its inner rim. If the beam, which the entablature is designed to typify, is to be bent to arch form, as a bow is bent, then the tension must occur, and should be indicated, if at all, in the outer rim. But a beam is never so bent; and an arch can never so function. And yet the architects of the Renaissance, exponents of "classic culture and refinement" as they are supposed to

be used, and their disciples of today still use, these forms in this debased and debasing manner all unconscious of the violence they are doing to real culture and refinement. It is one of those habits which make of architecture a whited sepulchre. If Rome, with all her power and riches and love of display and magnificence, could have been sincere and introspective and creative, what a great real architecture might have been hers. But she could not. With her arcuated forms calling for the original touch of creative genius, with, at the same time, a racial and intuitive feeling for horizontality and what that implies in architecture, she frittered away an opportunity which will never occur again for developing a great real style.

The builders of the Romanesque, scattered, impotent, ununited as they were, felt the stir of the spirit which Rome with all her unity and resources had missed. They touched the massive arches with a spirit of functional beauty; and what with others had been dead form became with them matter instinct with life. The Greek idea employed upon a column and beam system had been to express the rising force within the column, to beautify the conflict at the point where opposing forces met, to express the complex forces at work within the beam, and to bring all the discordant

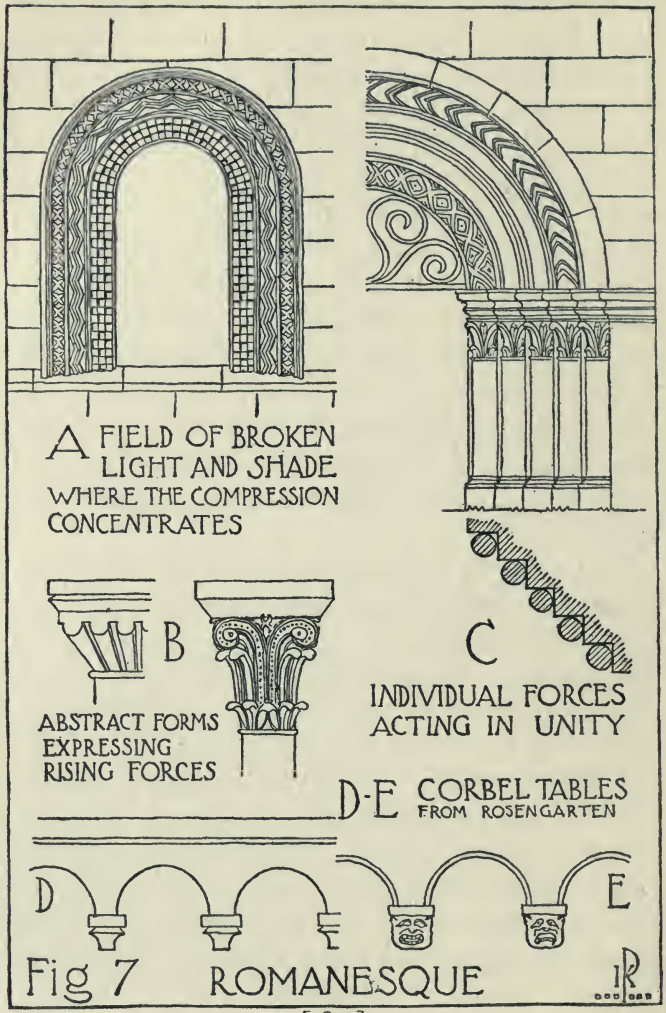


Fig 7 ROMANESQUE

factors into one harmonious whole. The field of operations for the builders of the Romanesque was not a column and lintel, but a massive wall pierced by arched openings or a mass pierced with vaults; and so they amplified the Greek idea or, better, modified it to meet the changed conditions. Where the repose of the mass was interrupted, as by openings (Fig. 7–A), where stresses were forced to change their direction and operate under new or altered conditions, there the Romanesque builder took opportunity to apply his theory of beauty — which was a law of life — the old Greek theory that necessary stress and strain must not result in ugliness, but that the outcome of the struggle must be beauty. In a way his problem was not as complicated as was that of the Greek, for he had but one force — compression — with which to deal, tension or any need for its expression being eliminated by the nature of his structural principle. Though into the Greek system tension entered to complicate the situation, yet compression operated in but two directions, vertically in the column and horizontally in the entablature. In the Romanesque, on the other hand, the compression acted vertically, horizontally, on the diagonal, in the curve, in every conceivable direction, and, at times, all in one composition. So the problems of harmony and unity were not

altogether simple ones for the Romanesque architect. But he entered upon his work in a spirit of sincerity, using forms (Fig. 7–B) as abstract as those of the early Greeks and functioning in the same manner; directing the force through columns (Fig. 7–C) where it seemed desirable; letting it play through fields of broken light and shade where the unity and beauty of the composition so demanded. The Romanesque arch is always frankly in compression and the frankness is never minimized. The early builders were imbued with the horizontality of the classic periods — individualism and intense spiritual emotionalism had not yet entered as compelling factors into life — and horizontality was expressed by string courses and corbel tables (Figs. 7–D, E) in which the forces sprang vertically, the tendency being always upward, always expressing that aspiring spirit in man which will not down and, wanting which, as sometimes happens in case of a temporary rebuff, man lapses from his spiritual estate.

The Romanesque marked the transition between the old and new orders, between the severe intellectual restraint of the Greek and the individualistic and highly emotionalistic nature of mediævalism. The earlier Romanesque forms are marked by classic restraint; the later forms foretell the imminence of mediæval emotionalism.

It were well to emphasize the point that the Romanesque was transitional — a leading of one form of idealism into another — and not a stopgap filling in the space between the end of one and the beginning of another distinct order. The Greek religion called upon the individual to sink himself in the welfare of the city or of the state. The forces act as one, individuality being merged in the mass; and so the flutings of the Greek column do not express individual forces rising in the column; but they characterize the resistance, the vitality, the unity of the single force within the mass. The Gothic piers, developing in their final expression, as they do, into clustered columns, typify the individualistic tendency of the age, the combining of individual and single forces toward the achievement of a common end. The Gothic is the expression of a democratic or communal as opposed to an aristocratic or centralized order of society.

It is in the temples, of the Greek, of the Romanesque or transition, and of the mediæval or Gothic, that we find the characteristic quality of the particular age most richly and vividly expressed; for into his temples man has always put the fullest and most characteristic expression of himself. These temples are the expression of man's religious nature, which takes its character from the life and

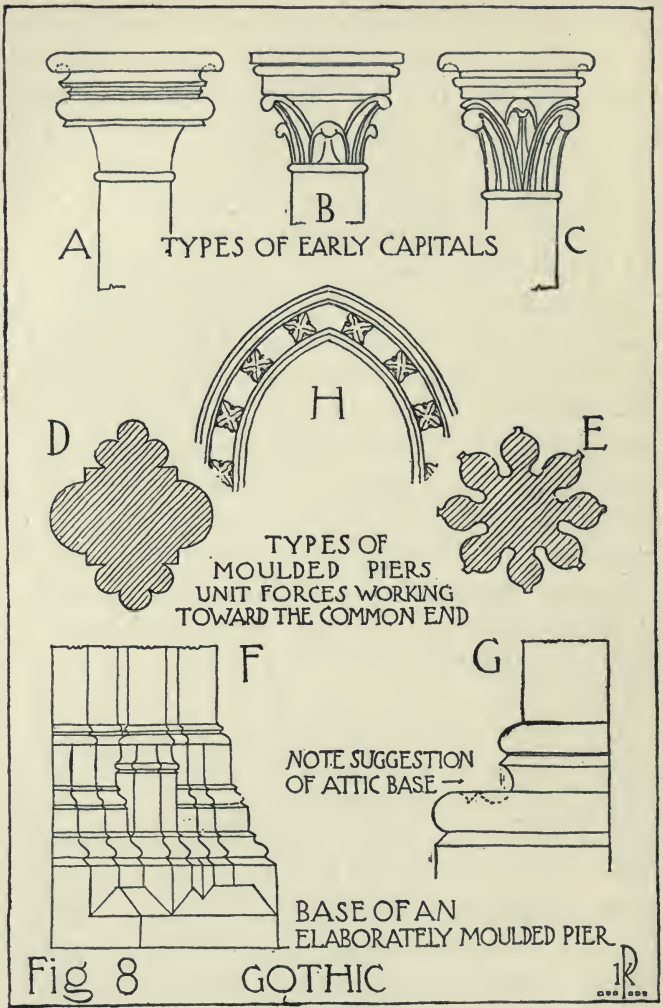

A
B
C
TYPES OF EARLY CAPITALS
H
D
E
TYPES OF
MOULDED PIERS
UNIT FORCES WORKING
TOWARD THE COMMON END
F
G
NOTE SUGGESTION
OF ATTIC BASE
BASE OF AN
ELABORATELY MOULDED PIER

Fig 8 GOTHIC

idealism of the age, and are not the embodiment of creeds. The classic temples were pagan when the thought was pagan; they were Christian when the thought was Christian, but through all they were classic. The Gothic temples were mediæval always and were Christian only as mediævalism shaped the Christian thought of that Era. If Christianity persists it will worship in temples different in form from either the classic or the Gothic, possibly in temples embodying some of the spirit of each (as did the Romanesque); or else the race will not advance, but will lapse into a barbarism from which there must be a new and altogether independent awakening; not a rebirth, but a new creation.

As the Greek spirit manifested itself throughout the period of the Romanesque, so did it enter into the beginnings of the Gothic and express itself in abstract forms (Fig. 8–A to G) which persisted to the last in spite of the introduction of naturalistic forms significant of personal predilections, of individual loves and hates. The forces in the clustered piers rise from a molded base quite similar in character and function to the attic base of the Ionic (Fig. 8–G). To preserve the unity of the clustered members they sometimes are banded by moldings, which do not check the ascent, but do materially lend suggestion of sta-

bility. The pier is crowned with a capital, sometimes simple in form, sometimes more involved, as would of necessity be the case where each of the individual shafts of the cluster had its own capital intervening between the shaft and the arch which springs above. The line of force developed in the Gothic capital, as in the Romanesque, is one similar to that from which we may readily and logically conceive the Ionic volute to have evolved: the upspringing force yielding to the pressure from above and given its initial direction and character by a necking similar to the band which encircles the mass, and which keeps the forces intact (Fig. 8–B). Sometimes this expression takes the form of a molding continuous around the capital; sometimes it takes the form of individual arms of force, as is suggested by the detail of the bell capital of the Corinthian. Sometimes one of these individual arms rises above another and similar one, suggesting two lines of individual force developing in unity, in the pure mediæval spirit, one force developing its own character and perfection in aiding another to achieve the common end (Fig. 8–C). This is what the Corinthian may have had in mind and may have been endeavoring to express in applying his two fillets of acanthus leaves; it would have been an attempt at the expression of a democratic

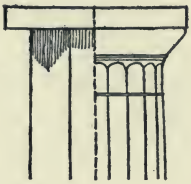
ideal. But really democracy was never achieved in Greece, that is, not in the mediæval nor in the modern sense; and so, as already indicated, we must believe that the Corinthian leaf band was introduced for the sake of embellishment rather than to embody a deeper meaning or express a higher ideal. This mediæval expression, however, holds within it a potent suggestion and a rich lesson for today. In the arch the lines are refined, while broken masses of light and shade produced by rhythmically spaced bosses after the manner of the Ionic dentils or consoles (Fig. 8–H), or by canopies and carvings comparable in a measure to the Doric triglyphs and metopes, convey an idealized impression of the compression acting within and the changing direction of that force in the soaring member.

While, because of the absolutely different mental attitudes of the ages, the mediæval expression was not as refined and as intellectually satisfying as the Greek, yet there can be no question that the same idea underlay both, the idea of embodying in the forms and lines of mass and detail an æsthetic conception of the action and interaction of the forces inhering in the structure. As already stated, the Greek accepted and adopted a trabeated system as best adapted to the expression of his restrained and self-contained intellectualism.

The mediæval man evolved an arcuated system which lent itself fully and richly to an expression of his wellnigh unrestrained and uncontained emotionalism. Each was working in terms of force; the one with force calmly and serenely meeting force; the other with force actively resisting force with balance and counterbalance, with thrust and counterthrust. The one sought an expression of final poise and repose; the other expressed an aspiration and an ideal which could not find fulfillment in things material but must ever draw the spirit upward. The one expressed in completeness all that is implied by horizontality as interpreting the intellectual life; the other gave rich expression to that incompletion and lack of finality which inheres in verticality. Each embodied completely, in his æsthetic expression of the lesson and meaning of life, a conception of that ascending spirit in man, that spirit which will not down, but which must, in this life or in another, be crowned with an emblem of perfection and of destiny fulfilled.

VI

ORIGINS AND ILLUSIONS



ORIGINS AND ILLUSIONS

IN this chapter I am entering a field over a portion of which considerable controversy has waged, and in which continually things are being "seen" which really have no cause for being seen at all. They can exist, most of them, only in matter-of-fact minds of a mechanical turn and not at all in minds which are endowed with any degree of æsthetic imagination. Æsthetic imagination is spiritual in its essence and does not need to be stimulated by the "adze," by the turning lathe, by interlacing branches of standing trees, or by any of the physical facts of the material universe. The spiritual ideal is quite sufficient to sustain the æsthetic imagination and the soul of man. I say this because so many writers of architectural history make so much of physical origins, losing sight of, if ever they saw, the real significance beneath the form. Thus pages, I may say volumes, have been written in asseveration of the idea that the Doric Greeks received the origi-

nal suggestion for the column flutings from the adze marks on wooden posts which were tree trunks with the bark blazed away! Did anyone who ever had the slightest conception of the content and meaning of Grecian architecture believe that? If the wooden posts which were used in prehistoric construction were shaped to polygonal section, and there is no existing proof that they were so shaped, it is because that form was inspired by an idea, and not because the adze would naturally leave the post in that shape, for it would not. The form resulting from the use of the tool would naturally be more nearly cylindrical; so that if the workmen were at some pains to produce the polygonal form it must have been for some specific reason; and that same reason held in higher degree in the more finely developed and civilized minds which later sought to express themselves in stone. Even had the Greeks blazed flat surfaces and sharp angles or edges on their wooden posts, and, again, I say no proof exists that they did so, it does not follow that the form suggested the channelings in the stone shaft. The channel was the expression of a mental concept made possible of realization only through the nature and employment of stone. Writers of some repute have gone so far as to suggest, if not to aver, that the Greeks, the greatest masters of idealized con-

struction, could not think for themselves but must needs go to Egypt, to the rock temples of Beni Hassan, for instance, for an exemplar of how wooden forms might be translated into stone, which, having found, they adopted into their temple construction. Let us leave out of count any such altogether baseless notion as that these forms found in Egypt were "proto-Doric" — they may have been *pre*-Doric — and look at the matter from another angle. The stone posts of Beni Hassan, some with eight flat sides, some with sixteen, and some with sides slightly channeled (showing that their origin was stone), are entirely devoid of any suggestion of entasis; and each is capped with a rectangular pillow block between which and the shaft no molding intervenes. This latter fact alone removes them absolutely and infinitely from any possible relationship to the Doric. There was no Doric, or no idea approaching the Doric, until the echinus interposed its beautiful and resilient line of resistance between a richly channeled shaft and an abacus which existed not for structural but for purely æsthetic reasons. If one wishes to appreciate very fully the difference in "feeling" which so far separates the real Doric from this so-called "proto," he can readily enter into the spirit, or have the spirit enter into him, by the following

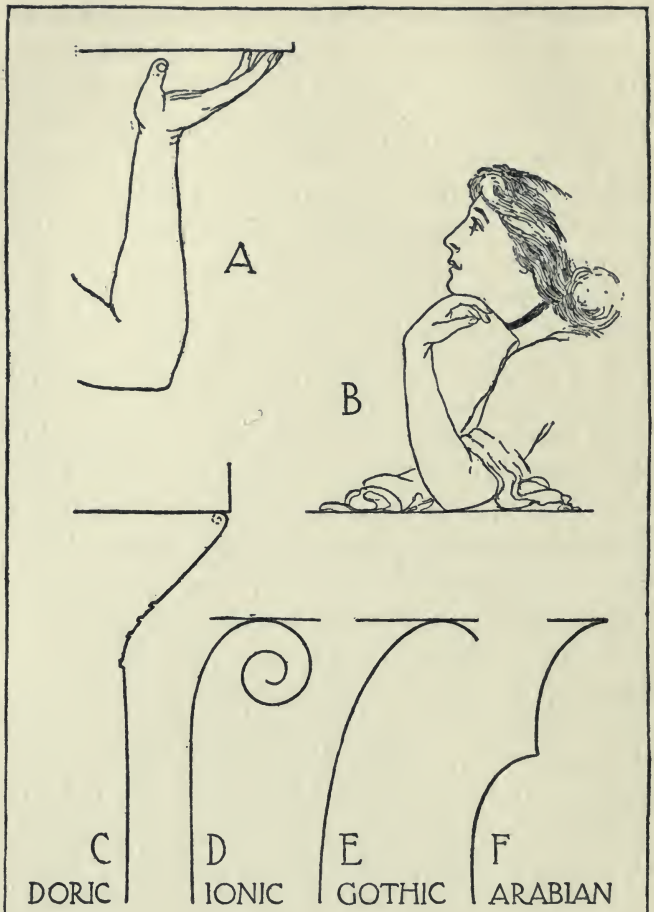


Fig 9 · TYPICAL LINES OF FORCE

experiment: go into a low-studded room, and standing upon a support which will just admit of an erect posture, press the top of the head against the ceiling with the axis of the body in a vertical line; the sensation throughout the body will be that of a hopeless, lifeless resistance to a brute force. Then, with the palm of the hand toward, but not touching, the ceiling, press upward, meeting the resistance with the tips of the fingers. The sensation in the body will be that of buoyant, vital force rising hopefully and eagerly to meet the resistance. Now look at the outline of the hand as it exerts this upward pressure and take note of the play of muscles in the forearm. The back of the hand forms the line of a beautiful refined Doric echinus; at the junction with the wrist will be seen the outline of the fillets or annuli (Fig. 9–A). The sensation in the forearm will suggest the meaning of the flutings or channelings, while its outline will reveal the truth and the practical and æsthetic necessity of the entasis. You will be a man, probably, conducting this demonstration, and the force you exert will be a masculine force and the lines will be lines of masculine expression. If a woman of the gentle feminine type is watching the experiment, she, naturally, absorbed in the process, will let her chin rest on the back of her hand while the elbow is planted upon the arm of

the chair or on other convenient resting place (Fig. 9–B). The force she is exerting in her arm is a feminine force and the lines of her hand are lines of feminine expression. This is absolutely in accord with Greek ideals of manliness and womanliness, of masculinity and femininity; for these lines as seen in art are in their origin expressions of Greek ideals. The Greeks endowed their gods with their idea of masculine characteristics, among which were physical power, mental vigor, and spiritual resilience. They endowed their goddesses according to their idea of feminine characteristics, among which were softness and roundness of physical form, refinement of mentality, and grace and sweetness of spirit; and so the Doric was the masculine architectural expression of the god and the Ionic the feminine architectural expression of the goddess. I am not saying that the Greeks, seeing the lines of the hand developed under these two conditions, said, "Go to, now, we will translate *this* form into a Doric echinus, or *that* form into an Ionic volute," but I maintain that the Greeks did feel and embody in their architecture what you feel in your body in so meeting resistance, and they found an expression for it in wood or in stone or in whatever material they employed in their temple construction. Our writers do not stop with evolving

flutings, smoothly concave and parallel with the axis of the shaft, from adze marks roughly concave, if at all, and at right angles to the line of force, but must need find or devise wooden models for the members and details of the entablature. The guttæ are wooden pin ends, as are the mutules; the triglyphs are developments of beam ends, regardless of the fact, which is stated by the most observing and erudite of them, that there is to be found no example or record of beams having been placed opposite to the triglyphs, but that so far as known the beams rested above them! I have tried in a preceding chapter to make clear my idea of the real meaning of the triglyphs and other members of the entablature, both in the Doric and the Ionic, and even if one does not see fit to accept my conclusions, I do not see why, whether or not the original was of wood or of stone, the triglyph should not be conceived of as functioning structurally purely as a vertical support. Why drag in the unknown, the problematical, to explain the obvious? There are those, I appreciate, who, to grasp it, must have a physical counterpart for a spiritual idea; those who have not the imagination to see that, or how, an abstraction becomes concrete through the operation of the creative mind, but must look for the physical model. Such as these could easily convince themselves that the

Creator was led to fashion man through seeing a doll baby which some cosmic infant had dropped into chaos. It may be said with truth that such minds as these are not far removed from the bulk of the architectural profession, who, when confronted with a contemporaneous problem are forced by their limited imagination to fall back on forms developed in another age, under dissimilar conditions, for a different purpose. (This tribute to the profession in passing!)

Probably the most grotesque lack of comprehension as to origins lies in the minds of those who seriously relate the aisles of a mediæval church to " forest aisles " and evolve the pillars and high springing ribs from lofty tree trunks and interlacing branches. This is a pretty idea, conceived by one who never had analyzed the clustered columns and the molded piers and ribs; one who never had considered the vast difference between a social order in which the units combined and worked together harmoniously and enthusiastically, and with the deepest of emotionalism, around a common idea toward a common end, and two tree trunks adding rings year by year and sending branches out anywhere into the blue. It is almost as much of a misconception to ascribe a Christian or a religious origin to the forms which appear in these same mediæval piles. In reality

the forms were not Christian, but were the æsthetic expression of an intense emotionalism which characterized the age and gave color to all its institutions. Mediæval Christianity took on its emotionalism because the age was emotional. All the secular and civil architecture of the age employed these forms and took on this aspect, yet we do not call it Christian or religious but mediæval. Without a doubt Christianity was the fullest flower of mediæval thought and life, and because of that the religious edifices assumed their vast proportions and developed a plan which functioned for Christian uses. The fact that these buildings were mediæval unsuits them in great measure for Christian expression today, though replicas, trivial and otherwise, are being forced into present-day Christian service. Fully as logically might we employ the pure classic forms in the same service. The Christian churches of Rome were classical, yet we do not call the classical Christian architecture, though it is quite as expressive of the Christianity of that time as was the mediæval of its time. The origins of architecture are æsthetic; not religious, not civil, not domestic. The most vital point of all in the matter of origins is this: neither the Greek forms nor the mediæval forms, nor, for that, any other architectural forms, arose from structural necessities or requirements, but in re-

sponse to the richest and deepest æsthetic demands of the age. Greece demanded a horizontal expression and applied its genius to an existing structural system. Mediævalism demanded a vertical expression, and mediæval genius responded with the lofty pillar, the high-springing arch, and the wide-flung buttress. The Orient demanded picturesque and daring fancy, not to say fantasy, and the genius of the Arab responded with the slender shaft and the unstable arch. The age gets architecturally, that is, æsthetically, what its genius is prepared to give it; and for its genius the age is wholly responsible.

There are other misconceptions as to origins. For instance, it is held in some quarters that the Greeks developed their horizontal style because the quarries of the region yielded great blocks of stone which could span voids in one piece. That may well account for the development of a trabeated system but not for Greek feeling. It is held, too, that Gothic architecture was called into existence by the fact that the quarries of the North yielded but small blocks. That might well account for the arch or the vault but not for Gothic architecture. Some other and more important factor is accountable for the existence of the Gothic. The Gothic builders really broke up huge blocks into smaller units, which they

shaped to fit the character and exigencies of the design. When the Renaissance relit the candle of Roman classicism and demanded the expression of horizontality in architecture, it was no drawback that the northern quarries yielded only small stones. The drawback was that the designers of the Renaissance could conceive of no expression of horizontality except that offered to them by Rome. In accepting and applying these proffered forms they developed one of the most inharmonious, illogical, and unæsthetic features which ever has cursed architecture — the arch dressed to function as a beam. Nothing architecturally uglier or more restless has been conceived than the horizontal lines of the entablature crossing the radial lines of the "flat arch." Tension expressed where only compression can exist, if the structure is to remain intact! It is a clear statement by the Renaissance, that "Renaissance" is merely a term of convenience — not a definition — and that Greek culture in its purity, with its logic, its poise, its self-restraint, will never again be the controlling factor in life. It is an illusion to allow one's self to believe that small stones are accountable for this expression of degeneracy, which, rather, must be traced directly to the thought of the age.

As for illusions, there are two sorts for us to

consider: The so-called optical, that is where a faulty impression is carried to the mind through the eye, which, because of its natural imperfection, distorts physical realities, and those in which the mind itself is responsible for a distorted mental or spiritual vision. We have had the matter of the entasis in mind so recently that I shall bear upon that detail first. I register here and now, my entire lack of sympathy with any theory which would make the correction of optical illusion in any fundamental manner responsible for the lines which appear in Greek architecture, very especially as affecting the line of the entasis. It may be true that, as is often stated, the parallel bounding lines of a cylindrical column seem to bow in toward each other and so produce a false effect which needs correction. Personally I do not believe it, and especially do I not believe it in relation to a colonnade of cylinders; for there is as great an affinity between the bounding lines of the voids as of the solids, which would of itself correct the illusion did it tend to exist; correct it, even could not the aërial perspective be counted upon to do so. The curve of the Greek entasis originally was too great, and always too subtle, to be accounted for by any such theory. It can have but one meaning: it is the æsthetic expression of a vital force rising in conscious power to meet the

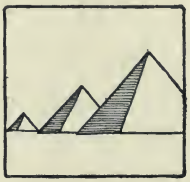
conflict; concentrating, as is indicated by the lessening diameters, as it approaches the point where, having gained poise and self-control, it expands to the resilient, masculine echinus of the Doric or the yielding and graceful, though no less potent, feminine volute of the Ionic. That, to me, is a truer explanation than is the correction of optical illusion. The slightly crowning curves of the stylobate and the entablature are the æsthetic expression of a noble idea rather than the attempt to correct a theoretical illusion, which did it tend to exist would be corrected by its surroundings. A long straight horizontal line seems to sag. That is the theory. The illusion is supposed to be corrected by giving the line a slight curve upward. A long straight line connecting the ends of a number of parallel lines seems to bend toward those lines, and so there is a theory that the Greeks crowned the entablature not only to offset the depressing effect of the raking lines of the pediment, but to overcome the dished effect which would be produced in the entablature by the series of columns rising to support it. But if the vertical lines of the columns seem to pull the entablature downward toward the center, why do they not seem to draw the stylobate upward and so counteract the seeming sag in that feature? In reality, as touching optical illusion, the effect of the columns upon

the entablature need not be taken into account, for the columns by their very design have so marked an effect of pushing upward that they could not produce at the same time the effect of pulling downward. This same upward tendency in the columns, massive and powerful though they be, prevents them from seeming to crush the stylobate. The strong man in action does not seem to crush the platform upon which he stands when he raises the weights in the air. The crowning of the stylobate and the entablature must, then, have been done to conserve the effect of unity; to give from the ground up in all the parts expression to that aspiration, that tendency and will to ascend which is deep rooted in man's nature. Nor was it to correct an optical illusion of spreading that the axes of the columns were inclined inward so as to meet at a point high above the earth, but, rather, to enhance the sublime effect of unity which is a psychological characteristic of the pyramidal form. The Egyptian used the form to minister to the craving for bodily immortality, the Greeks to gain the effect of spiritual unity and in that way achieve deathlessness. The Greeks well knew the effects of interacting lines and contours, but they employed their architectural forms with deeper meaning and purpose than to correct optical illusion merely.

When it comes to the matter of auto-illusion we are encountering a very serious phase of the subject. This operation of the mind upon itself is not confined to artists; it exists among certain critics and philosophizers on art. The processes of art, to use a homely parallel, are not unlike the processes of intensive agriculture, where to be successful the nature of the seed, of the soil, of the fertilizer must be known and understood. Where would the world of science, of economics, of philosophy, and for that matter, of art, have stood today had the real workers in these fields left the direction of affairs to an outside spirit which supposedly could be depended upon to bring order out of chaos? The artist or the philosophizer who maintains that art is purely a temperamental expression unrelated to the solid facts of life, and that the "world soul" will direct the course and produce the national and racial embodiments, is cherishing a fatal illusion. Why the philosophizer should take this attitude I know not; but the artist who assumes it does so to excuse his own lack of mental and moral force. "Artist! know thyself, the life about thee, and thy relation to it—" is a good injunction to be followed by one who wishes to be a factor in the ultimate achievement of national and racial ideals.

VII

THE SIGNIFICANCE OF MASS AND FORM



THE SIGNIFICANCE OF MASS AND FORM

MASS, as mass merely, makes to the mind an appeal quite independent of form or of defining line. Many a huge architectural pile compels by its sheer bulk, as does a mountain or other vast object in nature, altogether irrespective of the subtler message carried by the outline or by the characteristic forms within the mass when such it may contain. Mere size, for itself, is a very minor if not unworthy architectural adjunct. No work of art ever was great because of its immensity; but it is great because of the form to which the mass, large or small, was shaped. The distinction between greatness and great size should be clear in the mind. The great Pyramids do impress by their very bulk, but it is the form which has carried their message down through the ages. The immense religious structures of the mediæval period impress us by their size, but it is their form which inspires in us the deep heartfelt emotionalism which exalts

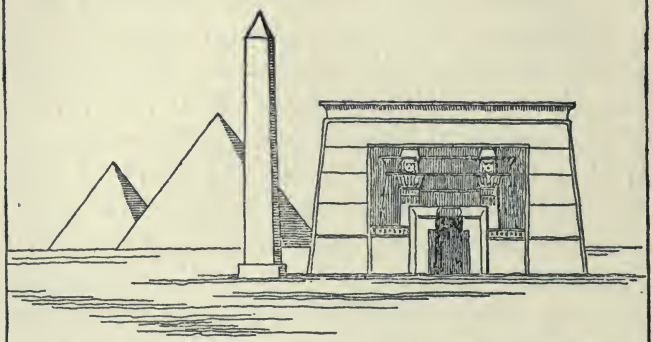
us while in their presence. Without the form the mass would be inert and dead. The temples of Greece are, comparatively, not great in size, but there is a largeness of spirit in their form which is almost overpowering in its intellectual appeal. It is with the effect of mass as characterized and defined by line and form that this chapter has to deal.

The appeal of art is directly to the emotions. This does not greatly limit the field of art, for emotionalism is varied and manifold in its content and in the possibilities of its expression. There is the emotionalism of faith — of aspiration; there is the emotionalism of reason — of intellectual satisfaction. These are the extremes in emotional reaction and between them lies a great range. Each is ministered to and stirred into activity by forms for which the mind, racially dominated or individually controlled, holds an affinity. Thus, the mediæval man would be thrown into an ecstasy of spiritual exaltation through gazing upon masses vertically disposed and dominated by lines ever ascending and forms intermingling and mutually sustaining and inspiring. The Greek would be stirred to the depths of his nature, in a manner just as truly emotional, by contemplation of masses so disposed horizontally as to arrest and crown the ascending spirit and confer

upon the object the charm of sweet reasonableness and intellectual restraint. The Greek would be powerless to fathom the uncontrolled spiritual emotionalism of the mediæval man, while the latter would gain small satisfaction from the poised intellectual emotions of the Greek. Can the modern mind fully comprehend and find complete satisfaction in either of these great manifestations? Unless modernism can spend itself in an ecstasy of faith like that of mediævalism or can practice the self-restraint, submit naturally and gracefully to the keen intellectual discipline and attain to the high idealism of the Greek, it is quite apparent how futile it were to seek now to express the ununified and involved modern conditions by any return in their purity to mediæval or Greek forms in art. That the modern age may know how to express itself and to interpret its own spirit in terms of art it is desirable and altogether necessary that it not only should know and comprehend itself but should understand the significance of the forms which art must use in its interpretation. There should, for instance, be in the mind a clear conception of the significance of horizontality and verticality and a full recognition of the distinct psychological appeal of each. One should disabuse himself of the conception, if it be held, for it is a misconception arising

through misinformation or superficial observation, that horizontality or verticality, as carrying each its own peculiar message through mass, is in any way related to or dependent upon the contour or physical formation of the earth's surface. One hears advanced not infrequently the theory that a long low horizontal disposition of masses is particularly appropriate to a level or prairie country, while a vertically disposed mass harmonizes with a broken, hilly, or mountainous environment. Horizontality and verticality are purely psychological in their bearing and carry each its own peculiar emotional appeal whatever may be the nature of the physical surroundings. As indicated above, the extremes of emotional appeal are to intellectual poise on the one hand and to spiritual ecstasy on the other. The mass which makes the appeal calling forth the intellectual response is characterized by horizontality. The mass which incites to an ecstatic state is distinguished by verticality. If, then, the horizontal form and line appeal to and superinduce the feeling of restraint and restfulness, as they do, then this will be the effect produced by the horizontally designed structure whether it be among the hills or upon the prairie. If the element of verticality be introduced to stimulate into emotional activity the mind which inclines to rebel against the re-

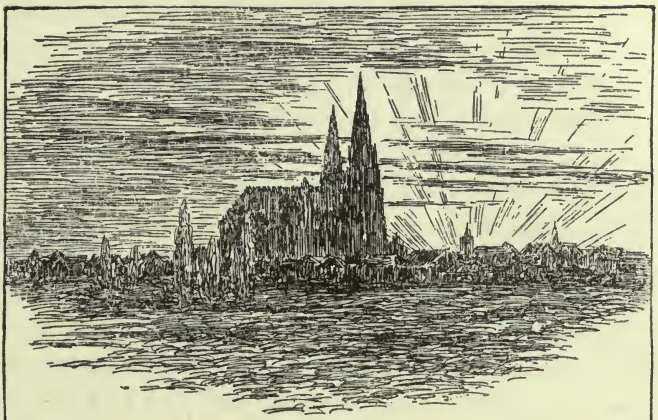
straint of a purely horizontal composition, the effect will follow whether the building be upon the prairie or among the hills. The appeal of mass as defined by its larger outline depends on the natural surroundings, reacting directly as those natural surroundings may have affected the formation of the racial instincts and attributes in man; as they may have sensitized the mind of man and rendered him more susceptible to the appeal of certain forms through the age-long contact of his ancestors with those forms and surroundings. Through such reaction do we account for the unified mind of Egypt and her particular racial characteristics; so do we account for the unified mind and manners, the unified mental and spiritual attitude and customs, of all the great races of the past; so may we in large measure account for the heterogeneity and want of unity in thought and idealism in our own race today. The physical characteristics of the earth, whether it be level, like the prairie and the sand-swept plain, or broken with verdure-clad hills or rugged mountains, and these under either the clear sunny skies of the south or the broken and cloudy skies of the north, influence the defining form of the architectural mass just as they influence differently the character and predilections of the race of humans inhabiting a level or a broken district under a



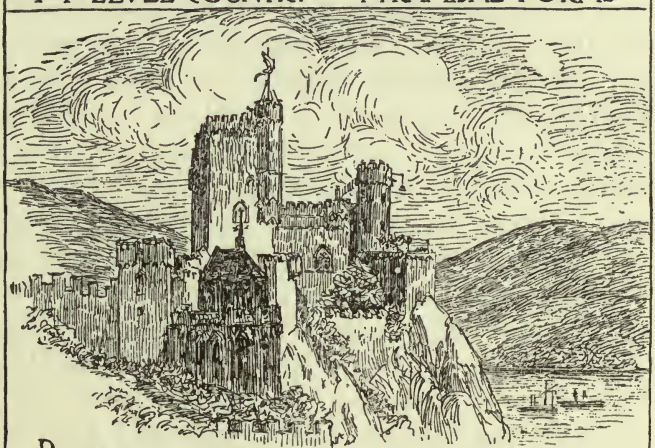
A LEVEL COUNTRY- PYRAMIDAL FORMS

B BROKEN COUNTRY- CUBIFORM MASSES

Fig 10 SUNNY SKIES- FORMS SIMPLE



A LEVEL COUNTRY- PYRAMIDAL FORMS



B BROKEN COUNTRY- CUBIFORM MASSES

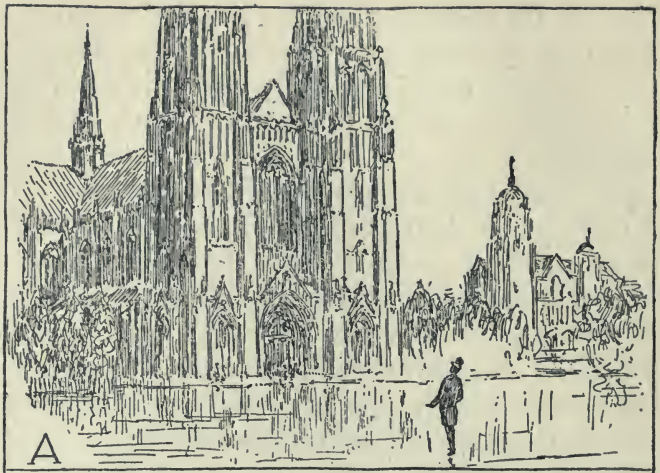
Fig 11 CLOUDY SKIES- FORMS BROKEN

clear or a clouded sky. Generalizing broadly we may say that a level country calls for a distinctly pyramidal architecture, while a broken or mountainous country demands a distinctly cubiform type. Architectural masses under clear sunny skies tend toward simplicity; while under cloudy, broken skies the masses become broken and picturesque (Figs. 10 A–B and 11 A–B). This is in obedience to a law of harmony which is basic in nature; but harmony does not mean monotony, nor does it preclude variety. Rather it demands variety, and nature's constant effort has been to produce infinite variety from the simple cell with which, or with a multiplicity of which, she might have rested content; but higher development means variety rather than multiplicity. Hence, contrasting masses into which the broad level sweep may merge by steps of ready transition, and not masses echoing its essential nature, are demanded by the plain. These masses within themselves may be dominated by the vertical or by the horizontal principle; that will depend entirely upon the mental and spiritual attitude of the races which shape the forms. And so, too, the rounded forms of the hills or the peaked tops of the mountains call for the cube for contrast and variety; and a really sensitive race will answer that call in the spirit in which it is sent, and this without regard as to

whether the forms within the cubical mass are to appeal to spiritual emotionalism or intellectual restraint or to sentiments and passions in the wide field of human desire and aspiration which lies between.[1]

We are, in these pages, dealing specifically with the arts which have for their medium of expression material defined by mass, form, color, and line, and the properties and qualities appertaining thereto. I may use to advantage the pictorial art, albeit diagrammatically, to explain the meaning and effect of horizontality and verticality and to note them as reflected in the attitude and bearing of the sensitive body of a sympathetic observer. This manner of presentation may be more effective than a statement of the proposition in words. Let us observe (Fig. 12–A) a man

[1] Reproductions of drawings by M. Espérandieu, architect, appearing many years ago in an architectural journal under the suggestive title "The Ethnology of Architectural Forms," deeply stirred my imagination and quickened my curiosity in the early days of my apprenticeship when I was just beginning to comprehend the real meaning of architecture. I do not know whether the plates were from a book or whether they were in the nature of laboratory notes. However, they gave me a clue I had been seeking and which I have since followed up with pleasure and profit. I gladly acknowledge a long standing indebtedness to M. Espérandieu whose work I have used as a basis in illustrating several points in this chapter.



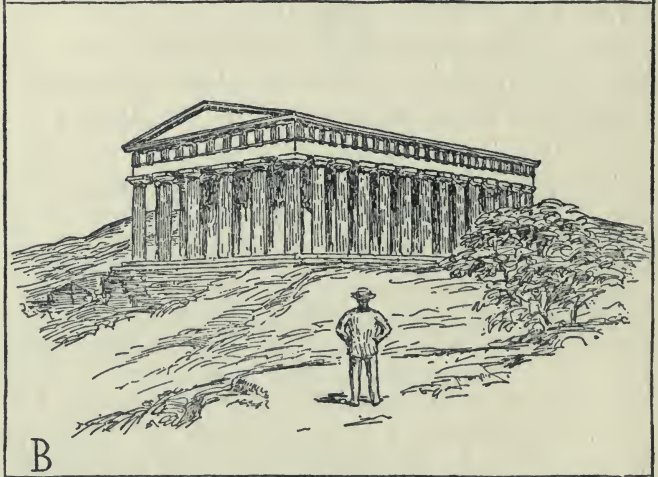


Fig 12 THE PSYCHOLOGICAL EFFECT OF HORIZONTALITY AND VERTICALITY

before a vertical composition. The feet lightly resting on the earth maintain the body in delicate balance; the hands feel the influence of the ascending spirit and are ready to make upward gesture; the head is thrown back so that the glance may go aloft freely. Again (Fig. 12–B), we see a man in contemplative attitude before a building dominated by the horizontal principle. The feet are planted firmly on the ground, the arms are at rest, the head is squarely upon the shoulders; the whole pose is one indicative of poise and complete intellectual understanding. These two illustrations are more than diagrams in the strict sense; they are pictures harmoniously composed, with careful selection as to content. The laws of unity and purpose have been observed and the effect in each case is that of harmony. This effect would be completely destroyed were the human figures in the pictures to be transposed. Neither man could maintain the particular mental attitude expressed in the lines of his body in the presence of the other object; and to draw him so, except to illustrate a point, would argue a want of æsthetic intelligence on the part of the artist.

The art instinct has loosely been denominated the sixth sense. Art, however, makes no demand upon a sixth sense, nor does it call for the occult, nor for the abstruse in its every-day appreciation

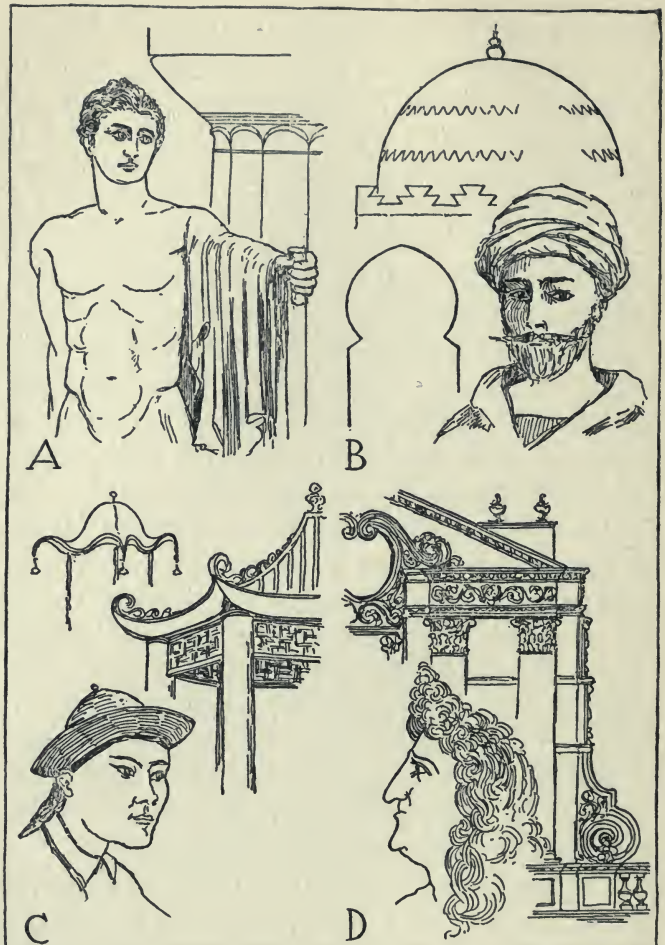


Fig 13 RACIAL CHARACTERISTICS

and application. Art is for the race — for all and not for the elect merely — and all that the race has shown itself capable of comprehending or of expressing can be apprehended by the five senses and expressed in terms of three dimensions. What we need now is to put into active operation our powers of observation and our power of expressing in three dimensions, aided by those same five senses. This is not all we need; for to produce or to appreciate great art we must add spiritual insight, without which the form and its significance cannot be really comprehended. It takes a sympathetic insight into human life to recognize the working of that law which impels the human mind to express itself in those forms for which the evolution of racial characteristics has given it an instinctive affinity. This working is more readily observed and more easily recorded where the particular race has achieved a unity of nature and a harmonious expression, whether through racial strength and vitality or through comparative isolation. Let us observe a few characteristic examples of racial lines and expression, comparing the physiognomy and the character of the garb with the masses and details of the architecture (Fig. 13–A–B–C–D). Such comparison will convince us that to produce in each case this striking harmony the racial artist-historian must have

chosen forms with which he was by nature and environment sympathetic, must have discarded others, and, in reflecting so closely what evolution had so clearly stamped on things about him, must knowingly have expressed the highest ideals of his time and race. We must grant that the selection was made with design, that is, knowingly, or the product would be nature, not art; was made with design, otherwise all architecture, well-nigh all art, would fall into the category of Emerson's "temples," which "grew as grows the grass."

> "Nature gladly gave them place
> Adopted them into her race
> And granted them an equal date
> With Andes and with Ararat."

I confess my poetical limitations; but as a humble worker in the greatest of the arts and a sincere student of the manner and media of architectural expression, I protest that art transcends nature, so far as humanity is concerned, for art is an expression of the ideals of humanity; and if the poet finds the realization fit to rank with the wonderful manifestations of nature's spirit, it argues the greatness of the spirit of humanity, or in other words the human mind, rather than an unreasoning or unconscious obedience to purely natural laws. That the spirit of the time was working

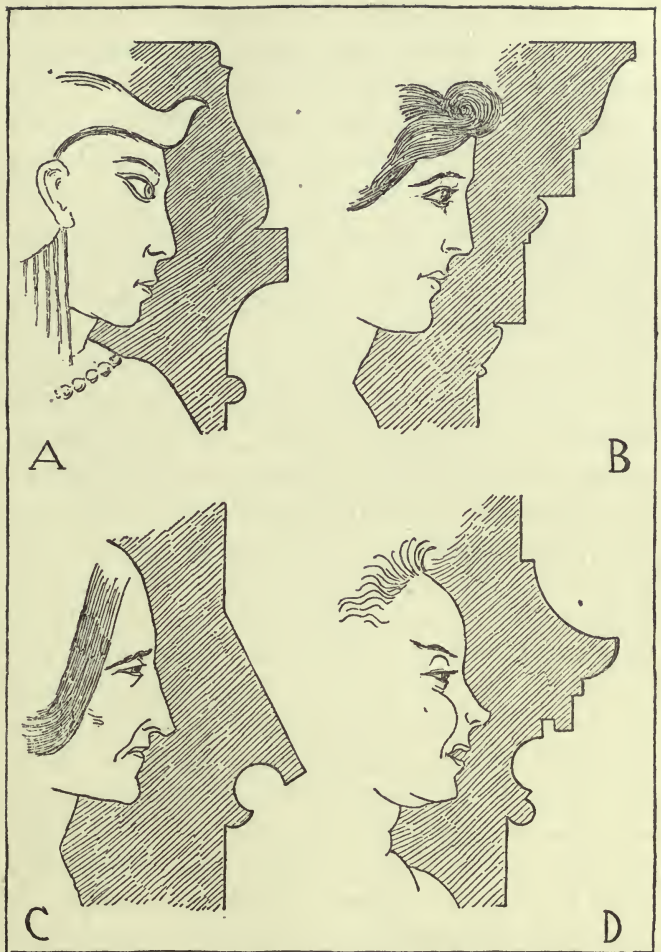


Fig 14 THE RACE SPIRIT

through the artist there is no doubt. How potent this spirit is may be suggested by placing in juxtaposition an idealized characterization of the human quality of an age and an epitome of its contemporary architectural expression. We may recognize (Fig. 14–A) the spirit of Egypt, with its characteristic forms crystallized and its manner unvaried through the ages. We may gain (Fig. 14–B) a definite impression of the Greek spirit, of calm intellectual poise and emotional restraint and its expression. Again (Fig. 14–C), we may evidence the working of that spirit of fanaticism and cruelty which marked the mediæval period. These are great periods marked by grandeur of expression; but the spirit of the lesser periods works through humanity and its art just as surely and relentlessly. Glance, for instance (Fig. 14–D), at that debased period of the Renaissance and its art known as the "periwig and pigtail." This is a real interpretation of the spirit of that time, and while it is unlovely it is accurate. In another chapter I shall have cause to consider if certain unlovely interpretations which set themselves up to portray our own age and time are equally searching, or if, as we may hope, they are but momentary impressions gained through a distorted lens.

We find a field not altogether devoid of interest

when we leave these wider ranges of thought and come to study in detail the significance of certain simple geometric figures and forms. We have noted already quite at length the appeal of the pyramid. The triangle upon which it is based carries in one plane a less complete message of unity, of inflexibility, or of permanence, as the case may be. Let us now take up in turn the circle from which proceeds the sphere, and the square from which is derived the cube. The sphere presents the fullest symbol of completion. Nothing can be added or subtracted and leave the form perfect. It is cold and lifeless in its very completeness. Architecturally the features related to it are the arch and the dome. The dome carries a note of finality. In semicircular form it neither incites to spiritual emotionalism nor commands intellectual poise. The eye following its form is brought back without interruption to the plane in which the movement started. The result is pessimistic; the effort is wasted. This form of dome is made to crown the tombs of those races whose philosophy is " what will be, will be " and with whom death is annihilation or Nirvana; it appeals to this sentiment and performs this function admirably (Fig. 13–B). We of the Western World feel this and use the form to crown our courthouses and museums, the latter of which

we, until very recently, have considered to be the final resting places of stuffed specimens or of dead art. The dome has its legitimate province as an expression of domination, and is so employed, imitatively, on our statehouses; but is not this expression a perversion and an anomaly in a democratic state? When the nature of our courthouses and museums and statehouses is really apprehended and our æsthetic sense and common sense demand that these buildings function for the living humanity which surges through them with all its vital problems, the dome will disappear as a dominating feature, and the walls will cease to be masked with misunderstood and unrelated architectural forms. The dome appears upon many of our modern so-called Christian church edifices; but, as with the statehouse, this is a perversion. The religion of goodness does not express its true self in this form: only the religion of power does this, and such a religion has no reason for being in this altruistic and humanitarian age. The dome seems to have been employed as the crowning feature of the church edifice before ever the form was applied to the statehouse. The transition came about very naturally as the Church began to assert authority in affairs of State, reaching out beyond its self-assumed dictatorship in the realm of the spiritual

to grasp political power in matters temporal. The dome is not a form through which the spirit of a true democracy can express itself.

The dome as a minor feature, however, and broken in line, has a use today in giving picturesque contrast to other forms and in making a poetic appeal; in this it is potent, the dome being a development of the arch, which is the most emotionally poetic line in architectural composition. The pointed arch does not bring the aspiring thought back to earth unsatisfied, but bids it follow the rising forces in the clustered piers ever on and upward into the wide high spaces of the imagination. The pointed arch was not a structural expedient, but rather the poetic builder's practical answer to the prayer of a great humanity which asked in deepest sincerity for some material form of expression for the bursting emotionalism of its spirit. That the answer was full and complete no one who is sensitive to the message of form can deny. The semicircular arch, used by the builders of the Romanesque and the architects of today to span a succession of voids, imparts the feeling of movement and rhythm, introduces the element of poetry, and is freed from that feeling of pessimism which is apt to accompany it when used singly and upon a large scale. When used in the North the semicircular arch

sprang from a great mass or buttress, which tended to emphasize the rising character of the forces within; but in Italy and the South the feeling for horizontality was so firmly established that even the arch, pointed, semicircular, or segmental, lent itself to the horizontal scheme of design which was under the circumstances inevitable. The arches spring lightly from shaft to shaft and the spreading tendency is curbed by a tie rod, so that the arch becomes the upper chord of a bowstring girder, and we have the post and beam system in another form, with the compression and tension visualized. This form of architecture is perfectly frank, straightforward, and justifiable, but it lacks the high idealism of the Greek, or the bold imagination of the mediæval.

The perfect cube is the most refractory form in art and often is employed for contrast with yielding or flowing lines. This contrast is required by that law which demands variety, variety in mass and form as well as variety in sentiment and feeling. The dentils which break the simple forms into masses of light and shade virtually are cubes. Nothing could be more refractory or of slighter imaginative appeal than the cube with all its corners rectangular, with all its lines of equal length, all its surfaces equal squares. It symbolizes better than any other geometrical

figure that concentrated resistance which a force has to meet in order to develop within itself a supreme ideality, a beautiful and complete character. So it was used, slightly modified, in the abacus of the Doric capital; not as filling a structural want, but, as we have seen, an utterance of that powerful something which was necessary to the wonderfully expressed relationship between column and entablature, to the perfect proportion of the shaft and the exquisite line of the echinus. Not only did the echinus function against this refractory object, but through it character entered into the form, as will be noted in the final chapter, where the cube and square are further and more fully discussed.

VIII

THE ELEMENT OF RHYTHM

THE ELEMENT OF RHYTHM

ARCHITECTURE, whether it be considered merely as an affair of abstract æsthetics, or regarded in the higher light of spiritual symbolism in æsthetic terms, depends in large measure for its emotional appeal upon the essential element of rhythm. Before the psychological bearing of mass and form had impressed itself upon the intelligence, before the mind had even subconsciously yielded to the influence of mass and form, rhythm had been making its persistent appeal to the emotions. The first idea or want or desire of the infant is expressed in terms of movement. The spasmodic workings of arms and legs and trunk are at first the subconscious and then the altogether conscious manifestation of an indwelling spirit and an awakening will. As the desire begins to take definite shape in the infant mind, the movement is controlled and directed toward its prescribed end. The parts begin to function as nature has appointed; the arms to push

or to pull, at first generally to pull, the hands to grasp, and after a longer period the legs to uphold the trunk and the feet to maintain the body in equilibrium. As the passion to reach the object of its desire develops in the child, the legs are called upon to transport the body to the point at which the arms and hands can function readily. In the first stage the infant crawls, using both arms and legs as means of locomotion, a correlation intended by nature evidently, for even after the legs and feet have been trained fully and properly to function, the arms and hands continue to act with them, as does the trunk also, in sympathetic and coördinated movement. The mechanics of locomotion once mastered, the normal child immediately and consciously, from the very joy and exhilaration of it, introduces the element of rhythm. He does not analyze the movement when he hops, skips, dances, and shortens and lengthens his steps, and say to himself that he is producing rhythm, but he is conscious that he is doing something which is altogether remote from and which transcends mere locomotion; and the fact remains that he is producing rhythm. In hopping and skipping and contorting the child is but following natural impulses, in indulging which he gains pleasure. By and by he begins to perceive the real meaning and essence of rhythm and em-

ploys it as a means of creating and imparting a sensation or an emotion; and at that point he enters the domain of art. Here it is that the subject relates itself to architecture. The dance is said to have been the first fully developed form of æsthetic expression, and from it in order proceeded music, acting, and poetry. The next oldest form of art, developing quite possibly contemporaneously with the earlier form, was architecture, from which proceeded sculpture, painting, and the arts of design. That architecture and the dance were the primary arts and that they developed contemporaneously is altogether conceivable to one who comprehends the nature of these arts. Architecture has been analyzed in the preceding pages; let us now contemplate the dance, a something which transcends locomotion as architecture transcends building. In walking, and it is the same after the art has been acquired in all its perfection, the body is allowed to fall to be caught up immediately by interposing the leg between it and the ground. The foot then holds the body in poise until again it is allowed to fall, again to be restrained by the interposition of the other leg, and so on. This is the technique of walking, and the principle holds whatever the direction of the movement, whether forward, backward, or sidewise, whether the body be lowered

or raised. The leg in advance does not pull the body to it, nor does the leg in the rear push the body except in case of disease or decrepitude, never in normal locomotion. When the movement in walking is normal and regular no peculiar sensation is gained or unusual emotion imparted, but when the movement is retarded or accelerated the attitude of mind in both mover and beholder is changed. This mental attitude is complicated and the imparted emotions become definite, become complex and compelling, when an ordered relationship is established in the case of either retarded or accelerated movement, especially when there is a combination of retarded and accelerated movements following in ordered sequence. The emotional appeal is intensified by the introduction of rising and falling movement, that is, movement in the vertical plane. Upon the delicate interaction of the primal elements of time and space all rhythm depends. Distance across which the mind is carried at a certain speed, through the instrumentality of the senses, harmoniously related to other distances traversed at the same or varying rates of speed, producing melodic intervals, is the source of rhythm. In the dance, as in music, these intervals are marked by accented beats; in poetry by accented syllables. In architecture the intervals are marked by a succession of solids and

voids or by a succession of masses brought out in relief against broader masses, or by details harmoniously related to each other and to the masses. The most impressive and dignified of all rhythmic appeal, that which imparts the feeling of intellectual poise and emotional restraint, is achieved in the dance by the slow-moving processional of formally draped figures; in music by the succession of related chords recurring at slow intervals; in architecture by the austere and unadorned colonnade. To produce this stately character in the highest degree, the units of the composition must in themselves be dignified and stately in bearing and be such as shall arrest the eye or the ear and hold them at attention for the desired period of time. Emotionalism will be enhanced, at the expense, however, of intellectual poise, though great power and dignity will still obtain, by introducing gesture or varied drapings into the dance; by symphonic variations on the theme in music; and, in architecture, by treating more freely the accented masses in form or in detail; by introducing thematic variations into the voids or into the mass of the dominant solids, objectifying the rhythmic interplay of forces within the mass. It is not my purpose to enter into an extended discussion of the philosophy of the dance, and attention is directed to it only that the fundamental

character of rhythm may the more forcibly be impressed upon the mind through an appeal to an instinct which is universal. In "Monadnock," in which he penetrates nature with deep poetic analysis, Emerson says:

> "For the world was built in order
> And the atoms march in tune;
> Rhyme the pipe, and time the warder
> The Sun obeys them, and the Moon"

thus indicating "how the chemic eddies play" and declaring the fundamentality of rhythm to cosmic design, construction, and conservation. The stately measures of the dance were developed undoubtedly in response to religious feelings, and were symbolic of religious ideals; and so, naturally, the corresponding architectural expression, the colonnade, is found early in the temples of the race. More clear and strong and harmonious was the expression in those temples built by races which had developed a clear-cut and definite philosophy of religion; of such a period, for example, as that of the Greeks. The emotional and intricate measures of the dance arose in response to the call of the elemental passions, the strongest and most effective of which in race development was love. Thus the social dance and the domestic architecture of all times and peoples, including the intellectual Greek, were tinted or deeply colored

by emotionalism. When love made for its object of worship the supernatural, or the divine, architecture discarded the intellectual orders which had graced the temples, but, conserving the powerful rhythm responding to deep religious emotion, shaped its embodying forms to an expression of personal and individual love and passion magnified to communal, national, or racial dimensions. The dance, even as a religious expression, was sometimes couched in the forms of the highest emotionalism, and this was especially so where fanaticism overshadowed the religion of goodness.

The structure of the highly emotional dance presents itself now for our consideration divorced for the time from its occult meaning and symbolism. The body sways in rhythmic motion, the arms weave in harmony, while the feet touch the ground for an instant with springy impact. The feet and legs conform themselves to the graceful lines of living force, changing ever as the body shifting the center of gravity calls upon them to maintain it in equilibrium. The call is heeded, the response comes, and with charm and grace and power the rising force in the legs meets the force of gravity acting through the body. When the art is perfect there is always felt and imparted the sense of perfect poise, of the perfect adjustment of parts, such as is seen in Greek architec-

ture. In the dance the force is a living force flowing through living form; in architecture it is an inert force symbolized in fixed though subtle forms which convey the impression of rich vitality. In both architecture and the dance rhythm contributes vastly to the essential unity of the whole. Although not generally so recognized, tumbling is an exalted form of the emotional dance, not universally practiced because of the seeming difficulty of acquiring its technique. The rhythm is occult, mysterious, and involved as compared with the dance proper, for the hands and arms act as supports, alternating ofttimes with the feet and legs in the performance of that function. The impact of hands and feet upon the ground marks the rhythmic sequences, corresponding to the solids in architecture, while the body in revolution or in convolution, extended or contracted, fills the interspacing with thematic variations which define the rhythmic character and quality of the composition. In the Orient, and especially among the Moors and Arabs, where the dance is wholly sensuous in its appeal, tumbling bears the same relation rhythmically to music and to architecture as does the stately processional dance to the chorus and to the colonnaded temples of Greece, or as does the gorgeous and picturesque procession of clerics and their ministrants and

choir to the musical masses and to the emotionally imbued piers and buttresses of the mediæval cathedral. To watch understandingly the movements and rhythm of a troupe of Arab tumblers is an education in racial æsthetic expression. The rhythm seemingly is the sole unifying factor in the art. The solids are not composed, as in the mediæval, of units concentrating their social and spiritual forces, but rather they tend to fly apart, the units taking each its individual line. The curves and convolutions, corresponding to the arches of their structures, are broken with quirks and twists indicating feverish activity and lack of poise. In the "pyramid building," which always accompanies the Arab's acrobatic exhibition, unstable equilibrium is demonstrated in the highest degree and is parallel with that architectural *motif* which finds expression in the light fairy shafts of the columns surmounted by heavily massed, interlaced, interpenetrating arches. The Arab music illustrates the same racial characteristics. I have amplified this in an essay,[1] "The Poetry of Motion," from which I quote: "How a movement may impart its character is demonstrated by a comparison of the music and of the tumbling of the Oriental and the Occidental races. The music of the West is built upon an eight-toned

[1] For the Chicago Literary Club, 1899.

scale and though admitting and frequently abounding in transition and modulations, yet moves ever with definite forward flow. And so with the movement in Western tumbling; there is a certain sinuosity, but in general the feet and hands touch the ground with an evenly measured rhythmic beat, and in a line at right angles to the general direction of the movement, be it forward or backward. The Arabs furnish the best expression of Oriental art in music and tumbling. The music is based on a chromatic scale and moves in broken rhythm with many a quirk and twist. In the tumbling of the Arab there is hardly a movement directly forward or backward, but the sidewise movement and the twist predominate. What in the West would be a long gradual sweep is, in the East, a brilliant succession of chromatic runs. The decorative arts of the East and of the West present these same racial characteristics." Arabian architectural forms do function not infrequently, after the manner we have been discussing; but that does not characterize Arabian architecture to any extent, while complex rhythm does characterize it as well as all Arabian art.

Architectural rhythm is not confined to movement in the horizontal plane, but it expresses itself in the vertical plane as well. It is not enough in an architectural composition that the mind should

be carried by the eye from pier to pier, from solid to solid, across the intervening voids, but the eye should be directed upward over masses just as rhythmically related, leading the mind in rhythmic transition from the bold base to the delicately flowering crown. In a perfect composition designed to be dominated by horizontality, the vertical movement will not antagonize or destroy the horizontal, but will augument the desired effect, while in vertically dominated compositions the horizontal movement should enrich and intensify the vertical expression. This law will be found to have been observed in all truly successful examples of the architectural art. The study of rhythmic expression is fascinating. Rhythm, itself, in architecture as in poetry, in music, in the dance, in all human undertaking, gives character, unifies the expression, and adds zest to the joy of living.

IX

ON SCULPTURE AND COLOR IN ARCHITECTURE

ON SCULPTURE AND COLOR IN ARCHITECTURE

WERE I viewing the subjects in the narrower aspect, I should write of sculpture and painting. That would limit my field, however, for the term " sculpture " as employed in the chapter heading comprehends not only the use of the human figure symbolically and decoratively, but includes carvings and moldings used after the same manner; while "color" includes not only mural painting, as that term is commonly understood, and surface decoration, but also takes into consideration the value and possibilities of color as a qualifying attribute of the materials which enter integrally into the structure. For the sake of clarity and convenience, however, I shall use " sculpture " as meaning the representation of the human figure in relief or in the round, and " carving " or " carvings " as referring to abstract or conventional forms similarly presented, and in either case whether used to symbolize force or employed purely as ornament.

As already noted, sculpture was used in two distinct manners by the Greeks: Interpretatively, to enforce the character of the building as in the Caryatids and Atlantes; and, decoratively, to tell the story of the gods in pediment, frieze, and metope; beautiful beings overcoming influences which seek to drag them down or which seek rather to crush them. Let us consider for a moment the former manner. The Atlantes appear in the Doric. They are male figures expressing support. They are in high relief upon the faces of heavy piers which actually do the supporting, while the figures are designed to interpret the character of the rising force — in this case to interpret the rugged masculinity of the Doric. This is a truly architectural treatment of sculpture and one which lends itself to adaptations seemingly never utilized by the Greeks themselves. I can conceive of no just criticism upon the use of the figure as herein employed. The physical structure of the male, his muscular development especially as idealized by the Greek, made his employment in the interpretation of this force one peculiarly fitting and consistent with Greek ideals of religion and æsthetics. When, however, it comes to the Caryatids of the Erechtheion just a shadow of doubt crosses my mind, just a shade of criticism lingers. I shall reject the theory that these Carya-

tids are immortal monuments to slave maidens, for the Greek ideal controlling in architecture was too profound and too spiritual to admit of any such perversion. It is true that slavery did exist, and the interminable extent of the flutings and the endless repetition of details and carvings more than suggest to the temperamental spirit that these miracles of beauty must have been accomplished, not by artists, but by artisan slaves under the strict rule of the master. I doubt if the Greeks were deeply concerned with the spiritual development of their slaves or kept them in bondage to develop in them beauty and perfection of character through restraint. Therefore, I reject the theory that these Maidens of the Porch are slaves, and adhere to the theory I have already advanced that the Caryatids were designed to proclaim the essential femininity of the Ionic order, to characterize and define that order which was a monument to the eternal feminine. Even so, I cannot rid myself of the idea that the Doric conception as expressed in the Atlantes is really the finer of the two. The Maidens literally support. I know that the distinction is fine; but still there is a distinction to be drawn between symbolic interpretation and actual participation. It is drawn every day in our criminal courts. In bearing and attitude these Maidens are symbolic of

the highest in Greek philosophy as exemplified in the individual, but not of the finest in Greek art. In spite of the ultra-refinement of the entablature, in spite of its perfect balance of forces amounting to a bouquet of flowers, these goddesses, these serene and poised exemplars of womanly charm, are bearing a physical burden, and that fact, in spite of the shield and spear of Athena, I cannot quite reconcile with the Greek ideal of womanly perfection as exemplified in the goddess.

The Atlantes and Caryatids furnish the only instances of the employment by the Greeks of sculpture along the lines or axes of force. The nearest approximation, though altogether different in motive, is found in the sculptured drums of the columns of the Artemision at Ephesus, an ornate Ionic structure of a rare type. The sculptured figures are of gods and goddesses and in no manner express support. The flutings of the shaft began in all probability above a narrow base molding which intervened between the shaft and the sculptured drum. A pedestal upon which the drum rested was also sculptured in the field between a plinth and an ornate crown mold. This field, as also the podium and the wall generally, was probably conceived by the Greeks as in repose, and, hence, adapted to sculpture and carved ornament. Transitional members, functioning as do

the base and capital, often adorned and gave structural character to the wall. A band beneath the crown mold was not infrequently set off as a frieze and adorned with rich sculpture, as in the Parthenon, the example best known to us. It would be logical to infer from the presence of base and crown molds that an aspiring force was conceived of as operating within the wall. The builders of the Parthenon did no violence to this conception by permitting the seeming invasion of this field by the sculptured frieze; indeed, they reinforced the idea, for the frieze interprets the successful struggle of the gods against beings of the lower order seeking domination, and the emergence of beauty from the conflict. The Parthenon frieze was a concrete statement of the content of Greek philosophy and art. The metopes of the Doric entablature were, as I have shown, fields or zones of repose in which the sculptor was free to vent his fancy without the hampering necessity of conforming his design to structural expression. This, too, was true of the tympanum, the triangular space bounded by the entablature and the raking molds of the pediment. The stresses theoretically were all absorbed in the horizontal and in the raking members, leaving the field free for any disposition of sculpture or any play of light and shade the designer might elect, and he generally

elected to place figures prone, reclining, kneeling, or crouching at the angles, rising to the vertical position in the center, thus echoing in the sculptural composition the expression of that ideal unity to which attention already has been directed.

For the Greek treatment of sculptured frieze and metope I have only the highest admiration, but the treatment of the pediment, it seems to me, leaves much to be desired. To fill the triangular space and to conserve unity it was necessary to vary the scale of the figures, or place them in constrained or artificial attitudes. When they were detached from the background, the figures gave the impression of being "stood around," of being unrelated objects of bric-a-brac on a shelf. There is no more beautiful sculpture in the world than some of that which adorned the temple pediments, but the beauty of the sculpture could not save it from seeming architecturally a thing apart. The perfect treatment of the sculptured pediment is yet to be achieved, if ever it is to be. A misunderstanding and misinterpretation of the Atlantes caused the Romans, and through them the architects of the Renaissance and the moderns, to violate most flagrantly the canons of architecture, beauty, and unity in the placing of free standing portrait or allegorical sculpture upon columns used decoratively rather than structurally about

the building. This treatment debases the structure, vulgarizes the building, and makes of the sculpture, however beautiful it may be, an unrelated and altogether extraneous object of bric-a-brac. No extenuation can be found in the excuse, sometimes given as a reason, that the sculpture is necessary to the architectural composition; some sculpture may be required, but not that. There are in the Greek very few examples where a field of force has been invaded by other than sculpture enforcing the symbolism of structural stress and strain. The sculptured epistyle of the very early Doric temple at Assos is the most important of these; but this is an archaic structure, with columns devoid of entasis, and tells the story of that remote period before the Greeks had found themselves.

One matter with relation to the sculpture and carvings of the Greek temple must not escape us, as it is vital to the chastity of the design and to the preservation of the larger unity. Nowhere is the architectural ornament pendant; nowhere does it hang in festoons. Wherever a suggestion of this motive is found, and the instances are very rare, it will be not in Greece but in Asia Minor, of a very late period, and probably traceable to Roman influence. There is nothing so discordant with the aspiring note vital to any great or fine

architecture as permanent decorations in which the feeling runs counter to the rising force. The festoon is for temporary display; and while a dignified, serious structure might be asked to lend itself for the moment to lighter matters, to impose upon it the burden of permanent festivity, or of permanent grief, or permanent expression of any temporary mood, is to debase its character and mar its unity. A man of spirit cannot always be decked out as a beau or a harlequin; only a marionette in a shop window can stand that. In the best examples of neither the Greek nor the Romanesque, nor indeed of the Gothic, do we find emblems of war or the chase, or of any of the trivial and every-day occupations and diversions of man, carved permanently into the structural masses of the building. Rome bequeathed this altogether ignoble conception of architectural adornment to the modern Western World through the Renaissance, and the modern Western World accepted it in the name of classic culture. Trophies, arms, instruments, implements, all may be hung upon the wall as matters of personal interest and even of decoration; but as one loves the integrity of architecture, he should not carve them or semblances of them into the stone or apply them permanently in bronze. Too disgusting for words is the employment, as decoration, of skulls of ani-

mals or men and the carved representations of the remains of burnt or blood offerings. Taste and humanity revolt at such exhibitions. In the zones of repose tapestries, mural paintings, and appropriate carvings may be exposed with propriety and effectiveness, but they should not cross the lines of force nor mar the structural unity. There may well be cases where, as in the dwelling, space or zones should be provided for decorations of an ephemeral nature, where architectural forms and lines of force should not dominate, but individual expression of taste in decoration be permitted to assert itself. Such wise provision may save worthy architectural forms and compositions from desecration.

In the Gothic vaultings the pendentive strikes a false note. This feature was undoubtedly suggested by the points of the foliated traceries. From a detail which was introduced to give lightness and airiness to the ascending lines came a feature which opposes itself to the general tendency and creates a discord. It is stalactitic, while the flèche, or the pinnacle directly above it, is stalagmitic. The mind which comprehends the entire structure feels instinctively this lack of harmony. The feature is comparatively rare and does not occur in the best examples of the art.

In Arabian architecture, more emotional and

fantastic than the most florid examples of the Gothic, are ceiling vaults which have been inappropriately and altogether mistakenly denominated "stalactitic." In none of them is there a drooping line or pendant form. The little sectional or fragmentary domes which go to make up the larger dome or vault everywhere, even when seemingly pendentive, exhibit the rising tendency, if not, indeed, the aspiring spirit, as does the greater form itself. The line is similar to that used in the Corinthian bell capital and in the mediæval capitals; one concave form springs upward from another (Fig. 9–F), developing beauty in the true spirit of ancient Greece. As with the Greek so with the Gothic — only with the latter more exuberantly and redundantly — the carvings emphasize the character and direction of the forces in the mass. While in the Gothic there never was the Greek refinement of form, yet in the earlier examples there was an almost Greek austerity, and the lack of refinement in form was atoned for by the warmth of color and the intimate personal touch. Throughout the mediæval Gothic we feel the presence of the personal influence and the absence of the master of the machine. We are in the presence of a truly democratic architecture, in which the carving of statue, of boss, of cusp, and of capital was contributed as a personal

offering, as a labor of love. In the presence of the modern Gothic we gain no such impression. We feel all too keenly the masterful insistence of the material machine doing work it never was intended to do and doing it for people who have missed the inspiring motive.

While sculpture is allied with form, yet it is form proper rather than sculpture which finds its complement in color. It is through form that the sense of power in a structure forces itself upon the mind; it is color which radiates charm and bathes the object in atmosphere. Color and form together deepen the mystery which must surround and penetrate any work of superlative art; together they intensify the glooms and heighten the gleams of the inherent magic. The Egyptian temples meet us with forms compelling the sense of power, forms clothed in the mystery of chiaroscuro and color. The Greek temples greet us with forms which charm and with color which weaves the spell of magic about them. The Gothic piles lift us up into the mysterious heights and bathe body and soul in an atmosphere of luminous vibrant color. The methods employed in these three great types are individual and distinctive. With the Egyptian the conventionalized representations of terrestrial life, upon pier, pylon, wall, and lintel, were picked out in bright and

striking colors which vanished warmly into the deep rich gloom. With the Greek the architectural members, such as the echinus, the abacus, the moldings of entablature and of the pediment, were ornamented with patterns in rich, harmonious colors; patterns which were intended to enhance to the eye the value of the functional parts and to reinforce the form. The sculpture of the pediment, harmoniously colored, shone out against a contrasting background, while the columns stood in relief against the tinted walls of the cella; and thus the temple shone magically resplendent in the ambient light of the Attic sun. With the Gothic enters a new element. Color is now removed from the solids and fills the voids; no longer is it content to be reflected from the surface of the mass, but swims and dances forward to enfold all in its atmospheric arms — to baptize the form into its own radiant luminous spirit. And so colored surface decorations in the Gothic temples were reduced to a minimum, for it was difficult for opaque color to compete on even terms with the refracted, reflected, tremulous, and living light that was distilled through the luminous screen which filled the voids between the great ever-ascending piers. In the Greek, color while assisting form drew the whole into fuller unity and added rarer charm. In the mediæval,

color, the impalpable entrancing spirit borne upon the shafts of light which penetrated the translucent voids, not caring nor intended to enhance the value of single forms or details, enveloped the whole in a charmed atmosphere, mellowing, gleaming, glowing, or glooming in the changing lights and in the shadows and shades of passing clouds.

The interplay of light and shade which is the concomitant of form, though powerful and mystic in its appeal, is in reality simple in its essence and depends rather upon the meaning behind and character within the form than upon any subtle quality or complex nature such as reside in color. Light and shade, unless influenced from without, stay as firmly fixed in their surroundings as do the fixed stars in their heavenly environment. But let color touch the form, and all is changed; and necessarily so from the very nature of color which makes at one and the same time a physical and a psychic appeal. For instance, and roughly speaking, blue will calm the emotions while red will excite them. Yellow and gold maintain a neutrality and poise both physically and spiritually, tending neither to incite or allay passion nor to advance or retreat from the plane upon which either may be laid. Blue is of a retiring nature and the plane upon which it is spread seems to withdraw itself, while

red is aggressive in its character and the plane in which it is active seems to leave its real position in relation to its surroundings and to come forward. From this crude analysis it will become apparent that color understandingly used in connection with form will bring out its deeper character and create a spiritual atmosphere of mystery and charm; that color misapplied will undermine the character of the form, rob it of charm, and tear asunder an otherwise sublime unity. The use of color and its psychological bearing are so little understood today that designers in the classic styles avoid it, tacitly confessing weakness and an inability to rise to the heights of æsthetic imagination. Color is supremely effective in architecture, when, as a physical attribute of a material, it enhances the æsthetic value of that material as a structural medium. When the color charm and atmosphere reside in the basic material of the structure itself rather than in a coating superficially applied, whether in the form of pigment, mosaic, or slab, the impression of sincerity and structural integrity is more profound.

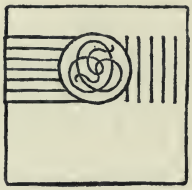
The employment of richly veined and colored marbles and rare stones in structural members has been, except in rare instances, for the purpose of enforcing the idea of wealth and of adding to the sense of luxury in the surroundings; to give

variety and bestow a certain charm decoratively, but not for the fuller purpose of assisting structure to express through an interpretation of its laws the deeper meaning of life. The use of materials in which color inheres and in which the color reinforces the expression of structural functioning has not as yet been brought to its fullest architectural development. The matter furnishes a basis for future employment which may well tax the æsthetic powers of those engaged, and still to engage, in the exalted art of architectural interpretation.

X

MODERN ARCHITECTURE

IMITATIVE—CREATIVE



MODERN ARCHITECTURE

IMITATIVE—CREATIVE

ARCHITECTURE, above all others, is the art of self-expression. An age which has anything to say will say it in its architecture. A race which has any vital message to impart will deliver it in its buildings. Architecture will carry the message whether it be significant or meaningless, whether it be worthy or unworthy; and it is quite possible for an age, or a people, possessed of spiritual insight, to read its message or see its face mirrored in its architecture. Our own age will detect much of the imitative, somewhat of the creative, and a great deal of the uninspired in its art.

As preliminary to a discussion of modern work, it is desirable to draw the line between imitation and creation. The process of creation in art is deeply involved in the processes of the imagination, while imitation, when not directly reflecting the image of the model or copy-plate, is deeply involved in the processes of the memory. The

boundary between, shall I say, sluggish imagination and active memory in the border-lands of art is confused, and one traversing it steps unwittingly now and again from the realms of fancy over into the domain of memory. Many, thinking themselves to be tilling the fields of fancy and imagination, are in reality but harvesting a crop of memories; many are but exercising clever powers of adaptation. It were an ungrateful task to disillusion such as these. It is, perhaps, an impossible task, and I, for one, should not care to attempt it did not I feel that the age would be better served were the boundary line to be plainly marked, so that all may recognize the environing conditions and thus be able to see clearly how the artist meets the situation, and how truthfully, if at all, he is interpreting the deeper meaning and expressing the richer spirit of his time and place; for in truthfulness of interpretation and in beauty of expression lies the way toward worthy and lasting achievement in art. To avoid confusion we must start with a clear conception of the nature of imitation, and be able thus to distinguish between palpably copy-book practices and that seeming imitation which, upon reflection, we find to be in no manner imitative, but in reality creative, art. Thus the Greek artists in developing and refining the curve of the entasis or the lines of the echinus

and the volute were not in the least sense imitating the work of those who preceded them. They were evolving, consciously and with the highest ethical and æsthetic intent, an expression of that race spirit which was perhaps but dimly perceived by the earlier worshipers at the shrine of art, but which became more clearly defined and more susceptible of rich and beautiful interpretation as the unfolding years brought wisdom and knowledge and power and technical skill to the followers of the early cult. These were not imitators; they were creators in the sublimest æsthetic sense. The same is to be said of Egypt, though the art forms persisted through fifty centuries. The same is true of mediævalism, which responded in outward expression to the inner call of an emotionalism which demanded the upspringing pier, the aspiring arch and vault, the wide-flung buttress. No mediæval castle was built in imitation of its neighbor. No Gothic cathedral was an imitation of another even though the forms might be very like. Each was the æsthetic answer to a racial call which sounded in the innermost heart of mediæval humanity. But if we of today — a day and a people of a vastly different thought and idealism — seek to build a Gothic cathedral, rearrange the forms as we may, the result will be mere imitation; just as surely as a Greek temple built

in the Middle Ages, had such a thing been possible, would have been an imitation of the crassest sort; just as an Egyptian temple built in Athens by the Periclean Greeks, were such a monstrosity conceivable, would have given the lie to the creative spirit of Greece or would have been the grossest of gross imitations.

I cannot feel otherwise than that the Greeks in developing and refining their native forms were not imitating but were sublimely creating. If this is so, it should hold a lesson for one who is seeking to create an individual expression in our democratic state. It would seem inevitable that in a democratic state the individual should take the initiative. The efforts of the individual, that they may be of permanent value to the cause of communal art, must be based on some sound principle which shall appeal to the communal heart and understanding; which shall demonstrate its need by touching some sympathetic chord in the environing life. If the underlying principle be sound, and the forms in which it is given æsthetic expression be valid, then others may and will use these forms in their individual efforts to solve the problem of communal expression. Such use is perfectly legitimate and is in the nature of creative, constructive effort rather than after the nature of imitation. Certain strong individualists

of our day have charged their own "disciples" with being imitators because, forsooth, these same disciples were employing the "master's forms"! If the master's forms are specious forms, based on personal idiosyncrasies, their use by another would, indeed, be in the nature of unjustifiable imitation; but if the forms are the æsthetic clothing of a living idea they belong to the race, and one who did not debase them but who employed them rightly was in so doing assisting in a legitimate act of creation. A "master" will realize that the vital spark within him did not come from himself, but from the race, and should be freely given to the race.

Imitation, in its worst architectural form, next to transplanting bodily a building from a remote period into alien soil — which, after all, is affectation rather than imitation — consists in applying to the buildings of one age forms expressive of the idealism of another, when the civilizations of the two ages, as expressed in the varying religions, philosophical systems, and social and political organisms, are altogether dissimilar. What is our national and communal experience and achievement in this regard? In the first place, we saw fit to crown our national capitol with a dome. Now this must have been in response to some sentiment within the people; must have been the

expression, in terms of architecture, of some deep underlying national philosophy. It must have been this to be art, and, as art, expressive of the people. What sentiment does this dome radiate; what philosophy does it interpret? Is it the same sentiment which exhales from, or the same philosophy which underlies, St. Paul's in London, the Pantheon in Paris, St. Peter's in Rome? If the form has any meaning — and how unworthy it is if it is mere ornament without meaning — the answer is, yes! But these great churches, though widely separated, arose from the same thought under similar conditions; they were the expression of a power which exercised dominion over body and claimed dominion over soul, and with the exception of one, were sincere expressions in noble materials. Can the cast-iron shell at the national capital be reconciled with that thought and with those conditions; does it reflect that sincerity? It will be difficult for one who is sensitive to the form, for one to whom the psychology of the dome is real and who knows the history of its development, not to feel that the feature implies domination from without, rather than altruistic coöperation within, and so, be thrown back upon the stern conviction that the form as used by us is an imitation; and an imitation when all understanding and knowledge of the indwelling spirit and

underlying motive has been lost. In our national infancy the embryonic architects could not think clearly or act independently outside the formulas of thrones, principalities, and dominions, as did the fathers who wrote the Declaration and the statesmen who framed the Constitution. The times did not call for imitative art any more than for imitative statesmanship; certainly not for the imitation of autocratic and imperial forms of expression as against democratic. Quite naturally a confused people followed confused and imitative leaders in art, to the end that now the statehouses, almost without exception, are imitations of this greater imitation, and county buildings and city halls follow in the wake. Upon the façades of these edifices — which in general would show their ill-proportions but for the features — are planted imitations of structural members, which do not imitate structural functioning, however, and so introduce an element of confusion and discord. These imitations of columns and capitals and entablatures — applied for purposes of decoration, to fill a space with a pattern, to produce a play of light and shade, to fill the voids for minds which cannot stand, or understand, a simple beautiful statement of truth but crave frills and embroidery, — these imitations of structural forms are supplemented by imitations of shields and by car-

touches made up of imitations of interpenetrating straps intertwined with imitation festoons. In not one particular does the ornament symbolize a spiritual idea or clothe a sincere thought or motive; and, while it is inspired through the Renaissance by the Roman, it wants the inhering force and the characteristic power which the Roman of eld possessed.

The styles of previous ages as practiced today are imitations, whether they are adopted directly from copy-books and models or learned by rote in schools or otherwhere and applied to the work in hand. If, today, the building to be designed be a library, a classic treatment would be more appropriate than would be a Romantic; and Gothic forms applied to the cloak of a tall steel skeleton, or to an institutional church, would be more appropriate than classic or Oriental forms; but in all three cases the beginning would be, and the end would result in, imitation.

There is a too general tendency to confuse selective taste and skill with creative power. This confusion reigns almost supreme in the minds of those who comprehend but slightly the meaning of creative power or who possess only selective skill; it does not affect so greatly those who in addition to powers of selection possess also powers of imagination. The ability to weave known or

dimly remembered forms into patterns heretofore unseen is not the ability to reach out into the unknown and grasp that which shall fully interpret newly arisen conditions and properly express what theretofore had rested unexpressed. One power operates in the field of selective imitation, the other in the domain of creative imagination. New problems call for creative force, but the race has so long been imitative — starting that way in the life of the individual as well as in the communal life — that it is difficult for it to shed its chrysalis and break forth and soar away on the rainbow-hued wings of imagination. This is demonstrated in the efforts of those even who are conceived to be leaders today in original or creative architecture. The supreme leader, uttering the cant phrase, "form should follow function," scorns the classic column and entablature and introduces forms which function no more than do cartouches or any similar form of superficial adornment and which express just as little the true spirit of today, if I correctly interpret that spirit. The forms which are distinctive of this new effort, while really Oriental in conception, are touched with an individuality which marks them as original. But these forms are not based on a recognized or recognizable philosophy of life and do not answer to a distant racial or national call, and,

therefore, for another to adopt them would be in the nature of the merest imitation. In the hands of the master even they are, as I say, imitative of the Oriental manner, and are made to cover the surface of the structure with intricate ornament absolutely unrelated to the structure, altogether out of scale with the functional or other parts. They cross at will lines of force and invade zones of conflict without ameliorating in any particular the conditions surrounding the struggle. In the mouth of its modern users the phrase, "form should follow function," is somewhat more than cant; it is the statement of a misconception arising probably from a confusion of the meaning of the verb. It is as though one should say that the building, first, must be made to function to its uses, and after that any form may be introduced which does not interfere with such functioning. However, the real meaning is not that the building or its functional plan shall be dressed up according to the whims of the designer, but that its parts shall function structurally, and, so functioning, shall be given proper and adequate functional forms. In this spirit alone is Occidental architecture to be conceived.

In imitation of a certain broad and horizontal disposition of lines individually employed, a school of design has sprung up, for which its

authors claim the title "American." The horizontal lines of the new expression appeal to the disciples of this school as echoing the spirit of the prairies of the great Middle West, which to them embodies the essence of democracy. One after another of this school, with the firm hope of creating an American style, imitates and reiterates this horizontality, little realizing, seemingly, that the prairies are but one feature of the great physical face of this country and that the prairie dwellers are but one aspect of its great seething humanity. But most peculiarly these "creators" of an architecture for the prairies are unconscious that they are running counter to the laws of nature in imitating the horizontal lines and making them dominant, running counter to human psychology in not using a pyramidal motive, and counter to the same element and to the very nature of democracy in not employing the vertical motive which so fully responds to democracy's essential desires and demands. In listening to this voice and in answering with harmonious forms the would-be builders of a democratic architecture will not be imitating, and imitating futilely at that, but will be creating architecturally in the highest sense of the term.

On a lower imitative plane than these would-be designers of an American style — which in itself is an altogether worthy ideal — are those who

study abroad manners and matters absolutely unrelated to American life, and returning, seek to transplant the exotic forms into our national art. Were such as these to get at the true essence of American life, they would soon divest their minds of alien notions and create in their art a likeness of their new-found ideals. Not all the ideas a sincere American gleans abroad are alien, for every civilized country on the globe has something to which the broad American spirit can respond, and the forms which embody and express these things will add strength and character to American art; but the insistent imitation of entirely foreign motives will undermine the sincerity and integrity of any community; and our whole country is suffering from such cause today. America has something worthy of expression, some ideal worthy of interpretation in creative architecture. No imitator, only a creator, will discover the ideal and disclose the form.

XI

PRESENT-DAY IDEALS

PRESENT-DAY IDEALS

THERE is an almost world-wide tendency toward popular participation in government which, sooner or later, must have its effect upon the character of the entire art of the various nations and races which are feeling the impulse. This altruistic tendency is not taking the same form in all cases; but the right of the individual to a voice in governing himself is coming to be more generally proclaimed and exercised. The movement is slow, slower even than the advance of democratic art, in some sections where autocracy and bureaucracy have been for centuries enthroned and have almost irresistibly dominated. It is interesting to note, as it may be well for us to recognize, that even under the greatest military autocracy of modern times the people have been able to express themselves æsthetically in individual terms while the government was expressing itself both politically and in its art in the dominating, not to say domineering,

forms of empire. In our own country the yoke of autocracy was thrown off some less than a century and a half ago, and during that time we have been trying to establish a real democracy and to justify in the eyes of the world and in our own hearts the right, and to demonstrate the ability, of such a form of government to exist. Some of our native critics say that we have not justified the right nor demonstrated our capacity for self-government. Others are optimistic and point to the shortness of the experimental period. Still others believe that we have proved our case. Of this number some will seek to sustain their position, not so much by stating wherein we have succeeded as by asking where else can one find anything better? We are not concerned so much with the elsewhere as with the here and now. In our democracy how few of the people are expressing themselves in democratic terms; how many are harking back to the forms expressive of autocracy. If democracy has fallen short of the ideal the failure may lie in the people rather than in the idea. It is not for us to rest content with the oft-expressed sentiment than any democracy is better for the individual than the best of autocracies can be, but it is for us to seek the essence of the highest democracy and give it expression in its own proper terms. Now, we profess to believe

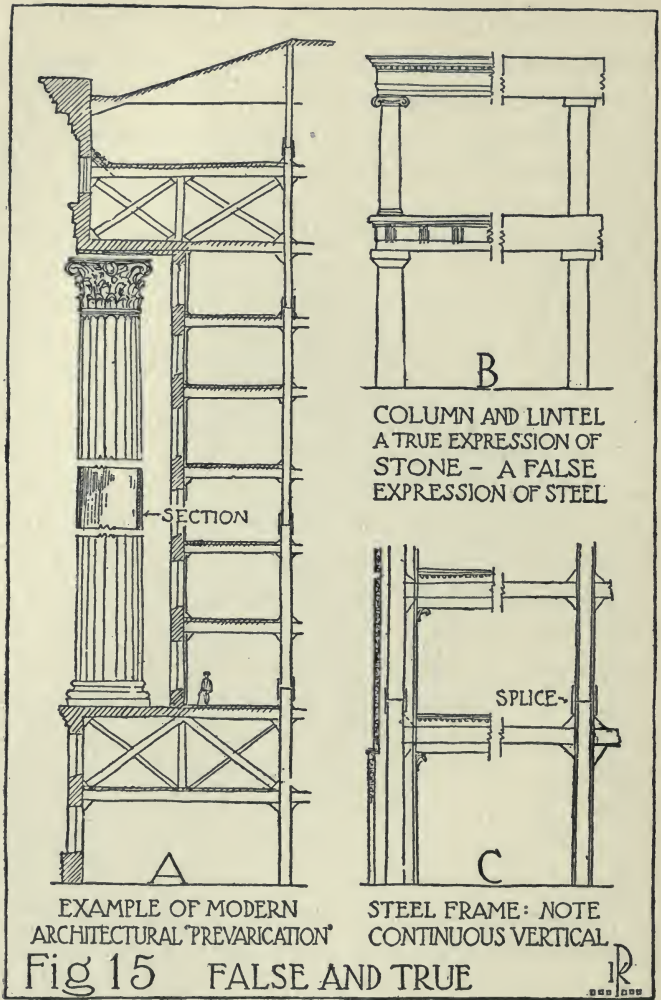
that we have established a government of the people, by the people, for the people; and how do we proceed to justify that belief? By allowing vice to control in our communities? By letting predatory business corrupt our legislatures? By attaching porticos symbolic of pagan gods to the façades of our jails as well as to the dwellings of our political bosses? By crowning our national capitol and our statehouses with a feature [1] emblematic of concentrated and centralized power dominating from without? By erecting public and private buildings so wastefully designed and constructed and, in many instances, so lavishly decorated and so overloaded with meaningless ornament as seemingly to make them possible under only extravagant and tasteless plutocracy? There is somewhere an adequate answer to all this. For our purposes it may be summed up in the question: Are we using architecture, the great art of self-expression, to denote us truly? Let us

[1] We do not alter the inherent meaning, or democratize the expression, by surrounding the drum which supports the dome with a ring of individual columns, all cast in one mold. In so doing we really symbolize a state in which the individual has no part but of which he is merely the physical or mechanical underpinning. Our own democratic state is one which is composed of individuals and created for and by them. A symbol of this state I have presented, though very crudely, in the next chapter.

put this question to ourselves and then search our hearts to determine if there is not in us something better than all this would seem to indicate; something altogether worthy of an exalted expression which shall be consistent with the idea of a truly democratic state.

Let us get at the elements of the problem. As I have already said, every country has something it can contribute to the fuller expression of our æsthetic ideals, something quite consistent with the thought of democracy, something which will tend to make the common life rounded and full and to make the common cause attractive and appealing. From the English people, who have had their own battles to fight, we inherited long ago the doctrine of popular rights and the love of individual liberty; from them, too, came a certain stolidity, a certain sturdy independence in politics and a willingness to suffer for one's ideals. Perhaps from England came also a diffidence about publicly expressing the deeper emotions, and a timidity in the use of outward forms, arising from a certain lack of confidence in their own critical judgment which led her people to defer to the Latins in matters of taste and æsthetic expression when the impulse of the Renaissance moved westward. From France we may get, not the superficialities of an aristocracy she was obliged to

throttle, but the sparkle of the wine of life which did not die out in the struggle for " liberty, equality, and fraternity." From Italy gleams the steady sunlight which has cast a radiance now pure, again melodramatic, always warm, over the long history of her art. From Southeastern Europe and from the Farther East mystery, color, and rhythm come as offerings for our use. From the German people we may gain a valuable hint as to how a race may find itself through a search for the fundamental in art, and how it may express itself frankly in terms of the elemental; and we shall learn that the elimination of the extraneous will bring to the surface, among the finer things, that elemental brutality which civilization has veneered but not eradicated; a process of self-revelation which, if we are wise, we shall welcome and employ. We do not have to go abroad to gather in its entirety this harvest for our granaries; it is being brought, in recognizable measure at least, by those who are coming to cast their lot with ours. The kaleidoscopic nature of the influx complicates the problem of our democracy, which is not the simple and comparatively unified racial expression it was in the days of the founders, but if the solution ever is reached it will transcend in its fullness and richness anything the fathers could have been able to foresee or even to imagine.



EXAMPLE OF MODERN ARCHITECTURAL "PREVARICATION"

COLUMN AND LINTEL A TRUE EXPRESSION OF STONE – A FALSE EXPRESSION OF STEEL

STEEL FRAME: NOTE CONTINUOUS VERTICAL

Fig 15 FALSE AND TRUE

Democracy, generally, is conceived to be synonymous with popular rights; but the assumption of rights on the part of a people means the assumption of responsibilities; rights carry with them duties. There must be a unified social and governmental expression if there is to be a real democracy and an adequate æsthetic interpretation of it. Therefore those who seek freedom and liberty in democratic institutions should bring to them only such ideals and practices as will clarify and enrich them. They should not confuse the problem, and by confusion make the deeply to be desired expression in art more remote and more difficult of accomplishment.

If there is to be a democratic expression, truth, sincerity, and mutual understanding must underlie it. To contribute toward that mutual understanding I shall speak of truth and sincerity as social ideals and indicate the manner of their expression in architecture. If we note many flagrant lapses from grace we must not say in our hearts "all men are liars" but, rather, must force ourselves to believe that all men wish to be honest, and that ignorance or carelessness have constrained them, in these and other specific instances, to assume an attitude which misinterprets their true natures; failing to believe this we must give up any hope of an ultimate beneficent and right-

eous democracy and its manifestation in the forms of art. Are our municipal governments honest in the expenditure of the people's moneys, in the administration of the various departments, and in the enforcement of the laws? If so, why do they mask their honesty with structural shams? Are our banking institutions and our public service corporations conducted on principles of honesty and fair dealing? Yes? Then why do they house themselves in structures conceived in the spirit of untruth? Should not the inner life and the external form correspond — or do they? We may surely set it down as a fundamental principle that a column should function; else it should not be dressed up in functional forms; and, equally so, that the entablature must rest upon the column. The inherent reasonableness of this will hardly be denied. Now let us behold some examples. Meditate upon the structural principle (Fig. 15–A) of one of the greatest and most imposing city halls of our land. The steel work above was dressed up in stone to simulate an entablature before ever the construction of the columns had been begun. The bases of the columns rest for the most part on air. The columns, fortunately for the structure and for the public exchequer, are merely shells. Thus we have set up to impress us with the power, honor, and dignity of the

municipality a hollow sham, through which no force of any sort rises and in which the expression of force and honesty of purpose is the merest pretense. Does this denote us truly? The most superficially impressive of the commercial buildings of the metropolis of the Middle West is the home of a public service corporation for which it was built. This edifice is adorned in each of its two street façades with a row of free standing monolithic columns upon which the upper twenty or so stories appear to rest. The massive structure really overhangs, and the entablature is purposely made not to bear upon the capitals for fear that a slight settlement might cause a fracture of the stone from which the capitals are carved. Does that insincere and theatrical display mark the real nature of that great corporation? Is the integrity of our banks expressed in the façades of the buildings which house them when the principle features are columns whose bases, shafts, and capitals are "cored" and slipped down over the supporting steel posts? Do the monumental terminals of our important railway systems truthfully express the ideals of the management of the respective systems? Here, a great building masks the manifold activities of a modern railway station with the Greco-Roman face of a museum of archæology; there, another magnifies some few

hundred diameters the Franco-Roman shell of a French clock, divorced absolutely from the "works" within. If the engineers applied the same methods to the design of the interlocking switch and block contrivances death-dealing confusion would result in their operation; just as there does result from these terminals a stifling of the sense of fitness and of honesty in the community. Does all this really express us as we would have our great corporations interpret that phase of our national idealism, or as we would desire to have the story of our industrial life set down in history? These are very leading questions which will be answered promptly and favorably to themselves by officials, directors, and managers. We may hold our own opinions. The answers of the designers will be various and mostly away from the point. They will say that they are making beautiful buildings, designed in accordance with the canons of art. This, of course, I shall deny. They will say that the building should be beautiful even if what goes on within is sometimes sordid. With this I shall agree; for I have tried to make clear that art should represent human desire and endeavor at their highest and so by example lead man upward. Are these buildings, — which in the cases cited are steel skeletons cloaked with stone or terra cotta, or

both in conjunction, — are these buildings designed in the spirit of art, which is the spirit of truth and sincerity and refinement of feeling manifesting itself in an obedience to the laws of unity, measure, and purpose? Hardly. There can be no unity if the structural steel is doing one thing while the superficial cloaking is saying another. In a correctly designed steel skeleton there is no horizontal member which can be rightfully translated into an entablature, and, consequently, no post which can be conceived of as a column. The column must stop under the entablature (Fig. 15–B); the steel post continues from the base plate on the concrete footing to the crown mold of the sky-line (Fig. 15–C); to cut out any portion of this post and dress it as a column is to deny its unity, destroy its measure and defeat its purpose. The unbroken ascent of the forces in the post should be indicated in the enveloping material, in its vertical lines, in its details along the rising shaft and at the transitional points where the spandrel beams and the floor girders unload their weights. The classic column, with its base and capital, can find no legitimate place in the modern steel-framed building; nor can the continuous entablature find expression if the building is designed in the spirit of beauty, which is the spirit of truth. Never, even in the uppermost

storeys of a tall steel-framed building, has the column been introduced under a crowning member simulating an entablature without the grossest violation of the laws of proportion. The inherent nature of the steel skeleton has proclaimed against the column and entablature; and if horizontality of treatment is necessary, that the exterior of the building may express the nature and function of a plan which is adapted to the life within, it must be obtained after some manner and fashion which will conserve the fundamental unities.

While the continuous upward movement in the steel post must never be denied, yet it need not be over-accented when a horizontal feeling is to be emphasized in order to conserve the greater unity; that is, bring the exterior into accord with the purposes of the structure. The spandrel section may logically be treated with such definition of direction that it shall lend its horizontal character to the mass. An opposite treatment may bring the horizontal spandrel beam into harmony with any vertical expression which may be desired. The lofty steel skeleton lends itself naturally to the vertical expression but it does not find itself harmoniously garbed in the pointed forms of mediæval Gothic. The pointed forms were developed from and in harmony with the pointed ribs of the vaults and there is no vault nor arch, nor sugges-

tion of either, in the structural principle of the steel skeleton. New forms will have to be invented if the external cloak is fully and really to interpret the structure; and that, to be architecture, or art in any true sense, it must do.

Though the majority of our monumental and commercial buildings have the steel skeleton as a structural basis, and so must be controlled as to external design by that fact, yet the great bulk of our architecture is not characterized by that system and must seek a natural expression corresponding to the system employed. In proportion to the truth and idealism with which we deal with the lesser problems will the greater matters find adequate expression. A true conception of function, of simplicity, of honesty, of sincerity should be gained in the home and wrought into the materialization of its shelter, the dwelling. If we demand truth and beauty there, we will not tolerate ugliness and falsehood in the community buildings. In a democracy the initiative lies with the individual, and higher than the individual no democratic community is able to rise. Higher than the idealism of a true home no community, democratic or otherwise, need or can rise. The modern world has up to the present been so dominated by habit and traditions that it has been difficult for the individual to find and recognize his real self and his

true relations to the community. Many a true democrat is so dressed in the trappings of aristocracy that he hardly is recognizable and does not know, so long has he worn it, how utterly incongruous the garb is. He does not realize how insincere the great wooden classic columns about his house make him appear. He does not realize how commonplace the everlasting classic portico to his house makes him, even when it is in stone and the columns function structurally. The feature was beautiful in the Greek temple where it had meaning and significance, but attached to dwelling, to jail, to church, to bank, to poorhouse, to courthouse, to theater, it has degenerated into merest commonplace and claptrap. Up from the home should come a pure, clear expression of democracy, which is the individual working with the individual for the uplifting of the community — the people for the people.

We have in our present-day life and environment ideals worthy of realization and capable of the highest æsthetic interpretation. Our schools, our settlement houses, our hospitals, our institutional churches, — homes of the religion of goodness, — our field and community houses, our asylums, our libraries and art museums, — all these, expressive of the altruism of the age, lend themselves to a strong, sincere, lovely, and individ-

ual interpretation which should characterize the age for all time. And no less characteristic of the age are the great industrial and commercial enterprises which, when operating in behalf of the people, are worthy of interpretation in sincere architectural terms. The statehouses and municipal and civic buildings which stand as the governmental expression of all this high idealism call for a richer, fuller, and more personal and appealing architectural embodiment than ever has been given them in ages past — certainly than is being given in our meretricious imitations of what the past gave them. This embodiment cannot rightly be Gothic in the mediæval manner, for this age is mediæval only in a limited sense; our democracy is more staid and studied, less emotional, less quixotic. The forms of the manifestation cannot rightly be classic, for our expression is of the people, by the people, for the people; and there is no aristocracy of power dictating to slaves, except as slaves we permit the gods of fashion to dictate to us in the matter of clothes, of social usages, of religion, of domestic and civic architecture, of philanthropy even. Let our age rise superior to these gods of its own creating, live its life sincerely and joyously, and breathe into its architecture that sentiment of brotherly love and mutual dependence and assistance which should

be the flower of a government such as we devoutly hope we have established. This the age can do only by self-analysis and the conscious expression of all that it holds of value to humanity. As the society of an age marks its status, and as the society of a democratic age depends upon the ideals of its individual units, the duty of the individual is clear; while the artist, who because of a rich temperamental and spiritual endowment is called upon to interpret these ideals, is vested with a responsibility he may not shirk and be a man, — a responsibility as deep as life itself.

XII

AN INDIVIDUAL APPLICATION

AN INDIVIDUAL APPLICATION

IN preceding chapters I have formulated a definition of architecture which appeals to me and which has influenced my attitude toward my own work as well as toward all individual and racial expression past or present. I cannot treat as real architecture, or worthy of serious consideration as bearing upon the problem of today, any product of the builder's art in which the exemplification of unified and perfected character is not sought through an idealized interpretation of the inhering structural forces. I can see in buildings not dominated by this principle nothing more than mere scene painting, — mere theatrical picture-making in three dimensions on a more or less stupendous scale. While I admire the art of picture-making in its proper place, yet, as applied to architecture, I conceive it to be most degrading and debasing, and altogether incompatible with clear thought or deep feeling. The glory of the Renaissance was its painting. Its architec-

ture dawned as gloriously, but again the grandeur that was Rome overcame a glory that might have been the Renaissance had the Greek spirit prevailed and had not the painter-sculptors of the period begun to paint, as I have said, in three dimensions. There ceased to be an interpretation of life in terms of structure, and, instead, came a painting and modeling and superficial application of forms which once had functioned but which now were dead; not that the forms were not beautiful, — as the human lineaments are beautiful, often more beautiful, in death, but that the spirit had vanished and the forms had ceased to bear a vital relationship to living art. With the Renaissance began the reign of art for art's sake, beauty for the sake of entertainment and superficial adornment rather than as the final flower of character. In the spirit of the Renaissance a great part of the Western World is now moving, one cannot truly say living, and not far removed are such modern Gothicists as would seek to clothe the present in mediæval forms. A Renaissance of the Gothic could only result in a miscarriage as did the Renaissance of a so-called classic culture. The lesson of refinement and emotional restraint we may perhaps draw from the art of the Renaissance the lesson of aspiration and vigor from mediævalism; the Modern Age needs to learn

them both, — but it needs the latter more. In this spirit of the Renaissance, — which is the spirit of scene painting, — though not even in its three dimensions, move those moderns of the "indigenous" school who treat the various façades of their buildings as detached planes upon which a pattern of wall surfaces and windows is to be drawn and the whole or a part of which is to be marked off with a border unrelated structurally or æsthetically to the building as a whole. This oft-occurring offense against reality is denominated "plastic" architecture by its devotees and is an architecture of manipulation as against articulation, an architecture wanting the moral and æsthetic qualities of real structure. And the leaders of this self-styled "cult," which unintelligently follows the battle cry "forms must function" and "progress before precedent," design these framed-in panels of wall and window units with total disregard to any established or underlying principle, — now treating the piers and windows vertically and then, in a problem involving identical conditions of function and structure, superimposing story upon story in horizontal laminations; and all this they offer as an expression of present-day ideals.

Has the Modern Age an inheritance of its own? If so, why not enter into it? Let us cease to dwell

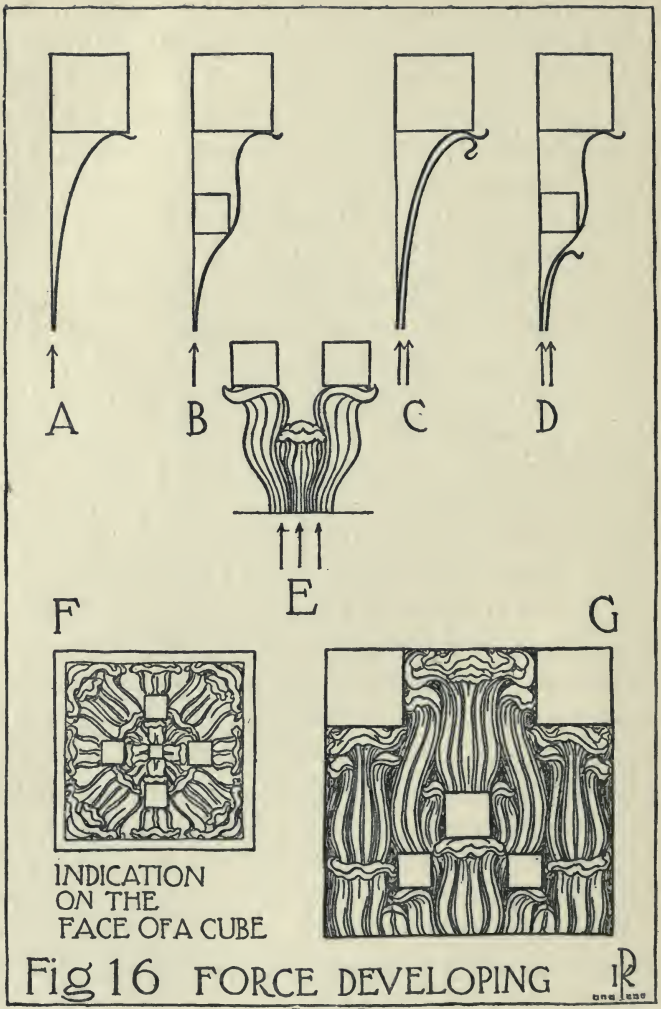


Fig 16 FORCE DEVELOPING

in the shadow of the past, in the mists of the present, and live in the sunshine of the always. In a democratic state the initiative, as I have said, must be taken by the individual; and the impulse must spread from individual to individual, each adding his increment till the whole thinks and acts as one. Such development presupposes that the message of each individual shall be comprehensible to every other individual, and that it shall be capable of expression in terms which everyone can understand and of interpretation in forms which everyone can employ. This chapter tells in part the tale of an individual effort in that direction.

Let our thought revert for a moment to the Greek. To him his temple was a symbol; in its every detail the architecture was symbolic. Let us, too, make our every work a symbol. Note again the capital of the Doric column. The beautiful line of the echinus develops against the refractory form of the abacus. The abacus, as I have already said, is a cube in modified form. We accept this suggestion and in our individual interpretation will take the cube as one of the basic forms to symbolize the fact, one of the hard facts, of life we are to meet in order to develop our individual character which is itself to be symbolized in the curve developing along the line of

force. The cube is selected for two very important reasons, one ethical, the other purely æsthetic. The cube is the most refractory form in art. Its surfaces are all of the same size, the angles are all the same, and its lines are of equal length; there is no proportion, no flexibility. Nothing would seem to be more inherently ugly, nothing would seem to fit less readily into any scheme of beauty. The cube in itself makes no imaginative appeal. The spirit rises to meet this object, this fact in life; a field of force is developed and a line of beauty results from the conflict (Fig. 16–A). So should it be in life itself. Perhaps in rising to meet this obstacle the line of force has encountered a lesser obstacle which, although overcome, has left the impress of the encounter upon the aspiring spirit (Fig. 16–B). Another element of beauty has entered in if this lesser obstacle has rightly been met. When the aspiring spirit has been diverted from its upward course by an obstacle, it will seek immediately and indeed throughout the conflict to assert its upward tendency. An expression of this characteristic will keep the line firm and free, the form from weakness or indecision. In a democratic community one inspiring altruistic individual helps and strengthens another; the character of one is modified and sometimes molded by contact with another (Fig. 16–C).

The expression now is not that of the Greek Doric, in which the development of a single force was exemplified by the shaft of the column and by the unity of the echinus, but is more like that met with in the Romanesque and later in the communal expression of mediævalism. That is why it so appropriately symbolizes the individual amid modern social conditions and that is why it is employed. Perhaps the stronger force in overcoming an obstacle has given character and definition to a weaker neighbor (Fig. 16–D). Again, perhaps two forces developing apart and individually have influenced a third and have been influenced by the third (Fig. 16–E). Another element of subtlety and beauty has entered, and the symbol of democracy, of interdependent, interacting social units, is developing a reasonable fullness of expression. We may emphasize, just here, the important fact that these lines and the forms they define are abstractions; not floral or vegetable conventions but abstract symbols of forces inhering in the structure. When it comes to pure decoration, which may with propriety occupy the zones of repose, the flowing life in the stem may break into leaf and bud and flower, conventionalized in harmony with the environment; but this decoration must never be allowed to cross the axes or fields of structural force.

Again notice the cube. Even in its refractoriness, even because of its hard unyielding nature, it has added an element of æsthetic strength to the design and will affect beneficently the larger unity. To the design it brings contrast and variety both in form and in light and shade. The fact behind the form was necessary that character might enter into life. The form which symbolizes the fact was necessary that beauty might enter into art. But the fact which is symbolized by the cube, an obstinate fact against which the forces must beat, need not of itself be ugly — it need only be firm and unyielding. That obstacle in life, which is to determine by the manner in which he meets it whether an individual is a man or a brute, may be ugly or it may be beautiful. It may be riches, it may be poverty; it may be a beautiful woman or it may be a wayward child; it may be death, or it may be the fact that one must live; it may be one of a thousand things, it matters not what, so that it be a thing to be met and its thwarting and depressing tendency resisted. It may be demoniac or it may be divine. For the artist it may be the painting of a picture or the carving of a statue. In the case of anyone, whomsoever, it may be self-imposed or it may be laid on from without. And so the cube may become lovely and interesting through a representation on its surfaces (Fig.

16–F) of what the artist conceives to be of its own inner nature. There is a suggestion in this figure that the cube is a cosmos with the forces working from the center outward, and this would symbolize the manner in which the real solution of an architectural problem should be reached. There are innumerable methods for a characteristic treatment of the cube, this being but one.

A, B, C, and D of Fig. 16 serve to introduce the elements which are to be used in the design of the ornament in the individual effort at expression which I am now presenting. It is the province of the artist — the creator — to impose limitations and so to choose and dictate that the design shall express the feeling he wishes to convey. This is one exposition of the law of purpose. In the round the mass is shaped to symbolize the force as in the Greek capitals; on the surface the decoration virtually must be an æsthetic "X-ray" projection of what the artist conceives to be transpiring within the mass, — the aspiring forces developing beauty in wall, pier and column, the horizontal forces developing likewise within the beam. Take first a portion of the wall, setting off a square as most harmonious with the general idea and as the simplest æsthetic element of the design. Within that square we place, where our æsthetic desire directs, the cubes, — represented in eleva-

tion by squares, — and trace the direction of the forces which rise to meet them (Fig. 16–G). In this design all of the moral elements already noted are introduced. In addition there is that other factor which was discussed when we analyzed that aspiring force in the Greek temple as it approached the spiritual barrier and yielded to the command " thus far shalt thou go " and at that point developed its supreme character. So when the creator sets the defining limits of the square it devolves upon the rising force to meet that impalpable boundary in the utmost richness of spirit and beauty of form. There is represented in this figure a development which makes it harmonious with, and an epitome of, what should be set forth in the details of the building itself, namely: a more rigid and unyielding disposition in the lower stories, gaining in serenity and fullness of character as the rising forces begin to " find " themselves and reconcile themselves to the circumscribing conditions. This is after the manner in which a sentient force naturally would develop while the nature of the materials entering into the structure should correspond to such an expression. One of the finest characteristics of an architectural ornament based on a representation of developing forces is that it lends itself to an expression of the nature of the material in which the force is operat-

ing and, at the same time, preserves a unity throughout the entire structure. So, for example, in the granite of the basement or lower stories the line would be firm and, after a manner, unyielding, beginning to yield more and more as the structure arises. In the soft stone and the marble the lines would be more free and flowing, being more refined in the marble. In the terra cotta and plaster the lines would be freer still; while in the colored surface decorations there might well be an exuberance of line controlled only by the character and function of the building. In interpreting the action and bearing of present-day forces under restraint or opposition, I have always sought to give the optimistic aspiring touch to the form (Fig. 17–A) rather than a complete return upon self which, responding to a basic concept in Greek philosophy, is the feeling conveyed by the Ionic volute (Fig. 17–B) and by the line of the Doric abacus, if we conceive the curve prolonged (Fig. 9–C). This rising tendency at the end of the curve, this reaching out and up into the future, is essentially symbolic of modern thought whether arising from a belief in the continuation of this life in a future state of existence, the product of emotionalism, or from the more poised and intellectual attitude in which immortality is conceived as residing in the ever-broadening influence which

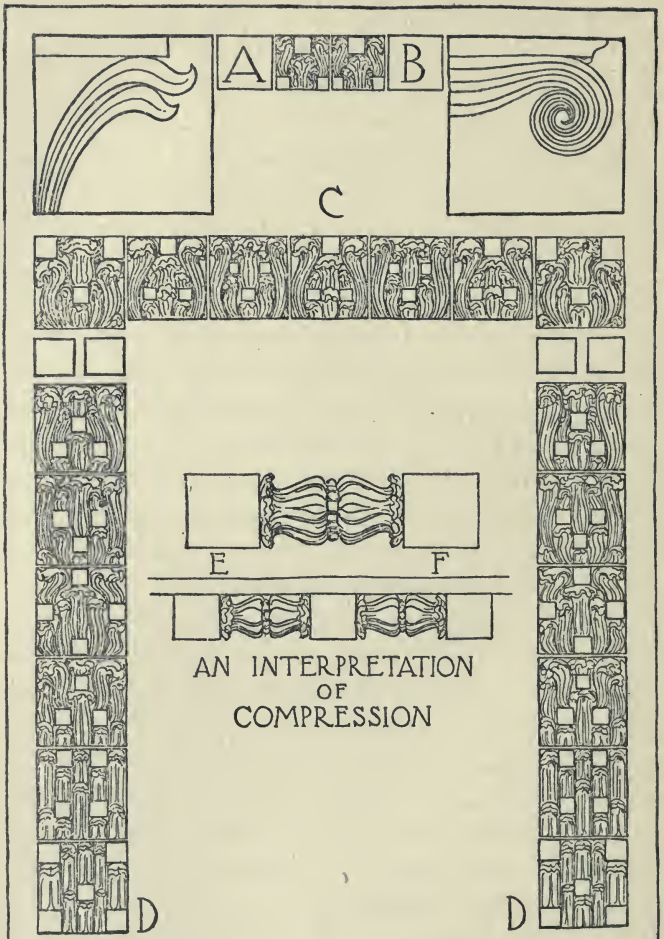


Fig 17 DISPOSITION OF ORNAMENT IP

character exerts on generations yet unborn. Furthermore, a rare characteristic of the ornament I am describing is that it lends itself, at this point, to an expression of such emotionalism, say, as we find in the Gothic with its virile, vigorous forms, and at that point to an expression of the poise and self-restraint of the classic with all its grace and refinement; and, if so be, all this in one composition and in full harmony. And so into one structure, while still conserving harmony and the greater unity, variety may be introduced, — variety sufficient to meet the spiritual, not to say temperamental needs of any individual in our very involved and complex social order.

Not only is the individual square or cube, or whatever form the unit of ornament may take, capable of wide range of expression, but an arrangement of the units will enforce the character of the ornament in the highest degree. For instance, horizontality is to be expressed; the units are placed side by side (Fig. 17–C) in such fashion as may best suit the requirements. Or, verticality is the motive; a proper arrangement of the units will express that feeling (Fig. 17–D–D). The feeling, be it noted, lends itself to presentation in the flat, in low or high relief or in the round. While the dominant motive may be either horizontality or verticality, yet within the unit the

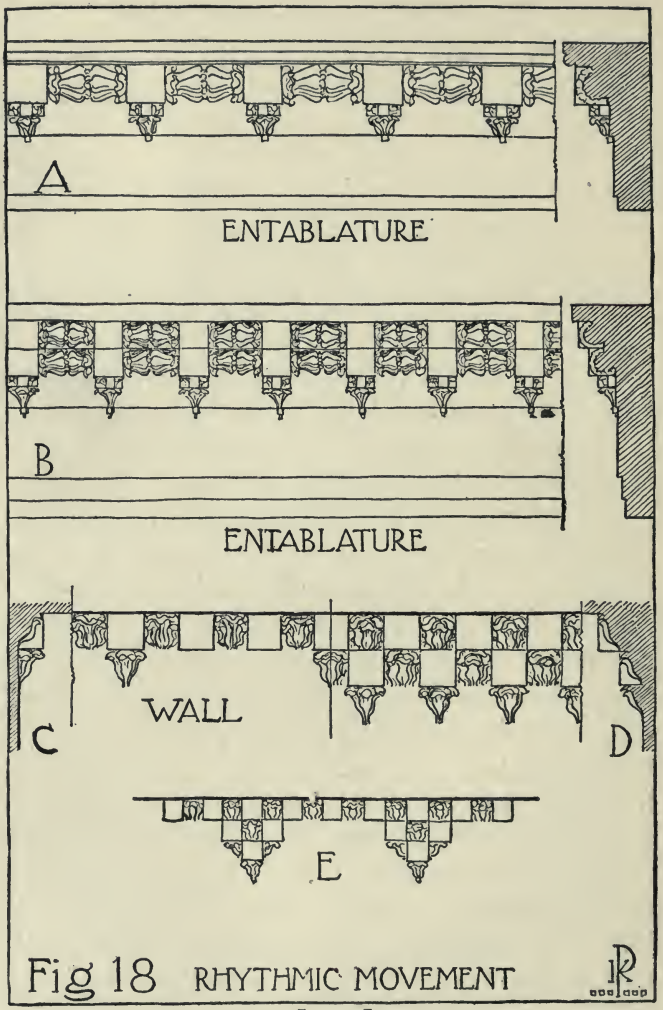


Fig 18 RHYTHMIC MOVEMENT

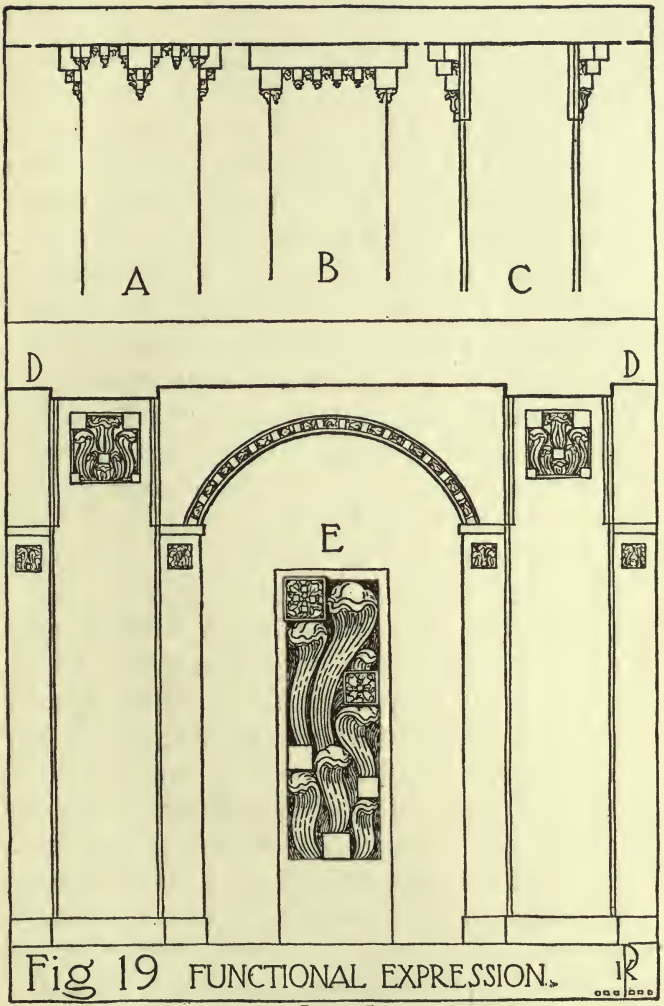


Fig 19 FUNCTIONAL EXPRESSION.

force is always ascending, never diverted from its true purpose, as residing in the soul of humanity and in nature.

The horizontal force of compression in the beam finds full æsthetic expression in the terms of this ornament in which the force is correctly interpreted as pushing away in two directions from the center, the cube again typifying the resistance the force is to meet. Applied to a beam or girder in a building, the form in its simplest terms would be as indicated in Fig. 17–E and F. If it is desirable to include an expression of the ascending spirit, as would be quite necessary in an entablature, a manner of it is indicated in Fig. 18–A and B, of which A would be the simpler form, and B the more ornate. Again, if it is desired to express the meeting of wall and ceiling in a more ornate manner than by the simple molding, such manner is indicated in Fig. 18–C, D, and E, which are but suggestions from a multitude of forms and combinations which will occur to any imaginative mind. Fig. 19–A, B, and C will indicate the adaptability of this type of ornament to the design of the capital where the feature is called for on column or on pier. It often is desirable, for the sake of creating a certain effect, to omit the capital, especially from the pier, at the same time that the design calls for detail and a

harmonizing of the feature with the surroundings. This has been accomplished as is indicated in Fig. 19–D–D, the character and nature of the force being expressed in the carvings of the squares or oblongs. A clean-cut expression of strength and refinement is obtained by this method. The oblong lends itself most readily to design of this character (Fig. 19–E). As within the square, the units typifying restraint are so ordered as to cause the lines of force to conform, and make the pattern conform, to the larger spirit of the structure. The oblong so used upon wall or pier would naturally be disposed vertically, though its application might be made horizontally in the upper field of a beam when delicacy rather than strength dictated the feeling.

And now we reach the interesting phase where color enters. To the mind's eye the ornaments I have just been presenting have probably appeared as outline or as masses defined by light and shade and shadow. Imagine the field for color which opens before us, and the potency of color in giving definition and distinction to ornament such as this. Each of these lines of force, developing now against the final obstacle or restraining power, developing now by contact with its neighbor or gaining character from a force it has subdued, each of these individual expressions

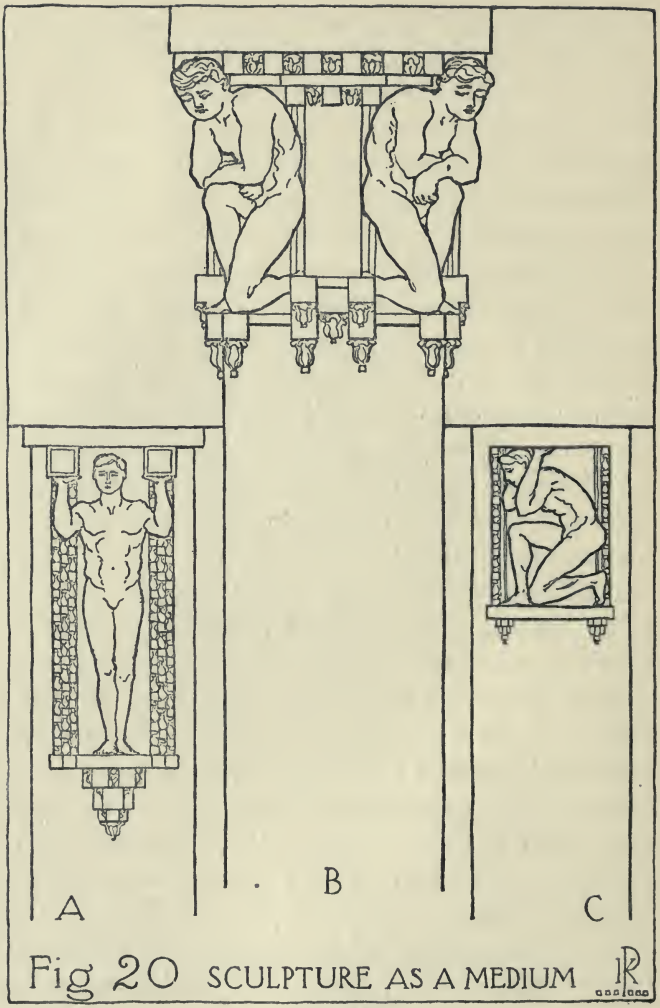


Fig 20 SCULPTURE AS A MEDIUM

of force is a unit in a democracy of altruism symbolized by this ornament and each as a unit and as an expression of individuality is entitled to its own color characterization in any scheme into which color may be called to enter (see frontispiece). The psychology of individual attraction is a fascinating subject for exposition in color. Forces with similar characteristics, spiritual and physical, developing under similar conditions, would be given harmonious or contrasting colors, and the forces they affect or greatly influence would be given contrasting or harmonious colors or shades — visualizing the law of selection as we see it working in nature — human and otherwise. And so we have practically an unlimited field in which to exercise the power, the charm, the mystery inhering in color and at the same time to cause color to take an exalted place in enforcing the character of structure. Under the hand of the knowing colorist the wall may take on all the richness and seeming intricacy of an Oriental tapestry and all the while be interpreting the laws of life and revealing them in structural expression rather than concealing the structural principle beneath a superficial covering of purely extraneous ornament. The patterns in which the cubes or squares repeat so frequently may be relieved of any sense of monotony by giving each square or cube its indi-

vidual color; which also will enforce the idea already advanced that these " obstacles " are not necessarily ugly but may be of supreme beauty in themselves and in relation to the ultimate design.

Now, having dealt with abstract form and color, let me indicate the place of sculpture in this individualistic interpretation. I have said that in the Atlantes of the Doric lay the finer of the two Greek conceptions in structural symbolism and that the idea had never been pushed to its conclusion by the Greeks. Perhaps in the more involved modern expression it can be employed to advantage. Take the column and the pier; but more especially the pier, as presenting the simplest case. In the place of the floral or the conventional capital let us suggest the conventionalized figure. The idea lends itself to so many forms of presentation that we are bewildered by the fullness of the choice. First, we may take a single figure comparable to one of the Atlantes (Fig. 20–A), and again, a group (Fig. 20–B), and again, the decorative panel (Fig. 20–C). The development of this feature in our time should appeal to the democratic spirit; for the introduction of symbolic sculpture into our structures will give opportunity for the artist as against the artisan, the freeman as against the slave, the individual as against the master. The sculptor as against the

carver, that is, as against the mechanical repeater of the designs of another, will add a source of strength and beauty and interest to a modern expression. In my humble estimation one small human figure, symbolizing life in terms of structural force, carved into the portal of a building would be of greater moral and æsthetic worth to the people today than would many square yards of festoons, functionless moldings, shields, and cartouches, even when the reason or excuse given for these latter is that they function for beauty.

Sufficient has now been said to indicate the nature of the architectural ornament in this particular individual application. It has been only fair, having weighed certain existing forms and details and found them wanting, at least in their present application, to suggest in their stead something which might possibly be suited to modern needs and ideals. And this constructive criticism should extend to mass as defining and interpreting the broader conception. To begin with, let us conceive that the state is but a larger and fuller expression of the individual, — the machine through the operation of which the individual function is most fully conserved and guaranteed. Whatever rightly interprets and fits the individual should, more powerfully symbolized, rightly fit and interpret the state; and what is true of the state is true,

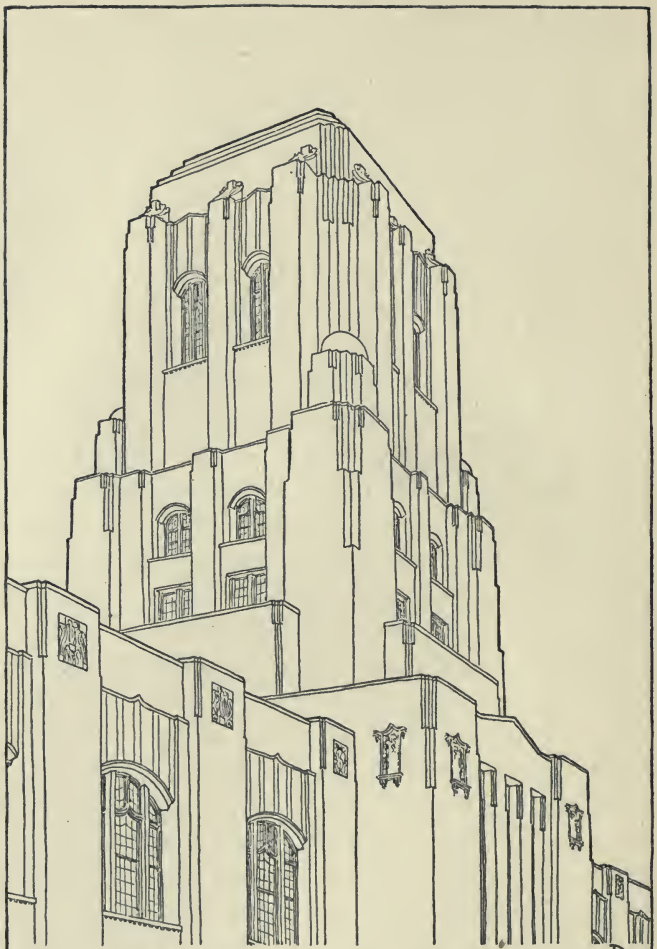


Fig 21 STATE-HOUSE CHARACTERISTIC MASSES

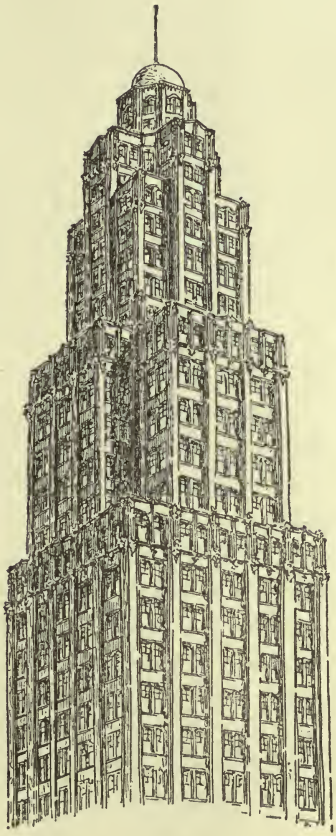


Fig 22 UPPER STORIES OF A TOWER OFFICE BUILDING

only in lesser degree, of the various social, commercial, industrial, institutional, and other manifestations of the common life. No basic form is needed in the expression of one of these factors which, duly modified and environed, might not with equal propriety appear in another. Take an example; the arch in its segmental or in its two-centered form, flattened and buttressed by powerful masses shaped to symbolize in the highest degree poise, self-control, and inherent strength, might well appear in statehouse (Fig. 21) and in municipal building, while the same feature, more emotionally presented, and buttressed by piers in which the exalted spirit is manifested, would truly bespeak the religious edifice, and, modified by horizontality, the institutional building. Rhythmically disposed and subdued in scale the arch finds appropriate setting in the dwelling. Again, the pier, even under certain conditions refined to the column, may be given a form and setting appropriate to individual, institutional, municipal, or national expression when the nature of the structure permits its presence functionally. Into all types and classes of structures the pyramidal motive should enter to conserve the larger internal unity as in the Greek temple or, properly to relate the dominant mass to the larger aspects of its physical environment, as in the Egyptian tomb,

or the mediæval spire. Modern methods of construction lend themselves to the expression of this motive by set backs or retreating walls (Figs. 21–22) in steel-framed structures and by beveled, molded, or buttressed corners in masonry construction, as well as in the cloaking of the steel uprights.

I have endeavored to indicate in Figs. 16–24 a possible treatment of certain of the elements of this vast problem, dealing now with detail and again with the presentation of the greater mass. There is no attempt at originality after the manner which has cast distrust upon that much-abused idea, but, rather, a reasonable and logical statement in æsthetic terms. The thought underlying these drawings must from the necessities of the case be but weakly and insufficiently presented; but the imaginative and temperamental mind will be able to visualize the forms, and, in the light which has been cast upon them from these pages, be able also to determine whether what they are intended to suggest in any way fits into the scheme "of things as they are." The mind endowed with creative imagination will be able to estimate in how far a truly and broadly sympathetic chord has been struck; and if that mind is further endowed with constructive imagination it will determine for itself in how far, if at all, the spirit has

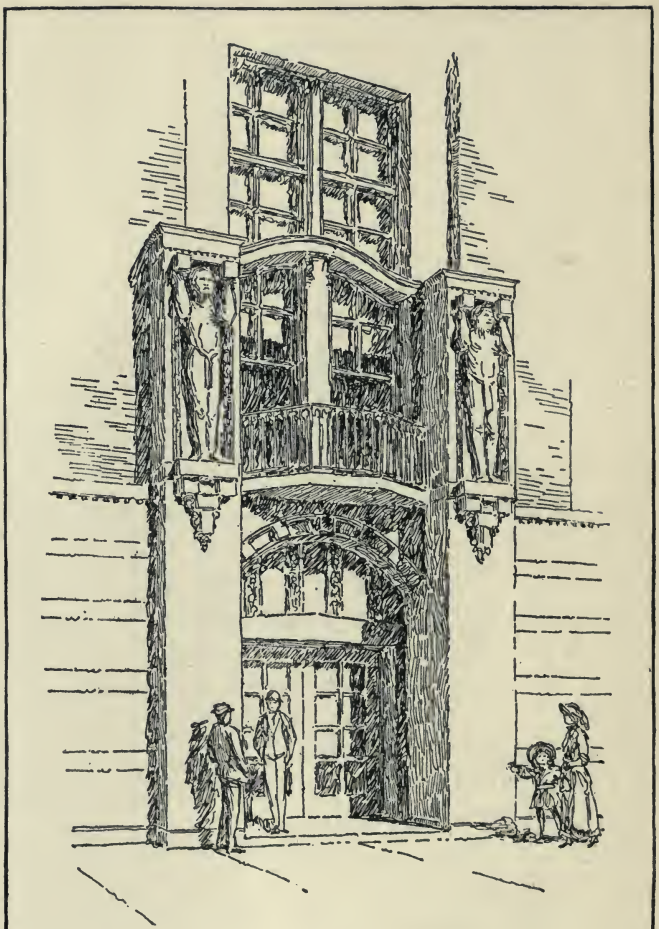


Fig 23 ENTRANCE TO A CITY CLUB

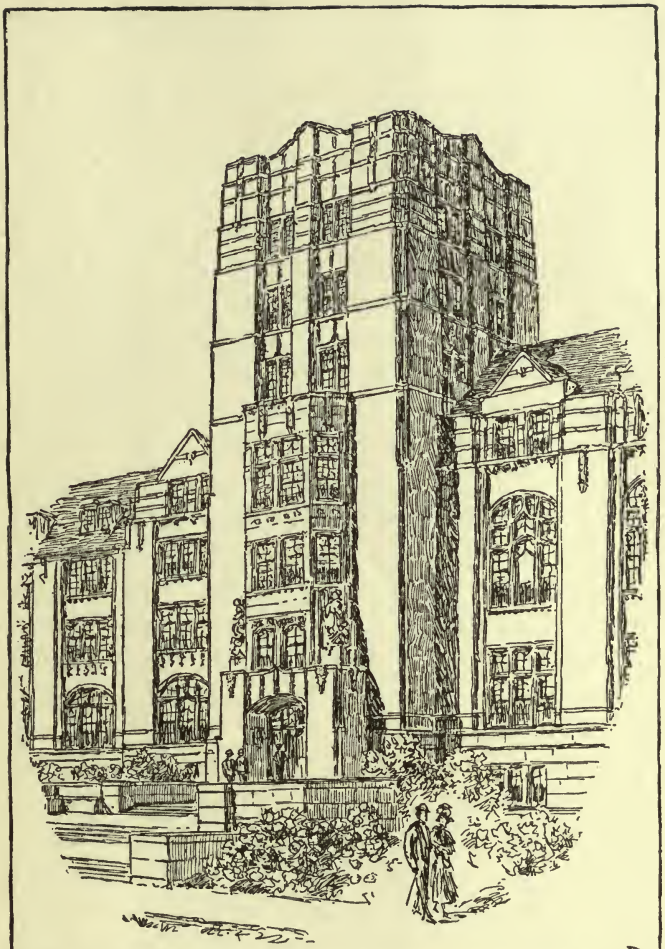


Fig 24 FORMS SUGGESTIVE OF THE COLLEGE JAN. 1916

been embodied in the forms and after the manner I have sought to disclose. I am trying, as I already have said, to add a sincere, though as I am most conscious a humble, individual increment to a worthy and compelling interpretation in architecture of the spirit of a helpful, altruistic, and then, let us hope, an abiding democracy.

An old precept runs: "Obstacles are God's best gifts to man." That is but another way of saying that out of the struggle of life must come perfection of character, that out of the conflict of opposing forces must come beauty; else were we barbarians. Out of all the struggle of the race and the individual upward out of barbarism and childhood have come civilization and the full fruition of manhood; out of chaos has come order; out of strain and stress has come beauty. To conserve that beauty, to interpret and express it, is the privilege and duty of the artist. To live in that beauty and make it a part of his being is the privilege as well as the duty of every civilized man. This he may do by regulating the thoughts and acts of his daily life. The regulation of thought and act with the idea of making — not getting — making the most out of life is called art. It goes down into and touches the seemingly most insignificant act and thought as well as the most important. Poetry, music, and the fine arts

— painting, sculpture, and architecture — are its grandest expressions and those who make a profession of these arts are called artists; but they are no more artists than are the men who listen to the voice of beauty and answer its call in the shaping of their lives. . When I read poetry and hear music, and behold the wonderful rhythmic performances of juggler or of acrobat, and study the fine manipulation of sculptor or of painter, I feel that there must be an art which sums them all up. And I find that in the great periods of the past there was such an art and that it was architecture. I believe that again architecture may become as potent an expression of an influence upon life as it was in the past; but this can only come through a conscious and concerted effort on the part of society and the artist. Because of the diversity of our origins and ideals the unification of society must be a long time — perhaps centuries — in coming. There is, however, much which we hold in common, and on this we must concentrate, and to this we must give the most sincere form of expression of which we are capable, thinking of the problem in relation to ourselves and to our times, and not solving it as someone else, at some other time, and under dissimilar conditions, saw fit to solve his problem. We should seek to understand those conditions as we would seek to understand

our own conditions; and this broader understanding will aid us to a richer expression of ourselves. But architecture will not be what once it was, nor what it should again become, unless there be concentration of effort and directness of purpose. And so, to the end that a great art may live again, let us strive, — society as a whole by the sincerity and fullness of its effort, — the artist by the truth and beauty of his interpretation.