ART IS FUN

I

WE MIGHT have a little fun with art by thinking for a few moments about some of the buildings we know from time past in the light of their emotional or spiritual worth, as well as in the light of the brilliance of their construction.

Now, there is no doubt that the creation of any work of art is a highly complex matter. No great work of writing or of music, of painting, of sculpture, or of architecture has come into being by some lucky accident. All are the products of their author's intent, of the careful workings of his mind, of the accumulated knowledge of his lifetime and, above all, they are the products of his ability to express his thoughts clearly in his selected medium. Great works of art do not just happen; they are created by a series of complicated processes all governed by the will of the artist. But the result seems to us to be a miracle of effortless statement in which the words or parts fall into place so easily that we are sometimes persuaded that no study or painstaking work was necessary. This is how it should be, because as soon as the labor involved becomes noticeable or obvious, we no longer have a supreme example of art.

It is a strange paradox that the art works of man which have had the greatest effort spent upon them look so inevitable and so easy that we think that little effort was spent by anyone upon them. One of the greatest works of architecture from almost the dawn of history is the group of man-made

* The four articles which follow are typical radio scripts from a series of programs under the general title "Art is Fun" delivered by the author during 1953-54 over Station KTRH, Houston, Texas, Sundays at 10:15 p.m.
mountains a few miles south of the apex of the Nile delta which we know as the Great Pyramids. Aesthetically, they are tremendously impressive, depending for this effect solely upon their size and the proportion of their masses. Nothing seems more stable and immovable than a pyramid, and when this sense of stability is combined with tremendous size, the effect of the forms can be almost overpowering. But when we gaze at the Pyramids, either in actuality or in reproduction, we are moved by the shapes themselves, not by the precise stone masonry and engineering that produced them nor, yet again, by their functional performance as tombs. Strangely enough from one point of view, the Pyramid was not a functional building at all. It was planned as a tomb, and in most civilizations it would have filled this assignment very well, but the Egyptian belief in another life required that not only must the body be preserved, but it must also be surrounded by the things that it used and enjoyed in this life. Consequently the burial chambers were filled with all sorts of articles which had been precious to the dead person; much of his worldly wealth was buried with him. Instead of helping safeguard this wealth from disrespectful and thieving hands by hiding the spot of burial, the Pyramid boldly advertised the tomb to the world. It was like putting up a sign, “Come and get it,” so that it is not surprising that the burial chambers of the Pyramids were usually rifled as soon as the authority of the Pharoah had ceased to be effective.

Still the Egyptian Pyramids stand today as one of the most inspiring examples of man’s indomitable will and ability to overcome the physical limitations of his environment.

Of the fabulous Hanging Gardens of Babylon we have little physical evidence, nor does much remain of the magnificent temple to Diana (Artemis) at Ephesus, which was
considered as another of the seven wonders of the ancient world. But ruined though it is, the Parthenon* on the Acropolis of Athens still can move our spirits, not by our knowledge of and admiration for the culture that produced it, but solely by the beauty of its proportions, the color of its marble, and the harmony of every detail. After our initial contact with its perfection, we may ask ourselves by what genius it was produced. We may, by careful measurements, discover that the lines we think are straight are really curved, that the mechanical problems to insure stability were carefully weighed, considered, and solved, that the visible fabric is a perfect reflection of the structural principles by which it was constructed, but all this comes after that emotional grasp of the perfection of its form. The mechanical knowledge, the years of planning, the years of labor necessary to build it, do not enter our minds until long after our senses are thrilled by the harmony of its forms and make us willing to concede that great architecture is but music turned into solid, visible form.

When we enter Hadrian's Pantheon5 in Rome, we are apt to pause spellbound, as our senses soar about the tremendous vaulted space. The dome of heaven as it arches from horizon to horizon may be more vast, but not more comprehensible as space, not more grand in its proportions, not more majestic in its effect on our spirits. Do we stop to measure the Pantheon's height or appraise its breadth; do we inquire into the engineering that was necessary to build it; or do we even bother with the forces that were brought into equilibrium to construct it and make it stand for over eighteen hundred years? I doubt that we do. All of such inquiry is left to some later time. Again, we judge and appreciate the Pantheon, not as an amazing piece of engineering, which it is,
but as a great work of art, which it also is.

And again, when we stand actually or in imagination under the dome of Santa Sophia,\(^6\) which seems to rest so lightly on its supporting walls, as if, as was said long ago, it was suspended on a cord let down from Heaven, do we think of the fact that in his haste, Anthemios of Tralles, Justinian's architect, didn’t calculate the unseen forces quite accurately, so that within a relatively few years the dome fell, only to be built again, and fall again, until it was made secure finally, many years afterwards? Are the architects who finally made the great dome structurally secure the ones we remember, or is it Anthemios of Tralles, who had an idea and gave the idea form, even though in faulty engineering? Anthemios’ conception has never been lost, and it is that which moves us and will move future generations. Again we are back to the artist and the work of art. It is architecture—the work of art—which is the end, and the very, very necessary structural knowledge is but the means.

I doubt if anywhere in history we could find a better example of a logical structural system, that is, the engineering system of architecture, better revealed and expressed than in one of the Gothic Cathedrals of France of the thirteenth century. In modern steel and concrete construction, we use a framework which does the work of supporting the brick or stone veneer of the walls; in fact, this framework does the work of holding up the floor above to such a complete extent that vertical masonry walls can be replaced by glass, as we see in the United Nation’s buildings\(^7\) or the Lever House\(^8\) in New York City, but which no local architect has done so completely in Houston. But the steel skeleton or framework of the building has not yet been as completely expressed as has the masonry framework of the
Gothic Church. Of course, I mean the Gothic Church of the 13th or 14th century, not a modern church mannered in the Gothic style, as we see all over the United States.

The skeleton of ribs, interlacing pointed arches with their necessary adjuncts, the buttresses and flying buttresses, all form a building system so expressed that even the architecturally untutored can read it. But, do we think of this logical construction, this marvelous balancing of thrust against thrust, this carefully calculated engineering in masonry, when we enter the nave of a great cathedral? I think not; and why? Because our words of appreciation of the vast interior, with its great length and soaring height, are words like spiritual, inspiring, worshipful, religious, tranquility, and peace. It is the emotional character of the interior that grips us, and again we come to realize that the intent of the medieval master builder was not the following of a structural system, but the achievement of a space, so shaped and formed that it evoked a spirit of humility and worship. We are not surprised to learn that Napoleon is supposed to have said, as he stood in the nave of the Cathedral of Chartres, “This is no place for an Atheist.”

Now, so far I have mentioned a group of tombs, two pagan temples and two Christian Churches as illustrations from the past, to show that before anything else great architecture is a work of art. Suppose we look at something closer to home both in time and in place. Let’s take two great engineering projects, one in the east and one in the west of our land—the George Washington Bridge across the Hudson at New York and the Golden Gate Bridge at San Francisco. Have you ever seen either one of them? If you have, did the majestic sweep of their cables and the tall majesty of their piers do anything to your emotions? Or did you see them
only the result of applied mathematics and engineering skill? I contend that your first response to the two great spans comes from the beauty of their lines, the gentle upward arch of the roadway, the thrilling descent and rise of the great cables, which dwarf human ego by the purity of their curves.

Well, let's come closer to home, and what do you think of when you first see the San Jacinto Monument rising from the Texas plains? Do you think of the tremendous task of pouring the concrete foundation, of the stresses and strains caused by the Gulf breeze against the tall shaft? Do you think of the battle the shaft commemorates? Or, does the lofty form carry you without thinking, to a deeper appreciation of your homeland? But a monument like that at San Jacinto or the obelisk at Washington is almost bound to appeal to your feelings rather than your careful understanding, so let's take some forms dictated by the principles and necessities of science and engineering.

Have you ever gazed across the Texas plain at those amazing domes and towers of an oil refinery, sometimes so closely bunched that, from a distance, they seem like some prehistoric monster or medieval dragon, belching fire and steam, only to turn, with the coming of dusk, into a fairyland of twinkling lights and illuminated clouds? Now what do you think of man's creations? Are they, these things of applied science, turned into great works of art, as they haunt our spirits and fire our imaginations?

Now, do not think for one moment that I am encouraging a neglect of engineering or of sound architectural construction. I am only saying that these are very necessary means to ends. These ends move us profoundly whether we would or not and these ends, these structures made possible by engineering skill, are no longer just engineering, but works of art.
And if they are not works of art, in fact and effect, they do not justify the name architecture.

The other day, I was talking to a well-known mechanical engineer and, in the course of our conversation, we spoke of certain machine parts—valves, to be exact—and he asked me if I had ever noticed the beautiful forms in metal of some of these machine parts. I had and have noticed them. They are dictated by function and by the nature of the metal used, but to the layman such as I am as well as to the engineer, they have the same beauty and purity of geometric form that is seen in the great Pyramids and make their appeal, not as mechanical parts, but as works of art. My delight was in the fact that the engineer realized and appreciated the beauty of these products of the machine; his appreciation did not depend upon the functioning of the machine part or the skill necessary to fashion it, but upon its intrinsic form and proportion which appealed to his feelings, emotions and sense of beauty.

So just remember, as you look about you, that architecture is not only the science of building, but the building of a work of art. No wonder architects have so much fun.

The subject of this program is concerned with the things we see. That’s why our program is called “Art is Fun”—because most of the things that we have fashioned are evidences of our art and consciously looking at them is one of our great sources of pleasure and fun.

But of all the arts that we can see, the one we see the most is the art of architecture. In fact, we see it so much that, strangely enough, we often don’t really see it at all. By force of circumstances, a great many of us live in a world
bounded and circumscribed by buildings—all sorts of buildings—houses, markets, stores, hospitals, churches, even jails, so that it is no wonder that we often move through this man-made environment without paying much attention to its details.

That is why those things we build for important public purposes should, by their very nature, declare those purposes to us. A great memorial must evoke in us a spirit akin to reverence for the thing or person memorialized. A church must create a spirit quite different from that of a theater. This power to create a spirit of religious worship on the one hand and gay entertainment on the other, is not dependent upon any particular style of architecture or upon the nature of architectural details but rather it depends on the way those things are put together and combined. The result is a most difficult thing to describe and, so far as I know, no formula or recipe has been found which will insure success, though many have been suggested and many have been tried. Yet, when the right combination is found it leaves us with no doubt in our minds concerning the nature and purpose of the particular building. We all know, without the need for words, that a completely appropriate result has been achieved.

But the art of architecture has another function. In our cities and towns it forms the major background against which our daily lives are lived. It affects us powerfully, whether we know it or not. As an example, think of the many times we have been reminded of the growing skyline of downtown Houston, both in word and in picture. We are familiar with the group of buildings, though many of us could not correctly name each one. Yet, a mental picture at once comes to mind if we say “Esperson Building” and “Gulf
Building." The upper stories of these buildings rising above the rest have become almost a symbol of our skyline and with it of our city.

But, when we speak of architecture as background, I for one, mean something a bit different than the gradual development in our minds of the idea which associates Houston and its physical growth with a picture of the skyline. I mean the effect the actual buildings, collectively and individually, have upon us as we live in them, work in them or walk past them. Our judgment of them is based upon how well they express to us the function for which they were built and how completely they satisfy our need for beauty of environment as well as afford efficient protected space for the carrying out of our work. When we state our opinions either in praise, or in adverse criticism, these opinions are often dependent upon our reaction to the building as an independent entity rather than its relation to the purpose for which it was built or its relation to the buildings around about it.

Now very few buildings in the built-up portion of a city can be judged solely on their own independent qualities, though I feel that most of us do judge them in this manner, which in effect makes every building compete with its neighbor for its share of our attention. This in itself is neither good nor bad, but it has a way of leading to disorder and lack of harmony in building groups and, I believe, we can all agree that such disorder should be avoided.

Our judgment then of a building as background does not always depend on how well it fulfills and expresses its purpose, but it may also depend on how well it gets along with its neighbors in producing an environment which is stimulating and healthy to all of us. Sometimes this ability to get along with its neighbors is enforced by law as, for example,
in the city of Paris. Hence much of the modern city is controlled by ordinances that regulate both building height and materials to be used. One of the causes of these regulations can be seen in the beautiful Place Vendôme, built in the time of Louis XIV as a housing development for the wealthy nobility. The dimensions of the great square now dominated by Napoleon’s memorial column were carefully correlated to the height of the buildings surrounding it, with a display of taste and judgment that makes it recognized today as one of the most harmonious and aesthetically satisfying architectural spaces anywhere in the world.

But—here is the interesting thing—the stately façades, so beautifully proportioned that they would be beautiful no matter what style of architecture was used, seem designed for the people walking through the square. Actually they form the fronts of many different kinds of enterprise. The famous Ritz Hotel, the Guaranty Trust Company’s Paris Branch, a maker of rare and costly perfumes, another maker of rare and, just as costly, gowns, an art dealer, and many other businesses, all open upon the square, yet none of them presumes upon his neighbor in an effort to attract attention to himself. Quite obviously the façades do not declare the use of the buildings but rather form the background of the life within the Square or Place. Now, I do not mean to suggest that the Paris scheme be attempted or adopted everywhere. It would become monotonous, without doubt, though Paris never is.

On the other hand, a harmony between buildings is much to be desired. To prove this to ourselves, we need only look at our own Main Street and ask ourselves which blocks are the most satisfactory to our own sense of beauty, and then ask ourselves what makes them so. I, for one, think the blocks
starting with Capitol Avenue on the north to Dallas on the south, are the most impressive of the city blocks, while the half mile from the intersection of South Main with Montrose south to the Hermann Professional Building is one of the most impressive of the more outlying sections of our system of streets. My choice for the downtown blocks has nothing to do with the individual buildings which line the sides of the street, but only with the general harmony among them. It is by no means a perfect harmony, yet there is a certain dignity and orderliness about the effect that makes us think of a community firmly established and not a boom town of mushroom-like growth. Consider how easily Battelstein's fills the gap between the Second National Bank Building and the newly remodelled San Jacinto Building. Each one of these three buildings is quite different from the others, and none of them a masterpiece of design, yet they blend together in a manner so satisfactory that I wish that more of our city blocks were as skillfully adjusted. And have you noticed how well the Fashion Building gets along with its neighbor the City National? Incidentally, the façade of the building housing the Fashion is to me one of the most individual and architecturally smart fronts on Main Street. On the opposite side of the street, the Commerce Building and the white marble Woolworth's are not quite so harmonious because of the sharp difference in height and materials. This also might well be said for the block which terminates in the new Sakowitz which for all its pristine beauty of white marble sadly needs the companionship of buildings its own height to achieve the unity which Foley's accomplishes simply by occupying a block in itself. Still, those blocks are "big time" and give us a pretty good idea of what is some day going to be the general appearance of most of Main
Street. Collectively, these buildings create a spirit, or perhaps we should say, consciousness of sound growth, integrity of purpose and a basic culture in which we may take pride.

The half mile on South Main to which I have referred is given its impressiveness almost entirely by the forces of nature, carefully controlled. The well-planted, carefully-nurtured and neatly-trimmed lines of live oak trees create a sense of well-being seldom encountered and seldom excelled anywhere in the world's cities. It is unfortunate that the beautiful unity of treatment cannot be many times greater in length. This, of course, is more in the field of landscape architecture than in that of architecture itself.

But there is another form of using buildings as background which can be seen in Houston. It is the same sort as is seen in the Place Vendôme which I mentioned earlier: a group of buildings planned for particular and related uses, such as those of the Rice Institute, the University of Houston, and the Texas Medical Center.

The Academic Court of the Rice Institute is composed of buildings separated in time by almost forty years, and yet no one can deny that harmony was sought and obtained. The result is due to a variety of things but mainly to wise and farsighted planning, a careful use of similar building materials and a wise refusal to abandon completely certain basic masses and forms. The result obtained, I believe, clearly shows the purposes of the buildings and reflects the standard of educational life lived within the group.

The University of Houston is yet again another group. The main units were built within a shorter space of time, so the necessity of reconciling buildings nearly two generations apart was not a factor. In consequence, the University of Houston group has a unity of both form and architectural
character which is not so immediately evident at Rice.

Now, do not think that I am attempting to compare the two groups from the standpoint of personal taste. I am simply using the two groups as admirable illustrations of buildings so related to one another that they collectively produce a harmonious background and so better those influences upon our lives constantly exerted by our immediate environment.

The third group of buildings is like the other two in that it is not yet finished, but unlike the other two, the various buildings of the Texas Medical Center are being constructed and operated under a number of individual administrative bodies. For instance, we have the Hermann Hospital operated under the trustees of the Hermann estate; the Baylor Medical School, a branch of Baylor University; The University of Texas Hospital and Tumor Institute; the Methodist and the Episcopal hospitals, each under its own board; and soon, the new City Hospital will make its appearance. All these are loosely held together by a central organization and the M. D. Anderson Foundation. Only the broadest of policies could be adopted for the guidance of building committees as each of the various organizations was responsible for its own building. The architectural committee of the Medical Center is carefully studying each scheme as it is developed and by the advice of the committee it is hoped that a reasonable harmony between all of the buildings will be obtained, so that when we walk or drive through the Medical Center, it will present a face, or perhaps I should say a series of faces, whose expressions will show that they are not only neighbors but friends. Each building will support the others in declaring without possibility of misunderstanding that the group is not for commerce, nor for indus-
Art is Fun

try, nor yet again for recreation, but for healing the sick and relieving the suffering of those in pain. You and I should not need to go into a single building to understand the purpose of the group; the visible character of the buildings, the way they are arranged and the nature of their design should tell us not only the purpose to which they are dedicated, but also should create a visible background which reflects well-being and good health.

But I think we all understand how the exteriors of the buildings before which we walk serve as the expressive background for the life moving in front of them, but interiors serve as background too—in some ways more definitely than the exteriors—for after all when you walk down Main Street you seem to be in a great hall, the walls of which are the various buildings and the ceiling is the sky.

III

Have you ever stopped to think just why we build buildings? Of course we know why we build buildings: we build them to live in, to work in, to study in. Notice the emphasis on the word “in.” We stay inside a building for protection from the weather while we engage in studying, worshiping, working, or any of the many things covered by the general term, “living.”

Most buildings are built because of the need for their interiors. Of course, there are some buildings which are not constructed to be lived in, but mainly to be looked at. Of such a kind are our monuments—such as the Lincoln and Jefferson Memorials in Washington—but these buildings form a very small percentage of the number of buildings constructed each year.

That the outside, or exterior, should be nice looking goes
without saying, if it is for no other reason than to tell us the nature of the living that goes on inside, but in most cases the outside appearance is secondary. Last week I was speaking about buildings as forming the background of our lives but the little I had to say had much more to do with the exterior appearances than the interior; however, when we come to think of it, the interiors are much more important as background than the exteriors because it is the interior sides of the walls that we see surrounding us for such a large part of every day. These walls and the way they are arranged or decorated can have a lot to do with shaping our emotional lives.

Modern architecture, particularly as seen in our homes, seems to pay a great deal of attention not only to the interior faces of walls but to the spaces that these walls form. Never before have our homes been designed with such conscious attention to the relationship of interior spaces. It is quite true, of course, that in the past very beautiful rooms have been created which have given the visitor a sense of heightened pleasure simply by their shape, that is, their height combined with their length and width, and it is equally true that these pleasingly-shaped rooms have been carefully considered in their relation to the other rooms of the building but, by and large, each of these rooms could be viewed and appraised as an independent unit.

Not so in the best of modern designs, where new materials and structural methods afford opportunity for the architect to lead the visitor easily from one space to another in much the same way that one's attention is led by the camera in a well-directed motion picture. Doors no longer shut off every room from its neighbor; rather, the division is made by suggestion rather than by solid walls. All of us know how our
Art is Fun

senses can be played upon by well-studied changes in timing, or by contrasts in colors, or by variations of textures or by any of the large variety of means in the hands of the creative artist, whether the timing, the color or the textures be those of musical notes, written words, sculpture, or painting or walls and the spaces they enclose in architecture.

We are constantly under the influence, sometimes consciously and sometimes unconsciously, of spaces, those pieces of our environment in which we work and live. Many of us—in spite of modern air conditioning and modern lighting—find it unpleasant to work long in a room, no matter how large, without windows or without some treatment of the walls, so that we do not feel fenced in.

Again many of us can remember trips taken on train or bus, during which a tunnel was encountered. I can remember vividly that, as a small boy, it was a thrilling moment when the train I was riding left the open landscape and plunged into a tunnel, but this thrill was surpassed and replaced by another when the train shot out at the other end, and once more my senses expanded with the freedom of the wide-open landscape. This sort of a play upon our senses can be definitely planned by the capable architect-designer and our whole sense of well-being be stimulated and developed through the clever way we are led from one volume of space to another. In other words, the architect has a unique advantage over his fellow artists by being able to develop and control our sensations by his design of the spaces in which he places us.

A sculptor may make us conscious of space by the placement of a piece of sculpture which does not enclose us but which makes us walk around it. A painter and a musician can suggest space and in imagination recreate the sense of space,
the writer can describe space and perhaps make us feel it, if not see it, by his use of words, but an architect actually creates space, or rather he isolates certain bits of space by his walls and roofs and causes us to become conscious of the size of the little piece of our atmosphere to which he gives shape. You can easily see that from this angle, the section of space is the important thing, and the walls which define it sink into the background only to be looked at and analyzed after our senses have been satiated in one way or another by the form or shape of the space itself. Yet I know of many architects and many interior designers who forget that they have this unique opportunity of designing and shaping space and think only of the walls, their openings and their color. I think I can say that this opportunity and with it the ability to design space is the real core of the art of architecture.

Strangely enough the understanding of the effect that controlled—that is, carefully designed—space can have upon our senses, was well understood ages ago, though today’s new and more versatile means gives a greater opportunity for using this strange power. Actual remains of buildings show us that both the Egyptians and the Romans knew of the psychological power of spaces in which our reactions are heightened by the very fact that the spaces are limited rather than boundless.

I don’t know how you feel about it, but much as I feel exhilarated by the boundlessness of the wide-open prairie or the vast expanse of the ocean, I never have as great a sense of space as when I stand in the concourse of the Grand Central Station in New York or under the curving roof of our own Coliseum in Houston. Why, I wonder? I think it is because the great space in the Grand Central Station or in the Houston Coliseum is definitely limited or bounded. The
limits imposed by the walls and vaulted ceiling have isolated a piece or section of space and have made us conscious of it. Our eyes and minds can grasp its size, we instinctively compare it to lesser spaces we know, and without thinking we say: “My, what a tremendous space! Isn’t it huge?” And yet, all the while it is far smaller than an expanse of sea stretching on all sides as far as the eye can reach and covered, not by a roof, but by the vault of heaven. I suppose that is one of the reasons why the broad corridor called Main Street is so much more impressive from Rusk south to Dallas, than it is from Bell to McGowan. From Rusk to Dallas the air above the pavement is clearly marked off and bounded by the series of buildings, while further south the word miscellaneous is hardly strong enough to describe the varied types of buildings that line the sidewalks with a vacant lot intervening every so often. Any unified sense of space is utterly destroyed by the hodgepodge of structures, many admirable when considered individually, but few showing any consideration for their neighbors or the street as a whole. Many times our involuntary reaction to the spaces we walk through is unpleasant and depressing instead of proving stimulating, such as the constricting, no-room-to-breathe quality of Wall Street in lower New York. On our first visit our sense of space is dulled by the wonderment caused by the tightly packed group of colossal buildings, but by the time of our third visit we begin to wonder how they were allowed to get that way and whether something couldn’t be done about it. Something was done about it, for the New York building code now prevents a recurrence of this building congestion. The results can well be seen in the middle city on Fifth, Madison and Park Avenues.

But I have already called your attention to the fact that
some of the builders of all ages have been conscious of the value of controlled spaces in building, where the walls are not the decorative problem but seem to exist only as a background necessary to bound a certain amount of air and mould it into a stimulating and exciting space. The ancient Egyptian temple is a magnificent example of the deliberate use of controlled space to produce a sense of religious humility. When a religious procession in ancient Egypt marched up the long approach to the temple it did so through parallel lines of waving palms and recumbent stone monsters we call sphinxes; the only restriction to clear vision was this open line of natural and man-made forms. After the first gate was entered the worshippers found themselves in a great colonnaded court open to the sky, but closed on all sides by high stone walls, gaily decorated in color it is true, but closing, nevertheless, all visual contact with the outside world except the sky. Then the worshippers passed through a great room, filled with columns and covered with a great stone ceiling so arranged that a little light filtered down from windows high in the walls but all views of the sky as well as the surrounding landscape had been cut off. Then a much narrower room with a lower ceiling was entered, in which there was no light at all except by the means of the door through which the worshipper entered or else from a lamp or torch he might carry. It was a dim religious light, most certainly. Then as the worshipper entered the sanctuary the ceiling was again made much lower and the size of the room grew much smaller, just large enough in fact to accommodate the glittering statue of the god seen in the flickering light of a few open oil lamps. Air, sky, trees, and light had gradually been reduced, taken away one by one until in the dimly-lit small room the worshipper stood or knelt in the
presence of the god himself. It was a theatrical and dramatic use of a succession of spaces, each one subtracting something from the freedom of the worshipper until finally he felt himself the humble servant of the god. The walls all did their part but they were the means of creating the spacial forms and effects and were not decorative ends in themselves. The Egyptian temple is a remarkable single example of this power of controlled space or the sensation produced by it.

The Roman house, the medieval cathedral, the Renaissance garden, all used this power in different ways and today it is being explored by modern architects in modern buildings. Keep it in mind when you build or buy a house. Harmonious, well-proportioned spaces with walls as backgrounds assure good-looking interiors; without them, little decorative harmony is possible. Controlled space is the core of the architectural art.

IV

"The public, high brow, middle brow and low brow, is notoriously disinterested in the architectural and sculptural monuments that have risen or are rising about it." That is what Mr. Andrew G. Richie of the Museum of Modern Art in New York says in a recent article for the quarterly publication of the Art Institute of Chicago. In effect, Mr. Richie says that you and I don’t care a whoop about the architecture and sculpture being built in Houston.

He’s right, isn’t he? Certainly he is right, at least from one point of view. How long has it been since you have heard any public clamor over the design of a building? I’ve heard of some private fights between clients and architects over the nature of certain designs, but no public outcry, either in praise or in blame, over a building once erected and occu-
pied, while the last good excitement we had over public sculpture, so far as I can remember, was way back in the 1920's when Enrico Cerracchio's design for the equestrian statue of Sam Houston, now at the main entrance to Hermann Park, was chosen over that of his competitors.

Of course there are cries for some special building, such as the continued talk about the need of a Symphony Hall, but only one person I know has pointed out the real reason for the Boston Symphony Orchestra's failure to include Houston in a nation-wide tour. It seems that the Boston Symphony just refuses to play in the building that is known as the City Auditorium.1 We may shrug our shoulders and say that what is good enough for the Houston Symphony should be good enough for the Boston, but that's not the real answer.

Every so often I hear the desire expressed for a more adequate solution—from the standpoints of both city beautiful and of traffic—to the problem of the famous sunken garden on South Main. A great fountain basin with a high jet of water is most often suggested, but, as I have said, the expression of these desires is still relatively weak in volume and still represents a minority opinion.

The fact remains that from the standpoint of appearances—aesthetics, if you will—we are still completely inarticulate regarding our physical environment. Our public interest in architecture shows only in such details as "how big is the building?" "how many stories high?" and, never to be forgotten, "how much did it cost?" This seeming lack of interest in how the building actually looks or how a building or piece of public sculpture can affect us, may come, naturally, from our firm belief in the almost inalienable right of the individual to build what he wants to build, where he wants to build it, irrespective of what might be called the public good. But
even with recognizing this right of the individual to do as he pleases with his own, we will find that he will be censored only if he interferes with public convenience or physical comfort. Otherwise, his building may be ugly in material and atrocious in shape, and yet almost nothing will be said against it.

Have we grown so insensitive to our surroundings that we accept them without really looking at them? I think not, else why should the merchants on Main Street strive so hard to have attractive modern fronts on their establishments and why is so much time and money expended on trying to make our public and semi-public buildings as attractive as possible? The fault, if it is considered a fault, lies not in the sincere efforts made toward an inspiring environment but rather in our lack of appraisal and critical appreciation of the units of that environment.

Mr. Richie goes on to say that whatever criticism there is of sculptural monuments is seldom of an aesthetic kind. If the piece of sculpture has for its subject a public figure our criticism is generally directed at whether or not the statue is sufficiently life-like for the public taste. I have heard statues of important people criticized by the remark that the statue wasn’t a good likeness even when the critic had never known or even seen the subject of the statue.

I well remember that most of the adverse criticism of the Sam Houston statue mentioned a moment ago, was directed at the horse on which the general was posed. This is quite natural in a land in which, until recently, the horse was not a luxury but a means to life. One said the horse was too big, another he was too small, still another, that he was too long, and I am sure some said he was too short, or he didn’t stand correctly; and so far into the night. But no one
with authority in the matter, to my recollection, ever criti-
cized the model from the basis of character, spirit and mean-
ing. No one called attention to those intangibles with which
an artist of genius can endow his work as did Andrea del
Verrocchio in 15th-century Venice, whose equestrian statue
of Bartholommeo Colleoni is not only a memorial to a hero,
but sums up and declares all those factors which made
Venice rich, powerful and great, uniting them in one object
which, to us, is the symbol of the glory of a great city. That
is why no one in Venice, either old resident or casual visitor,
can walk across the broad space in front of the old church of
St. John and St. Paul without being conscious of the Colleoni
statue, and perhaps it is also why we can all drive past the
Sam Houston statue and never really see it.

Then, as Mr. Richie points out, public criticism may be
directed at other things. A public monument may incor-
porate a nude figure such as Rodin’s powerful interpretation
of John the Baptist and, to quote Mr. Richie, “those who set
themselves up as the protectors of public morals find that
this nudity is too disturbing to them.” Again, criticism is
directed against the monument or the painting, not on
aesthetic grounds but on moral grounds.

The outstanding case of this kind was the reception given
to Michelangelo’s great fresco of the Last Judgment on the
wall of the Sistine Chapel in Rome. As you all know, Michel-
anangelo was convinced that man had been made in God’s
image, not symbolically, but literally. This being the case,
the human body in both its strength and frailty was man’s
greatest evidence of the Divine, and because of this, is man’s
greatest, if not his only, means of religious expression
through the arts. Michelangelo beautifully expresses his con-
viction in one of his sonnets. He writes in his 56th sonnet,
Art is Fun

Nor hath God designed to show Himself elsewhere
More clearly than in human forms sublime
Which, since they image Him, compel my love.

When far past his youth he was commissioned to paint the Last Judgment, Michelangelo so filled the great wall with writhing nude figures that as many people were scandalized as were pleased by the power and ruthlessness of the painting. Giorgio Vasari, in his famous Lives of the Artists, tells the following story. It seems that when the painting was about three-fourths finished, Pope Paul III went to see the fresco, attended by Messer Biagio de Cesena, the Pope’s Master of Ceremonies. On being asked his opinion of the painting, Biagio replied that he thought it highly improper to expose so many naked figures in a sacred picture and that it was more fit for a place of debauchery than for the Pope’s Chapel. Michelangelo, irritated by this, drew Biagio’s portrait to the life and placed him in Hell with horns on his head and a serpent twisted round his loins. Biagio, finding himself in this plight and being, no doubt, laughed at by his friends, complained to the Pope, who answered that he could do nothing to help Biagio. “Had the painter sent you to Purgatory,” said the Pope, “I would have used my best efforts to get you released; but, I exercise no influence in Hell.” For all I know, Biagio is still there.

But this factor of public taste is a very real and very strong one and has caused many compromises with artists’ designs. Not long ago an incident occurred in Houston, which is not only amusing but which may cast some light on how we are considered in the outside world. A great national corporation was constructing an office-building in Houston and the approach to this building was to receive a sculptured group to adorn a fountain basin and, at the same time, allegorically
represent the aims and purposes of the corporation. The sculptor selected submitted a satisfactory design of what we might call a family group. Work had proceeded for some time, but one morning the architect got a letter from his clients that they just noticed that one of the figures was a nude and suggested that the agreed-upon sculpture be abandoned and some other design substituted which, in the opinion of the corporation, would not offend the citizens of Houston. The architect, not wishing to throw away weeks of careful planning, sent out hurried calls for assistance in order to show that the proper use of the nude figure in sculpture was by no means objectionable to Houstonians. Photographs were quickly assembled of the winged figure in Sam Houston Park called, I believe, *The Spirit of the Confederacy*, the two bronze figures at the entrance to the Art Museum, the almost nude Hercules supporting the Heavens, also on the Museum grounds, and the cute little boy, poised as if spearing a fish, who stands on a fountain basin in River Oaks. That these examples of undraped figures have been many years on public exhibition in Houston without causing the heavens to fall convinced the corporation, so the stop order was rescinded. Now it remains only to see whether it causes passing motorists to slow down and look at the decorated approach, or whether they will continue to pass without seeing another work of contemporary sculpture. My own guess is that in spite of the nude figure, passers-by will not pause long before the group, because I think it is too placid and calm to jog us from the ordinary course of our thoughts.

Mr. Richie, with whose words I started this little inquiry, adds this about our public architecture and sculpture. He says that because of the artistic irrelevance of public criticism,
official sculptors, usually called Academic, have long since learned to make the necessary compromises with their artistic consciences and consequently have received most of the commissions for public monuments or architectural sculpture. The insipid and therefore undisturbing results are all about us, in parks and on public buildings of all kinds. They do not deserve and seldom receive a second look. Most of these things are technically expert in execution but they are content, in most cases, with pallid, sentimental expression.

The other day I had reason to go to the Baylor Medical School in the Texas Medical Center. In leaving the building I noticed, with some surprise, several rectangular panels near the entrance, lightly carved with groups of figures. I had never noticed them before, and probably won't again, because the work had nothing in it that was important enough to make me pause even on my relatively unimportant errand. If others are like me, then the carving of those panels accomplishes nothing more than a plain block of colored stone would accomplish. How many of you have looked at those panels? How many of you have noticed the carving on the new Police Building? How many have noticed the relief sculpture on the Hermann Professional Building, or on the City Hall, or the Fondren Library of the Rice Institute? If you haven't, why haven't you? I don't think it is your fault. Sometime in the twenties, an American-born—Brooklyn, that is—English sculptor was commissioned to do several groups of sculpture in stone to be placed over the entrances of the London Underground (Subway) office building. The sculptor's name is Jacob Epstein. The sculptured groups were simple to the point of abstraction. They caused howls of anguish on the part of literal-minded Britons. Discussed pro and con, they were the subject of much ridicule and a little praise. But
they made people think. And today, they are honored and pointed out as great examples of architectural sculpture, speaking in the twentieth-century idiom, even as the figures from the Parthenon speak in the words of ancient Greece. Unless our public sculpture can adorn our buildings and public spaces in a way to “stop the show” and make us think, it probably is a waste of time and money, and, moreover, shows only too plainly the shallowness of our appreciation.

JAMES CHILLMAN, JR.

NOTES—I
1. Pyramids of Khufu (Cheops), Khafre (Chephron) and Menkura (Mycerinos), IV Dynasty, ca. 2700 B.C.
2. Built by Nebuchadnezzar, 6th century B.C.
5. Built 120-124 A.D. under Hadrian, probably from his designs.
7. W. K. Harrison, Director of Planning.
8. Skidmore, Owings and Merrill, architects.

NOTES—II
1. John Ebertson, architect (Chicago).
2. A. C. Finn and Kenneth Franzheim, associate architects.
4. Finger and Rustay, architects.
5. Sagunet, Statte and Hedrick, architects.
7. Peter Copeland, designer.
8. A. C. Finn, architect.
9. A. C. Finn, architect.
10. A. C. Finn, architect.
12. Cram and Ferguson; W. W. Watkin; Staub and Rather; Pierce and Pierce; McGinty; and Lloyd and Morgan, architects.
13. A. C. Finn, architect.
Art is Fun

NOTES—III

1. Henry Bacon, architect.
2. John Russell Pope, architect.
3. Warren and Wetmore, architects.
4. A. C. Finn, architect.
5. The Egyptian temple varied greatly in size and detail but was generally constructed symmetrically about a longitudinal axis. It seems designed to emphasize the sacred and mysterious nature of the gods by gradually cutting off contact with the living world.

NOTES—IV

1. A situation recently rectified. The Houston Symphony Orchestra now uses the remodeled Music Hall.
3. A condottiere from Bergamo, Lombardy, who led the Venetian armies. Statue in bronze cast by Leopardi of Venice assisted by Lorenzo di Credi of Florence from full-size model by Verrocchio.
7. Artist unknown.
ANY analysis of the Art of Architecture must start inevitably with the arrangement and control of space, and must just as inevitably return to this factor as the determining one in any final appraisal.

Whether man's first building was an artificial substitute for the natural cave or an independent effort to secure greater mobility of living quarters, it is evident that he was creating spaces in which to live, spaces which would shelter him from the elements and help protect him from hostile forces. Before the dawn of written history, he seems to have sensed, perhaps subconsciously, that different types of spaces produce different emotional effects. With this came the realization that he could control or evoke these emotional effects by means of the design of the spaces through which he moved.

Until comparatively recent times little has been written regarding the theoretical factors involved in the proportions, sizes and shapes of architectural spaces. Most theory has been directed at the nature and proportion of the masses forming walls and ceilings. This is not surprising, as it is the arrangement and treatment of the architectural masses that form the plane of reference for the spaces which these masses define or suggest. This relative paucity of written theory regarding the design of spaces should not be taken as evidence that the designers of the past were insensitive to spacial relationships; on the contrary, buildings and building groups seem to have grown from a conscious desire to
create a specific type of space which would affect the observer aesthetically and emotionally as well as meet and fill his practical needs.

This consideration of the division of architectural space, which may be called space-design, seems to fall into three broad classifications. The first of these considers space as a solid, to be shaped and moulded as a sculptor moulds his clay. Here the space is clearly defined by its enclosing masses which in turn isolate the observer from any adjoining spaces or the outside world. The effect produced is profound, monumental and impersonal. In such a space the observer stands rather than moves. Perhaps the greatest example of this form of space-design is the interior of Hadrian’s Pantheon in Rome, which aptly has been described as being as much a piece of geometric sculpture as the exterior of the Parthenon in Athens, the convex being exchanged for the concave.

The second classification might be said to consider space as a liquid through which the observer may move but only in the directions in which he is led as if by a current. He is no longer isolated in a clearly defined space but may, in imagination, escape from it. He is like a fish, to continue the analogy, which leaps from the water into the air—his escape is not into an extension of the space he has occupied but into a new element, a world of the imagination and the spirit. The effect produced is one which should be desired in spaces dedicated to religion, and, in fact, it is best illustrated by Justinian’s Church of Hagia Sophia, San’ Apollinare in Classe or Notre Dame de Chartres.

The third classification considers space as a gas. It allows spaces to merge with one another while allowing the observer great freedom of movement mentally as well as physi-
The attempt is made to make the interior an extension of the exterior and unite interior space with the exterior world. This conception of space is emphasized in contemporary design. It is particularly expressive of contemporary thought and functionally adaptive to present-day needs.

It would seem that these three classifications relate to each other in logical progression from the Roman or Classic concept, through the middle ages to the modern, but such is not the case. Any examination of Roman architecture will show that, except for a predilection for axial symmetry, the builders of Imperial Rome made use of each type of space-design with a facility which shows a thorough understanding of each of them and the ways in which they could be used most appropriately.

It is evident that the architectural designers of Roman times achieved order in both units and groups by balancing symmetrical masses about well-marked axes and by carefully isolating both areas and volumes so that the shapes and forms of architectural space readily could be felt and understood by the observer. The use of axes encouraged the development of the controlled vista which is so much a part of classic site-planning and contributes definitely to the sense of extended space. In this regard the Roman designers seem to have developed a fondness for the vista which extended through a series of spaces, which alternated brightly-lighted with darkened areas. In these cases the space rhythm of the series seemed of greater importance than the integrity of the individual unit. However the Roman designer did not deny the relationship between interior space and the external world, except in those cases where such relationship opposed the purpose of the building, such as in the Pantheon, but he seemed to insist that such relationship be clearly defined rather than intuitively felt.
Roman space marches rather than flows: each unit is a step in itself but relates to adjoining units and the general scheme. The observer is drawn from one space to another in logical sequence and the connection with the external world is made clear by directed vision rather than the open panorama. The banquet hall of Domitian’s palace on the Palatine Hill was entered through wide openings from a broad garden court, while the walls to the right and left were pierced with long windows extending to the floor and opened upon two lateral gardens treated with central fountains and formal planting.

The Tiburtine Villa of Hadrian affords even more striking examples of the unity between interior space and exterior space. In the “Casino of the Semicircular Colonnades” at the villa, the observer’s vision while seated in the central hall is one of continually expanding space. Seldom does one find evidence of a more complete wedding of interior with exterior. The observer is led from a covered interior by means of wide doorways and low windows, through formal gardens and open arcades to the natural landscape. On no side is freedom of movement restricted, either physically or visually. The only apparent difference in the space-design between the second century and the twentieth lies not in point of view but in the preference given to symmetrical rather than asymmetrical design. It is a use of space-design which is in complete accord with a humanistic world; however it was this sort of spacial freedom that the Christian church sought to avoid. The humanistic world was linked with the flesh and the devil.

It is evident that in the early Christian churches as well as in those of the middle ages the observer is not conscious of a moulded space as in the Pantheon, but neither is he as free to join the outside world as he was in the Roman basilica, palace or country estate or as he is in many contemporary
buildings. True, the air flows easily through colonnades, aisles and transepts, and the attention pauses for a moment over the altar as if held by the vaulting of the apse, then rises on rays of light to join an outer world. "Another" world would be more correct as it is equally evident that the designers of the early churches had but one thing in mind, to concentrate the attention of the observer upon the high altar and its mysteries. If the medieval church improved upon this and encouraged the spirit of the worshipper to leave the altar and soar heavenward with the sound of chants and the smoke of incense, it was not to effect a union with the light and air of the world of the flesh, but with the light and air of the world of the spirit.

The church of the middle ages had many windows in its walls, but the window openings stopped many feet short of the floor. Had they been glazed with clear glass only the sky or an occasional tree branch would have been visible through them. But from the days of the early church they were filled with a translucent glazing by a mineral resembling mica or with thin slabs of alabaster. The long lines of columns and arches which divided nave and aisles led the eye inevitably to the sanctuary and altar. Architectural lines, colored walls and softened light joined in keeping attention within the church. When in the 11th and 12th centuries windows in Western Europe became filled with colored glass, the thoughts of the worshipper enter through them into the world of spirit, of faith and of God.

When Brunelleschi reconstructs in Florence the form of the early basilica he continues the tradition. Neither the Church of San Lorenzo nor that of Santo Spirito allows the observer to feel that he stands within an "extension of the light and air of the whole world." Low and clear openings
were so obviously avoided in the Renaissance church that it becomes evident that the design was planned to have attention fixed upon the altar. The thoughts of the worshipper left the altar only for a world of faith and spirit.14

It is a purely modern concept that has the Christian Church return to the pagan spaces of Hadrian's villa and beguiles the worshipper, through low openings on one or all sides, with views of gardens and flowers arranged by hands.

It is in combining the concept of space expressed by the Pantheon with that of the church of the middle ages that Andrea Palladio15 achieves his triumph of religious architecture in the Church of the Redeemer in Venice. The church was built in 1576, on the island of the Giudecca, as a votive offering for the ceasing of one of the ever-recurring Venetian plagues. Its interior is a brilliant example of good proportion
and architectural fitness.

Upon entering the supremely dignified nave, the eye is immediately drawn onward, pauses for a moment under the dome but goes onward and upward following the light filtering through the great columns which form a screen behind the high altar.

As Anderson so aptly put it, "The whole interior has a remarkably religious expression, akin to that which might be produced by slow music of rich full chords." So satisfactory is the space that it is some moments before one tries to analyze the means by which the effect is obtained.

The church in general plan is cruciform, and not of great dimensions, consisting of the nave with side chapels, the crossing surmounted by a dome, the transepts, the chancel and the choir. The nave proper is slightly more than fifty feet wide and twice again as long and is barrel vaulted with penetrations which provide for clerestory windows to the left and right. Each side is divided into three bays by well-proportioned arches leading to the side chapels. These chapels are barrel vaulted also, with the vaults at right angles to the long axis of the nave. The outer wall of each chapel contains an altar and its reredos above which there is a semicircular window. The base of the semicircle is at the same height as the spring line of the vault. The left- and right-hand walls of each chapel contain a single large niche semicircular in plan, extending from floor to a point slightly below the mouldings which mark the spring line of the vault. Each niche is crowned with a half dome. The piers between the chapels are each treated with two semi-attached columns which support an unbroken entablature. The space between them is filled by two superimposed niches, again crowned by small half domes. This same treatment is used on the four piers at
CHIESA DEL REDENTORE
THE INTERIOR PLAN OF THE VOTIVE CHURCH
BUILT ON THE ISLAND OF GIudecca, VENICE
BY ANDREA PALLADIO A.D. MDLXXVI

CHURCH OF THE REDEEMER, VENICE
the crossing, which support the dome, giving an effect of a cluster of columns. The use of the order, which measures from the floor to the top of the main cornice approximately forty-six feet, is continuous throughout the church.

The columnar treatment of the walls, while continuous in effect, consists of columns, piers and pilasters, piers being placed under each of the four great arches of the crossing and in each corner of the nave, while pilasters are used in the transepts. The only free-standing columns are those placed behind the high altar. The arches of the side chapels rest upon a secondary order, and both this and the main order are a transcription of the Corinthian. The main entablature is much simplified, while that of the smaller order is resolved into a simple cornice of few Corinthian characteristics. All the piers and pilasters of both the main and secondary orders are diminished and have the same entasis as the columns.

The floor of the nave is eighteen inches below that of the crossing and side chapels. This difference of level is taken up by a simple base course, placed under the plinths of the nave columns, the crossing and chapels being reached by flights of three steps set into it under the "triumphal arch" and side arches. The "triumphal arch" terminating the nave is but one of the four arches forming the crossing and supporting the dome. It is a round arch of thirty feet clear span with a large degree of "stilt," the actual curve beginning four feet above the main cornice which acts as the visual spring line. The side arches of the nave are "stilted" proportionately, the whole device permitting of a more robust impost treatment, without losing grace or verticality.

The dome above the crossing is raised, after the Renaissance fashion, upon a high circular drum placed upon
The Rice Institute Pamphlet

pendentives. The drum is decorated by broad pilasters and shallow niches, four of which are pierced by windows. It should be noted that in this case the pilasters are without entasis or diminution. The dome, however, is devoid of all ornament—in fact the entire church is noteworthy for its restraint.

The transepts are in the form of apses, semicircular plan, whose walls are divided into three parts by pilasters, each division being pierced by two superimposed windows placed after the manner of the niches between the columns of the nave and crossing. The chancel, though apsidal in form, is bounded by the four free-standing columns rising behind the high altar and supporting in turn a half dome similar in size to those of the transepts. Through these columns a view is allowed of the space beyond, which is the choir for the Capuchin monks who administer the services of the church.

The floor is treated with a simple pavement of colored marble and forms the strongest color note of the scheme. The walls, vaults and their members are of two tones of warm gray, the orders and trims being slightly darker than the walls proper. The orders were to have been of stone and the walls and vaults of stucco, and such is the impression; in reality, however, the stone is used only for the cornice and for the first ten feet of the height of the columns. It is but another example of the poverty of funds with which Palladio had to contend.

With this brief sketch in mind, we find, so critics will tell us, two matters of technique which are radically wrong. The first is the use of the same order for both the main and secondary pillars, and the second, the use of diminution and entasis upon the pilasters and piers. The first matter involves us in difficulties, not only caused by the necessity of raising
two different-sized pillars of the same order upon the same base, but also caused by the limiting of the reveal of the arch supported by the smaller pillar in a way which would not be done had a simple impost been used. The second matter is even worse, for it is an offense against architectural ethics, involving "a most objectionable practice of the later Venetians."

We can here neither refute nor deny the truth of these technical criticisms as they apply to architectural art in general, except to mention that if one thinks about it one will see that the reveal of an arch need not be limited by the use of the supporting pillar. If need be such pillars can be doubled. Here in the Church of the Redeemer it might be noted also that the secondary order is related to the greater one only in its entasis and its capital; in no other respect does it possess characteristics which are peculiarly Corinthian, and, even if it did, surely Palladio's treatment of the bases seems beyond reproach. Though the use of entasis upon pilasters may be an objectionable practice, here it seems to be done with a touch of inspiration.

Let us glance once more into the church and see that rich, stately dignity with no feeling of scantiness, thinness or poverty of ornament, and above all let us feel the deep spiritual serenity which permeates the whole fabric, and let us realize that, except for a few carved capitals, a line of brackets in the main cornice, and a wave motif inscribed upon a string course, there is no carved ornament—nothing but an arrangement of light over form. Then we shall see that these theoretical errors are in fact master strokes which help to achieve a character with the simplest means.

The reveals of the side arches are completely adequate. Probably their dimensions were decided upon before the
treatment of the secondary order, and regulated its size, but the use of the smaller Corinthian caps on the secondary order is the touch of delicate form necessary to give quality to the interior. Imagine any other treatment in its place and one will see the unity and richness of the whole begin to disappear.

So the diminution and entasis of the pilasters and piers, far from being a defect, is a result of brilliant design. By this means all the vertical lines of the church are kept in perfect unity, the broad surface of the piers being sufficient to emphasize the importance of their function. The dignity of the whole is undoubtedly effected by the rhythmic repetition of this delicately-curved, upward-moving line. The high stilt-
ing of the arches overcomes all foreshortening and produces a beautifully-rounded form, free from any sense of heaviness. It may be noted that in the treatment of the drum, where conditions are quite different, no entasis was placed upon the pilasters. One is forced to the conclusion that Palladio, rather than falling into decadent ways, deliberately chose his treatment to accomplish a certain result, knowing full well the elusiveness of spirit and character. The long, heavy, unbroken cornice of the nave undoubtedly adds to the effect of length and dignity, yet without the other expedients a cornice of its robustness could scarcely have been used without seeming to be of overweight.

Probably the happiest bit of arrangement in the whole scheme is the use of the semicircular screen behind the altar by which the practical necessity of a choir in the rear was turned into a distinct advantage, in that the observer’s mind and vision is led from the altar into space beyond. This not only adds to the sense of physical magnitude but also largely contributes to the feeling of spiritual serenity.

The larger arches and vaults are echoed by smaller arches and vaults of similar proportions. The graceful forms of the large half-domes over sanctuary and transepts are repeated by the smaller half-domes of the side chapels. The strong horizontal cornices direct the eye to the altar through two related spaces, the nave and the crossing. All forms and sensations are unified by the gently-curved upward-moving lines of columns, piers and pilasters. The attention of the observer pauses at the altar only to continue through the curved screen of columns into the luminous upper space of the choir, seen but not defined. This extension of the space of the church into which the mind of the observer is led seems other than terrestrial space. The windows which light the choir
are too high to permit a glimpse of the world of Venice. They allow the senses to join only a celestial choir—though this union is not helped by the often monotonous and off-key litanies of the Capuchin clergy. The effect is quite similar in kind if not in degree to that given by the nave and choir of a medieval church.

As it stands the Church of the Redeemer is an example of that type of design in which every form and device used is subordinated to, and planned for, a unified character. This character makes its impression not through the forms and devices, for the observer is not conscious of them, but through sensations conveyed by the spaces in which and through which the eye wanders. There are few interiors which achieve so much with so little or which show better the blend of classic moulded space with medieval fluid space. The one is produced by sculptural form, the other by the rhythm of many parts; their blend makes inevitable the words “slow music of rich full chords” and establishes Andrea Palladio as a master of space-design in the creation of religious architecture.

JAMES CHILLMAN, JR.

NOTES

1. Sewall states that there are only two. He combines the second and third classifications, making the second a special and earlier form of the third. John Ives Sewall, History of Western Art (New York, 1953), p. 221.

2. Considered the basic form of space-design used in classic times, principally by the Romans of the Empire.

3. A variation can be seen in the building or piece of sculpture which by its shape or position controls the space around it, making the observer conscious of a definite spatial environment. A device used by painters—see “Transfer of the Keys” by Perugino, Sistine Chapel, Rome; “Marriage of the Virgin” by Raphael, Brera Gallery, Milan.

4. Built 120-124 A.D. under Hadrian, probably from his designs. The Pantheon, which is held as the epitome of the use of moulded space, actually joins the second classification in one
Some Notes on Space-Design

major manner. The escape from the world of the Pantheon is
by means of an oculus at the top of the dome. The only con-
nection with outside space is to the realm of the sky and the
spirit. The Pantheon was planned as a temple, but for the
worship of many gods. In consequence little emphasis is placed
upon the principal altar nor does the basic design permit such
emphasis. Nevertheless the Pantheon remains our best example
of moulded space as the observer cannot ignore the sculptural
nature of the masonry masses that form its wall and dome.

5. Built 447-438 B.C. (sculpture not completed until 432 B.C.) under
the administration of Pericles, Iktinos and Callicrates, architects.
Phidias, general superintendent and "Art Director."


7. Built 532-562 A.D. by Athemios of Tralles and Isodoros of Miletus,
dedicated in 537 A.D. Hagia Sophia is a blend between the
first two classifications. As in the Pantheon we are dealing with
a vast domed interior, but contrary to the Pantheon all sense of
structure and wall mass is minimized both in form and decora-
tion so that the dome and vaults seem to float unsupported in
defiance of gravity.

8. Built 533-536 A.D. under Archbishop Ursicinus, dedicated by St.
Maximian 549 A.D.

9. Built 1194-1260 A.D. with assistance of Blanche of Castile, Queen
of France, and her son, Saint Louis (Louis IX) of France.


11. Ibid.


14. See vista over high altar to oval window of apse, Cathedral of St.
Peter, Rome.

15. Andrea Palladio (1518-1580), architect and author. Born in
Vicenza, Veneto, Nov. 30, 1518. He studied in Rome, but most
of his professional life was spent in Vicenza and its vicinity.
Best known works are the remodeled Palazzo della Ragione in
Vicenza, generally called "The Basilica," the Villa Capra at
Vicenza called "La Rotunda" and the Church of San' Giorgio
Maggiore, Venice. His writings include an edition of Caesar's
Commentaries, with notes, published in Venice in 1575 and I
quattro libri dell' architettura first published in Venice in 1570.
These books have been republished in many editions and have
been translated into most European languages.


17. Ibid.