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When, during the past ten years, the modern writer has thrust a long catalogue of objects into his narrative, or when the film director has trained his camera interminably on one object after another, or when the young artist has ransacked the world for bits and pieces of solids, or when the painter has declared that he makes not a painting but an object, it is clear evidence of a significant campaign to re-orient the contemporary sensibility toward the so-called objective world.

But, unless we seek to founder in a morass of philosophical hair-splitting, it becomes very difficult to understand in what sense this new orientation admits of deep significance. An object in a common-sense definition is nothing other than something which is there, a solid which our senses encounter and which is identified almost automatically. An object is what we trip over in the dark. It is there to recall us to awareness. It is true that an object can be invested with tremendous meaning — the famous Proustian madeleine — but that is of course totally dependent on a subject. What then, speaking plainly, is the meaning of the endless discussion of objects in the new esthetic?

It cannot be simply an attempt to awaken sensibilities to the endemic esthetic properties in solids, in those thing-like objects our senses encounter throughout the waking life. If this were so, then sculpture would be far more important than it is today. The fact is that there are fewer good sculptors than ever, and the few who survive growing indifference to their work are in the same lamentable position as the painters who insist on paintings instead of objects.

It seems to me that the growing obsession with objects is one of the most impoverishing esthetics ever to afflict modern art. It is another one of those isolating, fragmenting approaches that in the end can only achieve gross mannerism.

I remember reading an essay a few years ago by the French novelist Michel Butor in which he offers a long descriptive passage from one of the classic writers (perhaps it was Dostoevsky). A young man enters a room. The room has yellow wall-paper. There is chintz on the furniture, some dined flowers. Cheap print on the wall. And so on. This simple enumeration of the contents of the room, Butor pointed out, needed no poetic adjectives, for it is there to recall us to awareness. It is true that an object can be invested with tremendous meaning — the famous Proustian madeleine — but that is of course totally dependent on a subject. What then, speaking plainly, is the meaning of the endless discussion of objects in the new esthetic?

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But the majority of object-makers reject contrasts as corrosive to their notion of the thing-in-itself. They do not point to objects with a poetic end in view. There is no wholeness at the end of their rainbow. Only more objects in an assembly line that has no end. The similarity between their work, which is three-dimensional, and the work of a sculptor is misleading, for fundamentally they have nothing in common. The true sculptor knows all about the solidness of objects, the thinness of certain experiences, the strangeness of three-dimensional forms fixedly observed. But he knows more, and wishes to express more, which puts him in the category of the painter for whom paint is a means toward a vision of unity.

I think the French sculptor Jean Ipousteguy (b. 1920) put it very well in his remark that “objects, like machines, are right on top of numbers; anti-objects (works of art) issue from the intervals between numbers.”

Ipousteguy also takes a strong position as a sculptor. He renews the conventions of novelty in favor of personal, organic growth as an artist — something which has little to do with external flashes of uniqueness. “As a sculptor,” he says in his notes, “I am not here to 'invent' but to 'remember'. Artists (or creators as they are called) merely remind their contemporaries of what is in danger of being lost: an initial language already expressed a hundred times.”

The forms that Ipousteguy draws from plaster or clay and renders in bronze are such reminders. They are not mere solid objects, but rather, an abstract evocation of all the dynamic shapes that could move him, that have moved him, and that have moved others before him. These forms he seeks to interpret in terms of context: They exist as reminders of human shapes, but more importantly as reminders of the vital actions and histories of humans, and of their existence within a universe.

Once you have such universal terms, it is impossible to think only in terms of a solid weight displacing so much space and lying in the path of our senses.

In his exhibition at the Albert Loeb Gallery, Ipousteguy demonstrated the range of his thought. He tackles problems of relationships from more than one viewpoint. For instance, there is “La Rêve Moisi” (The Mouldy Dream) which is a pure baroque compendium of specifically symbolic forms. Verging on surrealism, this sculpture calls to mind the mythic constants in the imagination. With its breasts, its suggestion of fingers, its corroded surfaces, its corruscating detail, it reminded me of the fertility sculptures in the Tivoli Gardens.

If the allegorical intention is spelled out emphatically in this piece, in others Ipousteguy works with non-specific associations, vaguely metaphorical. For instance, one of the most striking sculptures is his “Casque Fendu,” a broken helmet by title, but far richer in evocation by form. This ovoid, full sculpture, rent in several of its curved walls, refers as well to rocks and planets as it does to the human head. Its four jagged-edged forms which lie free in the front window, are as much like parched clay on the desert as they are like the divisions of a face. In addition, the dense black lacquer patina which Ipousteguy habitually uses to emphasize the contrast between smooth and flowing curved walls and sharp fissures, gives the total form a kind of unity which must certainly be one of Ipousteguy's objectives.

Sometimes it is this smooth, rather thick lacquer which lessens the impact of the sculptural form. The roughness and abrupt breaks in continuity important in all his work are made to appear too elegant. When he cuts cleanly through clay and casts the resultant sharp forms, he makes a compelling statement by means of contrast. But the contrast is dulled by the thick, smooth surface.

Jean Ipousteguy

Left:
“Le Crabe et l'Oiseau”
62” long; 1958
Photo by Thomas Feist

Right:
“Helmeted Head”
4½” high, 21” long; 1959
Photo by Robert David

Courtesy Albert Loeb Gallery
I have always hesitated to discuss painting in terms of the regions in which it is done, but geography does play its part, particularly on the West Coast. The artists around San Francisco seem to have preserved the robust spirit of burlesque which once existed in the East. At an exhibition of the work of William Wiley — his second show in New York at Staempfli — I couldn’t help being impressed by the breathless, I’ll-try-anything-once spirit which Wiley allows to take the initiative in his works, particularly his paintings.

By this I mean that he doesn’t seem the least bit worried about how a painting will come out in the end. The important thing is to render his capricious notions as directly as he can. This results in a certain ingratiating crudeness; a wantonness that is at once disturbing and intriguing. He is like a very young animal who is compelled to expend energy, even if it means blundering into stone walls or hurling over precipices.

Wiley likes large formats, and often combines two large canvases in order to spin out his humorous views of certain hallowed subjects. He paints densely, and reminds me often of the older San Francisco painter Frank Lobdell in his uses of impasto. But unlike Lobdell, Wiley cannot quite handle his densities, and his surfaces do not have the structural soundness found in Lobdell’s work. A huge yellow field, for instance, stays on the surface with a certain picture because of the crowd. A critic in 1810 commented: “A critic in 1836, Revel continues, the numbers visiting the salons were euphoria. Other epochs were less optimistic and there were even Montaigne and Baudelaire who were positively suspicious of their times. But we, we are the most sensitive, the most informed men in history.

As a rule I am not interested in techniques of displaying works of art, and often don’t notice the clever arrangements so painstakingly worked out by galleries and museums. But during a quick visit in Chicago’s Art Institute I paused to admire the way James Speyer, curator of 20th century art, had coped with a space that existed in the East. At an exhibition of the work of William Wiley given as 1,200,000 during two months. (He notes that in 1847 the total population of Paris was only slightly over a million, so that there must have been some regulars who attended repeatedly.)

We are not, then, the first to visit the museums in such throngs, nor are we the first to marvel at the drawing power of art. When I hear museum officials boasting of their tallied attendance rates in New York, I can’t help wondering if indeed there has been the slightest cultural amelioration. And so, apparently, does M. Revel who continues his articles by jibing at art book publishers, postcard publishers, and the sales desks in the modern museums which dispense the falsely glowing phantoms of works of art, and think they are contributing to culture.

Art books, Revel accurately observes, are not books at all in the main, but collections of postcards and reproductions masquerading as books. “Art books are no longer made to be read but to be leafed through just as museums are no longer made to be seen but to be reproduced.”

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In the new wing for the permanent collection of modern art, the architect created a vast hall with ceilings so high it is a strain to look at them and walls so overbearing it is difficult to forget them.

The cold, barn-like vastness of this hall is so obviously geared to conventions rather than the intimate setting paintings demand that it requires considerable ingenuity to transform it. What Speyer has done is to create imaginary subdivisions of the space. For instance, he hangs the paintings at eye level, considerably lower than do most museums. This serves to cancel out the enormous
BOOKS

ROBERT JOSEPH

WORLD ARCHITECTURE, An Illustrated History. Introduction by H. R. Hitchcock (McGraw-Hill Pub. Company). This large, well-made volume contains a reasonably thorough survey of the entire field of world architecture, although omitting, except for one page of pictures, the architectures of pre-Columbian Central and South America. One may describe it as a popularized reference book for architects, the text supplemented by some fifty excellent color plates and more than a thousand pictures, drawings, and outline plans in black and white. One might criticize it for being routine: the articles by the several authors outline the principal developments and link them with consequential arguments, generally avoiding any commitment to unusual claims or theories. Some omissions seem glaring, particularly in the section about Modern Architecture, which contains no mention of Buckminster Fuller, Richard Neutra, or Bruce Goff, and only a brief word about R. M. Schindler. All sections are well, if closely written; at critical points one is pleased to discover informative paragraphs on such special subjects as the influence of A. W. N. Pugin and the work of William Butterfield. Planning such a reference book to provide space for enough pictures of adequate size and a usefully complete text cannot have been easy. The editor and the several writers are to be commended.

THE JAPANESE INFLUENCE IN AMERICA by Clay Lancaster, (Walton H. Rawls, $17.50) is a handsomely mounted and extremely easy to read account of the trend of Japanese influence on American art and architecture, beginning with the earliest voyages of American sea captains to Nippon at the end of the eighteenth century, reached Europe in the middle of the 15th century to become a part of the trade of printing. For the art collector and the connoisseur, these two volumes are indispensable. A History of Engraving & Etching by the same author (Dover, $2.75) traces the history of this art from the 15th century to the work of Käthe Kollwitz (1914); a handy one-volume history and study of the development of the craft with 110 illustrations.

TRAVELLER'S GUIDE TO EUROPE'S ART by Jane and Theodore Hind, (Dover Publications, Two Volumes; $2.50 ea.) is an exhaustive study embellished with 484 illustrations. The art of woodcutting, states the author, began in China in the 6th or 7th century, reached Europe in the middle of the 15th century to become a part of the trade of printing. For the art collector and the connoisseur, these two volumes are indispensable. A History of Engraving & Etching by the same author (Dover, $2.75) traces the history of this art from the 15th century to the work of Käthe Kollwitz (1914); a handy one-volume history and study of the development of the craft with 110 illustrations.

EARLY BYZANTINE CHURCHES IN MACEDONIA AND SOUTHERN SERBIA by R. F. Hodnett, (St. Martin's Press, $49.00) is the most authoritative and complete history of the origins and development of eastern Christian art in print. Over 300 photographs and illustrations of some fifty churches built between the 4th and 7th centuries trace the history of that portion of the world through the art of these structures, some of which are still in use today. In evidence are the influences of early pagan cults—the worship of Isis, the religion of Zoroaster, and most particularly the cultural contributions of the Slavs. A treasury of early eastern Christian art, a learned dissertation on Christian beginnings in the turbulent pagan world of the eastern Mediterranean basin.

AN INTRODUCTION TO A HISTORY OF WOODCUT by Arthur M. Hind, (Dover Publications, Two Volumes; $2.50 ea.) is a thorough and authoritative study of America's architectural and furniture express American history and social evolution; thus we are still searching and experimenting with ideas and forms to evolve a final statement of American art and architecture.

Lloyd Wright who adapted the Hoo-den to what he called "organic architecture." The imprint on fine arts was no less profound, and this the author documents with illustrations and text. An outstanding collection of architecture and art, superbly illustrated.

REPORTING by Lillian Ross, (Simon & Schuster, $6.50), offers selections by that indefatigable reporter at her best. It has been said, and after a reading of these reports one can believe it, Miss Ross started and ended more Hollywood careers with her series in The New Yorker on the making of "The Red Badge of Courage" than the most important movie magnate. Lillian Ross not only has the unerring eye of the trained newshawk, but she has the unerring ear of the philosopher-sociologist, and her command of...
words, used with such aplomb, make her one of the best reporters in the business. She is not only complete, but she is also cruel, although cruel is not quite the right word. The facts are cruel, and she reports them as they are. The accumulated articles are called "Picture," complete with nervous producer, breezy director, the coterie of what the industry calls "gophers," the indifferent and the indolent. An unforgettable panorama of what happens when a picture is being made. "Terrific" is a backstage account of what happens at a charity ball, and "Portrait of Hemingway" is an encounter with the novelist that depicts him as few have seen him. All the articles are gems of reporting.

Integration versus Segregation edited by Senator Hubert Humphrey, (Thos. Y. Crowell, $4.95) is a statement of the question in a series of articles, court decisions, position papers on both sides of the issue. Here is the Second American Revolution, as Sen. Humphrey refers to it, is revealed through the thinking of respected Southern Senators and Representatives in the Southern Manifesto, and in the text of the Supreme Court Decision of 1954. The Southern position, reflected in the Manifesto, rests on the legalities of the traditional separate but equal decisions of another era, denying federal intrusion in local affairs. The essays on Integration cite the economic, political as well as diplomatic need for a decision to get on with the law.

Abundance for What? by David Riesman, (Doubleday & Co., $6.50) offers a series of brilliantly incisive essays on the American mind and mood today. Riesman's special field of interest is the effect of the Cold War upon the thinking (or unthinking) American: a retreat to inner surroundings and a rejection of serious thought; a pursuit by our youth of "safe" jobs which call for little responsibility or cerebration; an acceptance of socially, not to mention politically, acceptable ideas. But there is good, too, for Riesman believes that the Cold War has forced us to adopt some cosmopolitan ideas and recognize that the earth is now one. A social scientist might question the mathematical accuracy of Riesman's estimates; but his sense of American Manners goes beyond statistical tables. The author reflects on the effect of the automobile, TV, mass standardization and on the Pablum Society, on which uniformity has created and it is here that Riesman is most meaningful and incisive. His conclusions are sound, highly provocative and highly readable as well.

A Piece of Lettuce by George P. Elliott, (Random House, $4.95) covers some of the same ground as Riesman's sociological view of American moods and manners, except that Elliott is much less objective. Elliott is a novelist who has turned back to essay writing as a means of getting some things said that he feels strongly about. He feels strongly about the super-intelligent in a stimulating article, "Who is Who? a little fun-poking at the set which writes for the intellectual snob magazines and can never read or deliver a simple declarative sentence without Freudian-Orrwellian-Marxian-Aristotelian over-undertones. He refreshingly asks for simplicity. "Home Again" recalls his experiences as an instructor on the Wellesley campus and is an indictment of the unhindred or scared-to-think youth that is bitter and pointed. Elliott has a lot to say and he says all of it well.

Focus and Diversions by Lancelot L. Whyte, (Geo. Braziller, $5.00) is a series of autobiographical essays relating the experiences and reflections of the British scientist, lecturer, author and scientific consultant. The author calls his offerings "a chain of stories," and good human drama they are, including accounts of trench warfare in WW I, his visit to Germany in the late Twenties, that is now in the design stage. What colors and sizes are available?

Q: In designing a structure in a canyon area where there is a certain amount of fire danger, I would like to provide protection without going to masonry construction. The owner prefers wood throughout for finish as well as frame. Suggestions, please?

A: Lumber and plywood pressure-impregnated with Pyresote (fire-retardant salts) should give you the required protection. Tests conducted by the Underwriters' Laboratories, Inc., and Forest Products Laboratory, substantiate the fact that this treatment appreciably retards flame spread; it reduces smoke density, fuel contributed, rate of penetration by fire and is self-extinguishing. These characteristics are added to the inherent insulating qualities of wood which also maintains its strength at high temperatures.

Q: Construction has started on a building where we are using a great deal of aluminum in window and door frames. Our architect asks whether we will have the problem of clean up plus the worse problem of plaster burns. Is there a solution?

A: There is a simple solution. It is an easy-to-apply, sprayed-on protective coating that not only protects anodized and polished aluminum but keeps window mechanisms working freely, is easily wiped off when the job is completed, and will reduce clean-up time substantially.

Q: We have facing us a very important waterproofing problem in the sub-surface floors of a high-rise building. How can we be sure there will be no problems after the structure is completed?

A: This can be accomplished by specifying a guaranteed job. There is a manufacturer who offers a five-year maintenance guarantee on impermeable concrete and masonry and non-dusting concrete floor surface at a nominal charge for inspection during installation. The product is a liquid compound that is chemically active with and increases the hydration of Portland cement. When used it results in dense, hard, impermeable concrete and cement masonry of increased compressive and tensile strength, impervious to water, moisture, frost, oils, sugar solutions, alkalis or sea water and resistant to many acids.

Q: I want to use natural crushed roofing rock in a tract that is now in the design stage. What colors and sizes are available?

A: The colors are green, brown, red, pink, gold, turquoise, lilac, black and white. Sizes include standard crush which contains all material passing through a 3/4" screen and remaining on a 8 mesh screen; medium crush which contains all material passing through a 3/4" screen and remaining on a 3/4" screen; the large crush of 1½"-2" rock (shadow rock) available at no extra cost; and special sizes of 4" and 6" available at extra cost.

Q: I am designing a building in the beach area and will be using a large amount of sheet metal. I will appreciate information on an economical solution to the atmospheric problem that are sure to develop.

A: The light-weight, zinc-based alloy with titanium has a range of properties found in no other single alloy and offers an economical solution to your specific problems, plus many others. It produces a permanent, armor-like oxide on the surface, eliminating pitting and offering excellent resistance to corrosion. It has no measurable creep or stretch when weighed down for years with a load of 12,000 psi. There is no rusting or staining, the natural color is a soft, slate-gray that blends with other materials, and it can be color coated and textured successfully.
PLAYING PIANO IS EASY

Peter Yates

Playing piano is easy. All you have to do is do it. Yet there’s a perennial urge among music-lovers to read about how it’s done. The critical literature of the performing artist includes a quantity of fairy-tales as well as a hysteria of supernaturalities. Harold C. Schonberg’s *The Great Pianists from Mozart to the Present* contains in quotation a generous helping of both. His own estimates are more accurate, though cautious.

He has been a published critic of music as long as I have, some 25 years; he is now Senior Music Critic of the *New York Times*. My pleasure in reading him ceased January 24 this year, when the *Times Western Edition* went out of business. A regular reader of that paper, I had learned to respect him. I obtained his permission to borrow a complete column of his writing about piano-duet-playing for my own forthcoming book, *An Amateur at the Keyboard.*

Harold Schonberg keeps his mind up-to-date and has learned not to waste words arguing against the prevailing developments of the art. He conceals his preferences, seldom writes as if bored, scolds minimally — though lately he told off Leonard Bernstein for apologizing to his audience before playing a couple of pieces of contemporary music. (The apology took the shape of an explanation, but it took, also, more time than the two pieces.)

When John Cage, Christian Wolff and eight associated pianists undertook to perform a little piece by Erik Satie (*Vexations*: 180 notes, playing-time 80 seconds) according to the composer’s instructions, requiring 840 repetitions, Mr. Schonberg saw to it that a *Times* critic was on duty at the scene throughout the entire 18 hours and 40 minutes. The performance was continuous, pianists changing seats and hands while the playing went on uninterrupted. It was a benefit performance, $5 admission with a refund of 5¢ for each 20 minutes attendance plus a 20¢ bonus to anyone who stayed the course. (One person did.) Each critic wrote a separate report, the one on the 4 to 7 a.m. shift preferring anonymity to a by-line, because he “entered and promptly fell asleep.” His successor made up the loss by sitting in one 20-minute stint at the keyboard to replace a missing player. His report of the experience is the high point of the 2½-column review. “The hypnotic music provides a point of concentration, unlike the auto-controlled, uncritical slumber. While actually playing, one’s mind is similarly freed . . . The consciousness is deflected from the mechanics of playing to the inner state of balance, which, in response to the calming effect, is poised as if suspended . . . The experience is dreamlike, and one resists waking up.” The total review belongs among those classic reports from which Harold Schonberg’s book liberally borrows.

A genuine master of the piano usually recognizes in at least one of his rivals gifts of technique and expressiveness beyond his own. It’s the second-rater who extols his own ability to the exclusion of all others. Mindless fools gifted with nothing but an elementary sense of showmanship, and in the case of the “Chopinzee”, as James Huneker called him, Vladimir de Pachmann, an innocent or clownish humor, have been acclaimed as masters mainly because stories about them make good copy. Pachmann did represent—or parody—one extreme of pianistic interpretation, the little man at the keyboard who complacently believes nobody can play better than he. He improves the music; he lectures the audience. Fancied slights, the condition of the piano, the height of chair or stool, the lights, noise or late-comers distract him from his job.

A good Pachmann story never wears by telling. As Harold Schonberg tells it, “His struggles with the ups and downs of the piano were legendary. One of his tricks was to raise it, lower it, fiddle around with the controls until the audience was desperate. Then he would rush into the wings and come out with a large book, putting it on the seat. No good. Then he would pay more than one page, put that page on the seat and smile beatifically at the audience. Now he was comfortable.”

I have seen an eminently young pianist, rudely and without innuendo, make a fool of himself in similar fashion, believing that he could not play otherwise and that what he did was therefore for the good of the music. A true virtuoso of the legend should be able to sit with closed eyes at a battered upright in a basement and pour forth great music. That, rather than finickiness, is the tradition of Franz Liszt.

Small children have been accepted as musical marvels. The real child prodigy is the one who proves that playing piano is easy. He matures so rapidly as a child, being unaware of difficulties, that the only difficulty he may become aware of is growing up. Josef Hofmann made his American debut at the age of ten, playing, before an audience which crowded the Metropolitan Opera House, the Beethoven C major Concerto with orchestra, and as solos Rameau, Chopin, Weber-Liszt, and a group of improvisations. Henry Krehbiel, an authoritative critic, exclaimed: “Ripeness, maturity, precision, pianistic genius . . .” After that debut Hofmann was exploited in so many concerts and recitals that the *New York Society for the Prevention of Cruelty to Children* intervened in the hope of limiting the child’s performances to no more than four a week. At the end of his life, after a career which embraces all the superlatives, the failing Hofmann reverted to playing like a child prodigy. Everything, miraculously, was there, but nothing any more in it.

Better, like Leopold Godowsky, to be cut short in your stride; his right arm became paralyzed after a stroke while he was recording the Chopin Nocturnes. Thirty years ago I listened in a record store to Godowsky’s playing of the last Nocturne, opus 72, from the incomplete set of 12 issued as an album; just lately, listening to a taped recording of that album, my remembered opinion was confirmed. Wesley Kuhnle recalled meeting Godowsky: “He put his little hand in my great fist.” The little hand and the real mind which controlled it performed prodigies which were too often dismissed as exhibitionism. We talk too much about setting standards of limiting the child’s performances to no more than four a week. As a matter of fact, if you play the piano too well, without descending to showmanship — how can anyone, with showmanship, really play a Chopin Nocturne! — you may have a career, or you may lose it. Harold Schonberg tells that Godowsky never played in public so well as privately at home. Franz Liszt had one repertory of classics for musicians and insiders and another of display pieces for the public. He seems to have enjoyed both. Until quite recent years, the effort to perform music objectively as work of art, to conceive a composition whole and let it be (not...
express emotionally) what it is, has invariably brought from the public and its critical spokesmen accusations of “coldness, severity, pedantry”; during recent years the critical attitude has flipped.

When Glenn Gould, recording the Beethoven C minor Concerto, performed with the controlled *rubato* freedom and occasional elaborative embellishment which is the “great tradition” of piano-playing, the critics accused him of doing exactly what he did. Liszt would have rhapsodized very much more freely. Busoni enjoyed playing the first movement of this concerto, orchestra and all, in Charles Alkan’s arrangement for piano solo.

Another time Gould insisted on performing the Brahms First Concerto so slowly that Leonard Bernstein, who was beating time, came on the stage first to disclaim responsibility with another of his little speeches to the audience. No mindless playing is sillier than the mindless snobbishness which insists that a piece of music exists in perpetuity as an *ur-type*, a sort of audible Platonic ideal, that should remain inviolate. Beethoven was the first to violate and then reject his own metronomic markings. (Rudolf Kolisch insists that this is not important and has written a study to show that Beethoven’s markings are still an excellent guide to correct tempo – which is true.) I thought Gould was wrong, but in the first movement I was fascinated by the consequences. It was as though Brahms, in his several revisions of the concerto, had conceived some portions at a slower pace, and Gould revealed the evidence. Real light shone through the murk. Gould wouldn’t stop when he may have been partly right; he continued the same slow pace through the other two movements, and fascination changed to flatness.

A musical conception is what it is, what the performer makes of it on each occasion of performance, and as much as each listener can put together of it in his own receptory, intellectual, emotive, imaginative apparatus, both while listening to it and afterwards in retrospect. The composition is at once the score, as corrected, edited, improved, comprehended or misunderstood at every point of its existence from the composer’s original notation to the latest edition; it is also the score-reader’s better or worse apprehension of the score, at first sight without ever having heard it, after trying it with the instrument, and as he returns to it after the experience of hearing many performances.

A musical composition is protean, has a public and a private life, like any well-known performer, and contradicts itself, as he does. If a composition were in reality, as Igor Stravinsky says he would like his music to be, exactly what the composer has made it in its notation and afterwards in his public performance most of us would eventually weary of listening to it. I have a recorded performance of Stravinsky’s *Soldier’s Tale* by members of the Northwest German Radio Orchestra under his direction and another made under his direction in Los Angeles. Each is impeccable, and each is different. The German players line up at each chord like disciplined soldiers to produce an exact sonority; the Los Angeles musicians play right through, independently, producing a variable sonority, as in the music of Charles Ives or jazz.

Every record contains an unalterable performance. There are those who learned their Beethoven and Schubert so thoroughly from listening to Schnabel’s records that for them the Beethoven or the Schubert sonata is the Schnabel performance. Listening to a fine record the listener exults in its virtues, learns to expect them, tires of finding them always the same and wakens suddenly to the contrary virtues of a very different performance. If he doesn’t, he will before long cease listening to music. Music has became a daydream he remembers.

Nobody would think it likely that an audience could sit without discomfort through the performance of a Haydn sonata, when the pianist repeats each half of each of the three movements as the score indicates; but Sviatoslav Richter plays it that way and audiences like it. The habit has been to play the notes exactly – too exactly – and omit at least half the repeats. Even when reading for ourselves we omit the repeats, and that is silly, because we are not reading the whole composition as Haydn conceived it. When he wished otherwise, he omitted the repeat marks. Our scholarly habit has been to say that including the repeat marks was habitual, they are not to be taken seriously. Only our failure to do so is habitual.

Most of us can admire the exact performance of a Bach *partita* by Ralph Kirkpatrick, though we may quarrel with the style, but when he reproduces each section of each movement like a second print of the same photograph, some of us cannot endure it. He is reproducing the notes as written but violating the intention of the
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style, that each repetition should be in some way varied. Indeed,
varied repetition with added embellishment was so much the cus-
tom that C. P. E. Bach, in his Versuch objected to doing so. I have
been told on dependable authority that Kirkpatrick is well informed
about every matter of dynamic expressiveness and altered rhythm
in the best tradition of harpsichord playing, that he will demonstrate
for hours the variety and force of these nuances. Listening to him
play one would never know it. Wanda Landowska revealed in her
last piano records of Mozart and Haydn some of the great knowl-
edge of these matters which she had carefully concealed while re-
recording what she called her "Last Will and Testament", J. S. Bach's
Well Tempered Clavier.

A friend has sent me the published keyboard works by Johann
Gottfried Muethel, J. S. Bach's last pupil; he sent me also an
Archive record with a performance of Muethel's Dueto in three
movements for two pianos. The music is as elaborately embellished
as the history of the period indicates; the convention had already
so far deteriorated that the composer left nothing for the performer
to add, except skill and taste. The recorded performance is a col-
lector's item, superbly performed on original Stein and Walther
pianos, from a German collection, which have been restored in
excellent condition. The piano tone lies between clavichord and
piano, a clear, delicate outline, with more overtone and less heavy
fundamental tone than a modern piano. Such an instrument is more
beautiful than a Steinway, when one is playing classical music in
small space. The monstrous ponderosity of our domestic instru-
mements, their lack of timbre compensated by thump, prevents us
from genuinely appreciating piano music written during the half-
century before 1800.

Another Archive record, of no less value, include the perform-
ance of a concerto, by C. P. E. Bach, for harpsichord and piano
with orchestra, using a modern reproduction of an 18th century
piano, so that the plucked and percussive timbres are in balance.

We are only now beginning to appreciate, some few of us at
least, the rococo sheen and delicate intricacy of this keyboard music,
an art quite unlike the 19th century keyboard literature of which
it is the source. The six books of Carl Philipp Emanuel's late key-
board compositions, the Sonatas, Rondos and Free Fantasies he
composed at Hamburg until his death in 1788, were first republished
in 1863 in a superb edition by that indefatigable editor Carl Krebs;
the edition, now reissued, opens a new window on the formal garden
of the late 18th century. Yet the leap in style is directly from these
late sonatas and rondos to Beethoven, not by way of Haydn and
Mozart. One can understand why Beethoven, as late as 1810, was
asking his publisher to send him all the keyboard works by C. P. E.
Bach. These were for him sources of idiom not less important than
the sonatas by Muzio Clementi or, at this period, the counterpoints
of J. S. Bach.

"Playing piano is easy. One has only to look into or occasionally
hear what a great pianist, as distinct from a great composer, will
compose to display his digital dexterity — the latest example is
probably Vladimir Horowitz’s working-over of The Stars and Stripes
Forever; most of the younger pianists these days are so busy com-
petitively being pianists they have no time to think of being in the
larger sense musicians, composers — to realize how widely the
pianistic imagination differs from the imagination of one who is
preeminently a composer. Pianist-composers like Ferruccio Busoni
and Artur Schnabel — the type is now almost extinct — painfully
and painstakingly divorced their reproductive and creative talents:
their early compositions are of the period; the mature works are as
individual in character as the compositions of the composer-pianist
Bela Bartok and of equal authority, whatever one may feel about
them as music. The careers and reputations of the Bachs, father
and sons, and of Serge Rachmaninoff warn us that we may be wise
not speaking now of those extraordinary gifts of ear and physical
coordination which distinguish some great musical talents. To play
the piano well one need have only the temperament to believe that
one can do it, uninhibited by the inward fear that blocks the mech-
anism. That is why the greatest pianists have so often been child
prodigies; the mechanism has been freed before the blockage inter-
feres.

Most of us live amid a confusion of blockages which we recog-
nize as the warped container of our personality; the pattern pro-
jected may become work of art. A keyboard virtuoso may be no

(Continued on page 33)
I run, jump, sing, shout, scribble, scuff, study...and grow

Who expects kids to be clean, dignified and quiet? Parents maybe. But school planners have to be practical. That’s why so many schools (like the new Douglas A. Newcomb Elementary school in Long Beach, California) are built inside and out with Facebrick. It fits the function. Choir practice doesn’t drown out geography class. Heel scrapes and pencil doodles don’t mar walls. And earthen-toned Facebrick interiors are the next best thing to being outdoors.

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AIA LIBRARY AWARDS

Results of the 1964 Library Buildings Award Program sponsored by the AIA, the American Library Association and the National Book Committee finds the jury rewarding those entries considered most clearly expressing their function. The jury was composed of architects Arthur Gould Odell, Jr., Ulysses Floyd Rible and David H. Condon and librarians Dr. Keyes D. Metcalf, Hoyt R. Galvin, Dr. Richard L. Darling and William H. Jesse.

A third First Honor Award winner was the Flora B. Tenzler Memorial Library, Tacoma, Wash., by architect Russell N. Garrison. There were 10 Award of Merit winners in addition to those shown here.


2. First Honor Award: Beinecke Rare Book & Manuscript Library, Yale University. Skidmore, Owings & Merrill, architects. Photo: Ezra Stoller Associates.


As the recipient of a "liberal arts" education (definition: literary and philosophical cheese-parsings of history that equip one to be cracka-jack at charades and crossword puzzles and little else), we are always impressed by the complicated intellectual games open to those who are thoroughly and practically educated, who know something well. (That as a result of such training they are usually too busy to play such games is immaterial; they can if they are inclined.) The following short article by architect Terry Waters of Malibu, California, is an illustration. A virtuoso performance. Mr. Waters entitles it "Uniformity, Discontinuity and the Only Solution," and, adding his own subtitle, "a draft of an article from my drafty brain," we print it herewith:

There is an apparent paradox visible to any architect who takes a long or oblique view at the buildings that line our streets. This paradox is evident whether one is driving through a burgeoning business district with its many types of structures or through a residential area. The paradox lies in the uniformity and discontinuity of the buildings. On the one hand, all of the buildings appear to be similar. There is a remarkable similarity in the interplay of surfaces, volumes, planes, materials and colors. The surface similarity can easily become interpreted as monotony and the architect frequently feels trapped by the lack of variations. However, when the architect examines carefully the plans of any two separate structures, which at first glance appeared identical, he is conversely struck by their dissimilarities. For a simple example, look through any of the books of "house plans" which are for sale on most magazine racks. Most of the plans shown will appear to be practically the same. They will almost always contain a group of rectangular spaces, of about the same size, arranged in about the same manner. A careful inspection of these mazes will show that no two are exactly alike. A house plan book from thirty years ago will be full of floor plans resembling those in the recent publications. And yet, none of the plans are ever the same, not really!

For a clue to part of this paradox might become evident if we listen to an architect arguing against a change in his plan by a client. The architect will usually fall back on the defense that "this was the only solution". Well, is there really only one solution? When backed into a corner the architect will admit that there are probably a few other ways of doing it that would be passable but he still feels that his is the best!

How many best solutions are there?

For a clue to the number of best solutions we must go to an investigation of the numbers involved in a design and perhaps we can discover some other basic facts about design in the process.

There is a branch of mathematics called combinatorial analysis which deals with the number of different ways in which an act can be performed and states: "The number of permutations of n different things, taken n at a time, is n!." ("n!" is read as "n factorial.")

The formula for the above statement is:

\[ P_n = n! = n \times (n-1) \times (n-2) \times \ldots \times 2 \times 1 \]

For example of the applications of the theory of permutations to architectural design let us use a simple residential project. The house is to have eight rooms or zones, each with different functions. Then, the number of possible ways in which these eight zones can be arranged in a square with each zone of equal area and all on the same plane is:

\[ P_8 = 8! = 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 40,320 \]

Now if we add a variation to the problem by allowing the rooms to be rectangles instead of squares we have:

\[ 9! = 8! \times 9 = 362,880 \]

If they can be on different levels:

\[ 10! = 9! \times 10 = 3,628,800 \]

Suppose they can be angular in shape:

\[ 11! = 39,916,800 \]

The style do you like? Less is more?

Organic is the only way:

Thin shell roofs are kind of nice:

Don't forget the possibilities of prefabrication:

What about all of the materials in Sweet's catalogs?

Now we are in real trouble.

For the sake of simplicity lets assume there are only 978 different kinds of building materials and we have:

\[ 998! = 1000! = \text{one thousand factorial.} \]

One thousand factorial is so large a number
The plan and vertical elements of this house for a family of five in Los Angeles (Mandeville Canyon), California, shows careful consideration of rhythm and symmetry in the organization of space. Because of the fact that only two interior partitions touch the exterior wall, the enclosed space reads as a unit and walls as freestanding planes or volumes.

The structure, elevated above grade to gain a better view down the canyon to the sea, has a water-worn charcoal rock podium surrounding it and flowing beneath and through the atrium. Exterior walls are charcoal colored ceramic-faced Norman brick; interior walls are walnut pan-
eling and white plaster. The fireplace unit is stainless steel.

Interiors are by the designers, including beds and all tables excepting the Mies van der Rohe coffee table in the living room. Color accents are furnished by fabrics and carpets. Flooring is white terrazzo.

Glass is grey plate with sliding screen units to the inside; half-inch grey plate is also used as a screen between entry and the formal dining room. The structure is of nine equal (26'8"-square) steel-framed bays with the center bay open to the 26'8"-square atrium; the grid module is 3'4" and ceiling height 10'0".
PRECAST CONCRETE AUDITORIUM

BY FLEWELLING & MOODY, ARCHITECTS
This school auditorium in Culver City, California, is shaped like a fan with the "handle" acting as a great thrust arm and the segments are folded plates brought to the ground in sweeping parabolic curves. The auditorium proper, seating 1319 persons, is an elliptical bowl designed to obtain acoustical values from the form of the structure rather than by means of extraneous materials or objects. The designers believe that sound waves "might be made to flow rather than bounce by means of a constantly changing surface, particularly if the sound source projects those waves more parallel to the surrounding surfaces than normal to them."

The nature of the building is a theater-in-the-round containing stage-craft facilities, rehearsal room and music room, all within the circular masonry structure which spans 250' from center to center of the abutments.

The folded dome was designed as a series of eleven segmental arched elements which converge at the crown junction with the supporting arched buttress. Maximum rise at the crown is 50'. Individual curved dome elements are 125' long, 32'6" wide at the base and 40' wide at the crown. Thickness of the concrete is 4" and depth of the fold varies from 10' at the base to 1.25' at the crown.

Design analysis assumed both two-hinged and three-hinged conditions, with hinges at the bases and either a hinge or full continuity at the crown. The buttress arm was shaped and proportioned to balance the dead load of the dome segments. The dome was designed for a full live load of 12 pounds per square foot, an unbalanced live load of 6 pounds per square foot on one-half of its area. It was also designed for seismic and wind loading.

A manual arch analysis was made and confirmed by several digital computer analyses which also took into account the effects of temperature changes, shrinkage of concrete and possible foundation settlement. The horizontal thrusts of the dome elements and the buttress are carried by a system of radial underground prestressed concrete tie beams. Thrusts are about 150,000 pounds from each segment and about 1 million pounds from the buttress.

The eleven folded dome segments were precast on the ground. Curved V-shaped casting beds were constructed by cutting the earth and lining it with 2"-thick concrete waste slab. Two stacks were formed, one on either side of the structure. The segments are of 4"-thick lightweight aggregate concrete weighing 110 pounds per cubic foot and total about 50 tons each. The buttress arm was formed and poured in place with regular stone concrete. After the precast segments were moved into position by crane, ridge joints between segments and the crown connection were poured.

Upon removal of all shoring, the crown deflected downward only about \( \frac{1}{4} " \), according to the architects.
Life to me is existence with a psyche; and death is existence without the psyche; but both are existence. I think of the psyche as being a kind of prevalence — not a single soul in each of us — but rather a prevalence from which each one of us always borrows a part. This applies to every living thing, be it a flower, be it a microbe, or be it a man or an animal. Every living thing, and I feel that this psyche is made of immeasurable aura, and that physical nature is made of that which lends itself to the measurement. I think that the psyche prevails over the entire universe. It demands an instrument of expression which it cannot hope to have in some other area of the universe. I am sure that this very psyche hammers at the door of the sun and says, "Give me an instrument here upon which I can express love, hate, nobility" — all the qualities which are, in my opinion, completely immeasurable.

The instrument is made by nature — physical nature, a harmony of systems in which the laws do not act in an isolated way, but act in a kind of interplay which we know as order. Man isolates the law and makes every good use of it. But it must not be assumed that the law, when gotten by the tail this way, is very happy except when it is in relation to other laws where its real life actually exists.

When I hear a scientist speak in categorical terms of what he has discovered, I feel that as he grows older, he will change his categorical term into something which is not quite so sure. He discovers that the law is in a degree unchangeable, whereas rule is changeable; you check it off and say, "one down, and so many to go." It isn’t quite as simple as that in my mind. Now we are made out of what nature makes of the demand of the psyche for an instrument to play the wonderful song which will never actually be finished. We must take potluck from nature, because nature has no consciousness whatsoever. Nature is not conscious of the sunset; nature is not conscious that the sunset is beautiful. As a matter of fact, if a painter were to faithfully duplicate the sunset, the sunset would laugh at him and say, "I’ll make a better one tomorrow." But if man paints a sunset as a reaction and his product says to the young man, "I’ll have a good time tonight," and to the older man, "I haven’t got long to live," then nature is very jealous, because it cannot do this. Nature is unconscious, but the psyche is conscious, demands life, and gives life. Nature makes the instruments which make life possible. It will not make the instrument unless the desire for life is there.

Wonder in us is — you might say — a record of the way we were made. It is a well, which is completely full of all the things you will ever learn; because nature, in making things, records every step of its making. It is, one may call it, a seed. But it’s understood much more if you realize that in wonder lies the source of all that we’ll ever learn or feel. Knowledge which is derived from wonder is unhappy unless it relates itself to other knowledge. And this relation of knowledge to knowledge is what you might call, a sense of order; a sense of the position of this knowledge in relation to other things around. When we get a sense of order — not just knowledge or information — then we are very happy. We wink at wonder and say, "How am I doing, wonder?" Because wonder is activated by this knowledge and better still, by this sense of order. And wonder becomes more reachable, more full of that of which we were made.

From wonder we can also derive the position of that which is intangible; because you cannot measure love; you cannot measure hate; you cannot measure nobility; they’re completely unmeasurable things. We may, though, come to points where we know the nature of man sufficiently to know there is a commonness in all of man, because man is man, all over. I don’t believe that if you can think of a soul belonging to one man, it is different from another soul. I think all souls are alike, because they are first of all, unmeasurable; and secondly, they are gathered from all of earth. But what is different is the instrument. Nature, being an unconscious thing, cannot make the same instrument to play the wonderful song which will never actually be finished. It is, one may call it, a sense of order; a sense of the position of this knowledge in relation to other things around. When we get a sense of order — not just knowledge or information — then we are very happy. We wink at wonder and say, "How am I doing, wonder?" Because wonder is activated by this knowledge and better still, by this sense of order. And wonder becomes more reachable, more full of that of which we were made.

A STATEMENT BY LOUIS I. KAHN
Realization is really realization in form, not in design. Realization has no shape or dimension. It is simply a coming to a deep, revealing understanding in which the sense of order and the sense of dream, of religion, becomes the transference of I into thou. A man does not live a philosophy—he lives what he lives; but he gives philosophy as though it didn't belong to him, because he can't live the philosophy that he senses. From this sense of order and sense of dream come realization. Realization in form. Now form, in my opinion, has no shape or dimension; form is merely a realization of the difference between one thing and another—that which has its own characteristic. A circle is not a triangle, though tautologically it may be the same thing. It isn't the same thing in form. It has characteristics for rather inseparable parts. If you take one thing away, the form is destroyed. Each part must be accountable to the other. This is realization in form. When the scientist realizes this, he can work for years and years and years on this realization, making many designs, many experiments, many extensions of this realization.

Dr. Salk calls men who work towards extension in this light "biological engineers". But the biologist he visualizes he would like to have in his Institute is one who recognizes the unmeasurable as well as the measurable. To think that men can really put down a statement saying, "We now know what hope is when we can measure it." I believe this is not so. I believe the unmeasurable will always remain unmeasurable. I believe also that if you continue to think this way, even the unmeasurable will become much closer to you, because you recognize that you'll never get it by the tail. You'll know it much more that way than you will by assuming that you'll ever know it.

In this same way, I believe that you'll never really measure nature, unless we extend for years and years our wonder source, the well, which tells the whole story of how we were made. Now design is the exercise or the putting into being of that which you realize is form. I will give a familiar example, because I can't think for the moment of another: if you think in terms of a spoon, you think in terms of a container and an arm. If you take the container away you have a dagger. If you take the arm away, you have a cup. Together they are a spoon. But spoon is not a spoon; spoon is form. A spoon is made out of silver, out of wood, or paper—when it becomes a spoon, that's design. The realization, spoon. Form. Spoon is not design. This can be extended to buildings as well as it can to everything we make. Take the example, for instance, of that which can come together and that which cannot be separated. I had a problem for a carborundum factory. If you know what a carborundum factory is, it's a pretty terrible place to work because the dust is very bad. The whole architecture should be shaped to take care of a human working in such an atmosphere. Therefore, it's a completely hooded kind of architecture in which the dust is gathered before it ever reaches the room. That's what the building should look like, although I don't know of any carborundum factory that looks that way. If I were given the assignment, I would do it that way: if you consider, from the present standpoint of architectural thinking, the placement of a cafeteria in this plant, there are many architects who would assume that you merely have to assign it a certain corner of this temple for carborundum making. And this is definitely wrong, because a cafeteria does not contribute to carborundum and carborundum doesn't contribute to the cafeteria. It should be outside of this building; maybe a little Pompeian house, next to the modern factory would be more appropriate than to try and integrate both. Because form-wise they do not come together; they mean nothing to each other. The realization of this separation, and the realization which does come together, is unexplored in our architecture.

This brings me to law and rule, which is my present concern—not that my architecture changes radically, because at present it isn't changing at all. Law cannot be changed. Law is there. You may not understand it fully, but it's there. Always there. Rule always should be considered as on trial. Rule is just made from realizations of feeling and the law. And when more is known of the law at certain times, then the rule must automatically change. Think of the wonderful discoveries of science today, and think of how much our architecture is at a standoff. I believe our architecture looks like Renaissance buildings, simply in new materials. I do not think it looks like modern buildings to me. It's all because the rules have really not been changed.

When we think of our cities for a moment, we can review again the new knowledge we have, the new sense of order we have, in relation to water, to light, to air, to movement. Just think of law and rule in this sense. If I get in front of a truck—the truck is hard; I'm soft—I'm a dead duck. I disobeyed the law. The rule is the red light and the green light. When I am driving a car, I respect the red light; the rule I like to drive right through it. But I think of my own child, and I obey the rule.

The law is relentless; it has no feeling; but the rule has. Think of cities that have reservoirs miles away from where the water is used, Why do we have to use drinking water for air conditioning plants, and drinking water to feed fountains that don't need filtered water? And why must we clean streets with filtered water? Why can't we have an architecture of water that goes through the town easily, recognized in deference to the very precious water? The order of movement today is based on an extension of the horse and buggy. You feel as though the manure has just been swept away. There has been no thought given to the motor car whatsoever. The same streets serve the motor car as served the horse, which was a pedestrian. The hitching post is really the garage, but the garage is a piece of real estate which should be part of the design of the street, it should be the extension of the street. The garage, therefore, is really a roundup street, and must be made part of the design of the street. The streets must be completely redone in the center of town. Why must you rip up a street and put in a new line every time you have to repair or improve services for comfort and control of environment? We dig them up every time as though they were the Appian Way. Why isn't there a building in which a room is dedicated for piping only? The dead center of the city, where those mistakes are most unprofitable, should be completely redone. In the center of town the streets should become buildings. This should be interplayed with a sense of movement which does not tax local streets for non-local traffic. There should be a system of viaducts which encase an area which can reclaim the local streets for their own use, and it should be made so this viaduct has a ground floor of shops and usable area. A model which I did for the Graham Foundation recently, and which I presented to Mr. Entenza, showed the scheme. This is finding new rules out of realizations of law.

In the Salk project again, I am developing walls around buildings to take care of the glare. I do not think that venetian blinds and curtains and all kinds of window devices are architectural. They are department store stuff and don't belong to architecture. The architect must find an architecture out of the glare, out of the wind, from which these shapes and dimensions are derived. And these glare walls are based on a very simple principle, which I got out of observation when I was in Africa, where the glare is very startling. There the people worked with their backs against the sun, and they got the light off walls near where they worked. Their buildings are close together, and their windows look into walls. They modify the glare, by looking at something that is in light. These walls I'm developing for the Salk Center in San Diego are in recognition of this discovery of (Continued on page 33)
ITALIAN BUILDING MATERIALS

by ESTHER McCoy

The materials discussed by Miss McCoy and other Italian building materials will be exhibited at Century City's Gateway West Building in West Los Angeles from June 12-24. Included will be marble, travertine, ceramic and marble tiles for walls, floors and decorative use, glass and ceramic mosaics, ceramic panels and concrete-framed glass. An exhibition of Italian Design in interior furnishings, murals, glassware, ceramics and fabrics will be held in conjunction with the 4th Centennial Michelangelo Exhibit June 8 through July 10 at the International Design Center, 8899 Beverly Blvd., Los Angeles.—Ed.

Italy’s first two skyscrapers were completed shortly before the country celebrated its hundredth year of unification, the Velasca Tower, in the shadow of the Cathedral of Milan, and the Pirelli Tower near the Milan railway station. While the Pirelli Tower sits on its own great plaza in a district gradually being transformed into the new business center of the city, competing only with the present and not the historical city, the Velasca tower is on a small plot in the midst of buildings sanctified by time and often by art. Its design exemplifies the predicament of how to pay homage to the past in terms of the present. The problem of the Velasca Tower, as it rose above its neighbors to present a profile which might rival the stone snowflake-like spires of the cathedral, was a delicate one, not to be solved by a curtain wall building. Its sinuous structure summons up a memory of the Gothic cathedral.

And, again, in Venice’s decorative pierced travertine balcony rails are the laces of Venetian Gothic pressed upon a modern apartment house building. An especially gracious acceptance of place and history is the 1958 Rinascente department store in Rome, where the color, texture and cornice line are adjusted to neighboring buildings.

An expanding Italy walks on eggs around its architectural treasures, committed to the present, respectful of the past. Industries small and large are building additions, and by the time the construction is completed they are already cramped for space again. Genoa’s steel plant (Italsider) is pushing out onto newly filled land in the harbor.

One industry that has taken an enormous leap is tile, both majolica and gres, both hand-made and machine-made. There is a renewed interest in it as a flooring, and since rain washes it clean it now is widely used as an interior facing in cities where grime collects, especially Milan and Genoa.

Gio Ponti clothed his Pirelli Tower with warm gray ceramic tile — millions of small, weather-resistant pieces — and Luigi Caccia Dominioni chose high glaze tiles in a blend of reds for the exterior walls of a condominium in the new multiple housing area around Milan’s Piazza Carbonari.

At the Building Center in Genoa, where Italy’s new products and architectural work are displayed, the seriousness and inventiveness of the Italian industrial products are everywhere evident, from plumbing fixtures, long overdue for new designs, to Edilresine’s easily installed plastic frames for doors and windows.
Italian marble shipped to the U. S. is thin slab used here to spell out elegance, and it is startling to see the great thickness of the slabs in new buildings under construction in Italy. We polish it until it is unmistakably marble. They can be cavalier with it in Italy where it is plentiful; the architects of the Brutal School in Italy even chip it, which gives it something of the appearance of concrete.

Travertine can sometimes also be understated. I noticed the red chips in the Travertino Romano quarry in Tivoli last winter and was told that this was the outer crust of the material, now in demand by some of the younger architects for its color and rough texture. This is disappointing to men in the travertine field who love the material with the larger pores filled and the whole polished smooth. I agree that it is beautiful so, but the red of the crust is the color of many old plastered walls in Rome. Rome is to me synonymous with that particular red and also with travertine.

As I talked to quarry men we were watching preparations for sawing into what was described as a new bank, but as it turned out it was not new, just a part of the quarry untouched since the days of the Roman Empire.

What strikes one about the marble and travertine quarries is how much material has come out of them and how generously they seem to offer centuries more of it. In Querceta there is an Henraux quarry of Carrara marble whose banks are cut away to leave standing a high Gothic arch. The material is so plentiful that one village of marble workers in the Apuan Alps has houses, church, altar, shops, and its fountain in the square of marble. Even the streets are paved with marble.

The quarries of the Vicentini Marble Industry in Chiamo, near Vicenza, are rolling hills compared with the steep Apuan Alps where Carrara marble is quarried. One identifies the Vicenza and Verona marble zones with red, but there is an extraordinary range of color, from flesh tones of the veined breccia rosata and cloudy violet shadings of fior di pesco carmico to the deep red of onice. The Vicenza-Verona marbles belong to a later geological period than the Carrara, and their interesting markings are from organic residuals. From this zone come pale marbles from cream color to straw, and in these the evidence of prehistoric marine life is very clear.

Only a small percentage of the Carrara marbles is white. There are the arabescatos with arabesques of gray or faun, many of them clouded; whites veined with grays, or gray with darker gray; and the breccias which are whites with fragments of yellows, grays, violets or reds.

Carrara is a port town, which means that marbles from various parts of Italy and from quarries all over the world are stockpiled. There are even the marbles whose quarries were long ago exhausted and are now so costly that they are sought mainly for repairing marble work in old buildings. The finest way to see and compare the marbles of the world is to walk through a Carrara stock yard, tilting stacked slabs so the sun shines on the polished face. One has the feeling of staring under the crust of the earth.
Pavings designed by Ugo Blattler for Henraux of Querceto.

Ravenna-style marble paving, Bergamo.

Marble tile in Milan apartment. Architect Ettore Sottsass, Jr.
ITALIAN BUILDING MATERIALS

Marble textures developed by Ugo Blattler for exterior facing. Experimental laboratory of Henraux Co.

PHOTOS BY OSCAR SAVIO

PLASTIC FORMS IN MARBLE

Ugo Blattler, a Swiss artist, has developed a series of plastic forms in the experimental laboratory of Henraux Company of Querceta in the Apuan Alps. The forms are carved from white statuary marble from their quarry at Monte Altissimo — Michelangelo's quarry.

Blattler uses new diamond-edged cutting devices to carve out lights and shadows in the marble and to release its character.

"The Carraran marble frees from the compact tones of its own surface a true descriptive luminosity," he says. "I wish architecture and sculpture to return in overwhelming force to this Italian stone. My respect for it goes back to my boyhood on the shores of the Four Cantons Lake. Along the railway lines I used to see the freight trains carrying the blocks northward. They gave me the feeling of a strange power of matter. Now in these plastic forms I have tried to pay homage to the statuary marble of Altissimo, and to Italian labor which employs the energies of three thousand of the finest marble workers of Europe, and perhaps the world. This material is not a substance to which it is necessary to give life or on which to stamp movement in terms of traditional sculpture and architecture. The life inherent in the Apuan marble is brought out by workmanship. This is what I have tried to do in the plastic forms."
Tiles designed by Alberto Rosselli, architect.

ITALIAN BUILDING MATERIALS

TILES

CEDIT, the Milan ceramic company with factories in Milan and Palermo, offers each year in collaboration with Revista D'Arredamento six awards for distinguished designs for new tiles: the Golden Tile, the Silver Tile and four Diplomas of Honor.

The chairman of the board of the competition is Mario Giacomo Tedeschi, and members include Tommaso Ferraris, Lucio Fontana, Enrico Peressutti and Marco Zanuso.

The tiles shown here were award winners in previous years.

The competition is open to architects, designers and decorators of all countries. Information concerning the 1965 competition may be obtained by writing CEDIT, via de Amicis 44, Milan, Italy.

Majolica ware came to Italy at the end of the 14th century from Spain, which learned the art of tin and lead oxide glazes over clay from the Middle East. By the end of the 15th century when Caesare Borgia brought majolica tiles from Spain to Italy a spontaneous industry erupted in Faenza, the Bay of Naples, Orvieto, Siena, Genoa, Milan, Modena and Venice.

Tiles quickly made themselves at home in the warm Bay of Naples area where a cool floor was desirable. While tiles have had their ups and downs, the craftsmen of Naples, Salerno, Vietri, Amalfi and all along the coast, have never ceased to turn out tile for palace or cottage. In the best tradition of 18th century majolica are the tiles in the cloisters of

From left:

Vergara, Golden Tile winner, shown in assemblage and detail. Designer, Sergio Gais.

The Venaria tile, designed by Luca Beltrami, received a Diploma of Honor.

The Valdieri, Golden Tile winner for 1961, designed by architects Sergio Mazza and G. Gramigna. An assemblage of 16 tiles and single tile.
Tiles designed by Gio Ponti for a Poni and Roselli building in Milan. Photo by Casali

Tiles for exterior and interior walls, glaze and matte finishes for the various sculptural effects.

Architect Luigi Coccia Dominioni uses a red glazed tile for exterior walls of a Milan apartment.

Santa Chiara, San Domenica and Santa Anna dei Lombardi.

Arabesques and plant forms are still the design source of the typical Bay of Naples tile, and the stylization of the Kufic Arabic script, introduced into the decoration by Moorish craftsmen in Spain, is still present as a design element.

Around Naples and Salerno they are more apt to speak of the art of tilemaking and its history, while in the north they stress the certificates of proof that the tile is heat, frost, water, acid and oil resistant — facts verified by the eye in Genoa and Milan. They use more gres (sandstone) tile in the north than south; the south prefers the glazed majolica except for exterior facings for buildings.

Two sources of tile in the south are the D'Agostinos of Salerno and ICAN of Naples, both having machine-made and handmade tiles. In fact, there are two D'Agostino factories, one highly industrialized which turns out modern tiles, and one for traditional designs which is strictly a handcraft operation (and foot, for the clays are mixed with the feet to give them greater plasticity). Both of the D'Agostino factories have doubled their annual production for the last three years, indicating the demand for handmade tiles grows along with the machine-made product. Many architects have rediscovered the beauty of handcrafted tile; Le Corbusier is using one in a milky white (the shade of the tin and oxide glaze before colors are added) for all floors in a new hotel.

(Continued on page 32)
Overall design of this development in Upland, California, suggests a small village at the foot of nearby Mount Baldy. In addition to the 150-unit motel, the complex will include a terraced restaurant with coffee shop, beauty salon, barber shop and steam rooms and a separate two-story office building of 20,000 square feet.

Service roads and planting buffer the development from the adjacent San Bernardino Freeway and motel units overlook a park-like landscape with small lagoon, fountains and waterfalls.
PROJECT ARCHITECT JACK KRAUSE

PHOTOS BY HERBERT BRUCE CROSS
CASE STUDY APARTMENTS NO. 2 BY KILLINGSWORTH-BRADY AND ASSOCIATE, ARCHITECTS
FOR THE MAGAZINE, ARTS & ARCHITECTURE, IN ASSOCIATION WITH SHERMAN WHITMORE, OWNER-DEVELOPER
ARTHUR L. HOSKINSON, GENERAL CONTRACTOR

Editor's note: While waiting impatiently for construction on Case Study Apartments No. 1 (formerly Case Study House No. 28, A&A November, 1963) to reach a sufficiently photogenic stage of construction to warrant publication, we here present our second excursion into multi-family residential architecture.

The site of the project is a corner property 129'-0" x 142'-0" located on the upper mesa of Newport Beach, California. One street is the primary traffic artery for the general area, the other is a typical street of a better residential neighborhood. At the rear of the property is a 20'-0" alley which provides for service. There is a 20'-0" building setback on the primary street and the sideyard requirements are 40'. However, at the side street there is an easement for underground utilities, which requires a building setback of 10'-0".

Zoning restrictions would have allowed 12 units on this parcel of land. The owner preferred to develop only 10, thereby allowing larger units and added amenities. Four of the apartments are two-bedroom units. The other six are two-bedroom, two-story studio type. The general plan has been developed as a balanced composition around a courtyard with a 15'-0" x 30'-0" swimming pool fronting on the principal street. On each side of the courtyard two two-bedroom apartments are stacked. The

(Continued on next page)
rear of the courtyard is closed with the six studio apartments. The garages face the alley and the bedrooms of the studio apartments are above these.

The building is set upon a 20"-high podium. Access to the courtyard is by means of low rise 20"-wide steps through wrought iron gates combined with factrolite glass to shelter the courtyard from the street. Paving in the courtyard is of concrete aggregate, composed of pea-size natural gravel set in a tight pattern of redwood divider strips. The 15'-0" x 30'-0" pool is by Fiesta Pools and is developed as a garden pool of simple shape for reflections as well as swimming. On either side of the pool are factrolite glass screens sheltering private gardens for the two-bedroom units on the ground level. Behind the pool, and at the focal point of the courtyard, is set a 17'-0"-high plaster panel as a background for a large bronze sculpture which is to be mounted upon a high pre-cast concrete base.

The studio apartments contain 1,310 square feet with living room, dining area, kitchen, two baths, master bedroom, and a den-bedroom combination. The width of the unit is 20'-7", the depth is 50'-0" including the master bedroom which projects over the garage space. Entrance to each apartment is by private courtyard through a tall door to the two-story-high living room. Features of this room include the two-story glass wall to the garden, a tall fireplace and the den-bedroom at the second floor as a balcony. The dining area is at the rear of the living room and is a one-story space with a wet-bar set behind walnut doors. Cabinets in the kitchen are of walnut with white plastic laminated tops. The lighting is low key incandescent, and all appliances are electric, including the water heaters. A pantry and a large serving counter to the living room are also features of the kitchen.

The second floor consists of a master bedroom and two baths and the den-bedroom combination on the balcony with a commanding view through the two-story living room to the garden beyond. The master bedroom is 13'-0" x 17'-9" with a large quantity of storage space. The master bath has two separate marble counter tops with wash basins and an individual compartment for the toilet and shower.

The four two-bedroom apartments on either side of the courtyard are duplicate units with two above and two below. Each apartment contains 1,290 square feet with living room, dining room, kitchen, two bedrooms and two baths. A small entry separates the entrance from the 16'-0" x 21'-0" living room which faces upon its own private courtyard. At the end of the living room is a room 10'-0" x 12'-0" which may be used

(Continued on page 32)
These modular carved panels, designed by Evelyn Ackerman and architect Sherrill Broudy for Panelcarve of Santa Barbara, Calif., are handcrafted by machine, utilizing a process that retains the best of the old while adapting it to the new. The designs are reproduced by a machine guided by the craftsman’s hand, which is reflected in the small variations discernible in each panel.

The panels are carved in modular sizes from 1-1/16” kiln-dried, all heart redwood and have tongue-and-groove edge detail that permits easy assembly into a variety of design combinations, and a limit to their possible uses has yet to be reached. Most of the panels are 9” x 36” (ranging in price from $9.50 to $16 depending on intricacy of design) and have been assembled into doors, table tops, divider screens, paneled walls, desk components, planters, cabinets, headboards, and even used individually as wall hangings.

The wood is treated to give a dark brown color, the shade varying from panel to panel with the character of the wood, and may be installed unfinished and allowed to age and weather naturally. Although stocked in the dark unfinished redwood, the panels can be carved in walnut, pine, mahogany and other woods.
PRODUCTS

FOR CASE STUDY APARTMENTS NO. 2

Killingsworth, Brady & Associate, Architects

The following list of specifications represent those products considered by the architects on the basis of quality and utility as being most suitable to Case Study Apartments No. 2 and have thus earned the right to be “Merit Specified” within the meaning of the Case Study House Program. Additional products will be added to the list when specified by the architects.

STRUCTURAL

WALLS
Plaster Groun—Micor Metal Lath and Accessories, Inland Steel Products Company, 4807 East 49th Street, Los Angeles 58.

DOORS AND WINDOWS

FURNISHINGS

FIREPLACES

ELECTRICAL
Kitchen Lighting—Globe Illumination Company, 1515 West 178th Street, Gardena, California. Electrical Supplies—Consolidated Electrical Distributors, 1700 - 17th Street, San Francisco, California. Low Voltage Lighting—Corona Manufacturing Company, 1247 East Hill Street, Long Beach, California.

FINISHES

PLUMBING

CABINETS
Kitchen—St. Charles Custom Kitchens, 8640 Sunset Boulevard, Los Angeles.

GARDEN
Concrete Staining—Kenko, Bakkoff & Company, 918 North Western Avenue, Los Angeles 29. Pool and Pool Equipment—Plasto Pools, 9830 Atlantic Blvd., South Gate, California.
trees set at either side of the courtyard entrance of the building and at the side street corner to soften the corner. Plant material in the courtyard will be set in large pots to develop a formal character. Colors of the structure throughout will be muted earth tones with a dominance of white for interior wall surfaces.

Furnishings will be of a simple linear form to reflect the general architectural character of the project.

STATEMENT — LOUIS I. KAHN

the law of light, from which I have made a rule for myself in the design of the building.

Recently I was asked to design a town in Israel. Unfortunately I could not go to convey my ideas. But I thought of the desert being reshaped in mounds, which would contain reservoirs. And these mounds would be so placed against the winds that they would help in creating venturi which now are just flowing freely, not being controlled. And that a village be built around a venturi principle of air so that the air would be guided through small avenues and large receivers. The shape of the streets will follow the need which the buildings have there. This would not be applicable in Germany. Some of the buildings which are built in Israel today, follow the rules set down by German architects — good rules for Germany, but not good rules for Israel. This indigenous architecture is, I think, the great excitement of architecture.

In a dormitory I’m doing for Bryn Mawr College, I had a feeling that the dining room, living room, reception rooms and entrance were different, in every respect, from the sleeping quarters. And I kept the sleeping quarters apart from these rooms, believing that I was expressing that one was different from another. But I discovered my mistake. I realized that a person sleeping in a room felt well about his house if he knew the dining room was downstairs. The same way with the entrance to the building. The sense of hospitality, or reception, of getting together must be part of the law of beauty as an expression of a world within a world.

The client, Hadrian, and the architect, whom I don’t know the name of, saw the demand of this pantheonic requirement of no man around to do it. I don’t mean money — I mean economy. And that village be built around a venturi principle of air so that the air would be guided through small avenues and large receivers. The shape of the streets will follow the need which the buildings have there. This would not be applicable in Germany. Some of the buildings which are built in Israel today, follow the rules set down by German architects — good rules for Germany, but not good rules for Israel. This indigenous architecture is, I think, the great excitement of architecture.

In this environment you go to your classrooms, which, by reason of the fact that all classrooms have 30 pupils in them, are all alike. You have perfect air conditioning, ventilation and light — this is always given. And the cafeteria can be in the basement, because actually you don’t spend much time there. This is the kind of a program you get from the School Board.

Now I think the first act of the architect is to change this; to change the program for what is good for the institution, for the continuation of the institution of learning. Man has established that for which he feels an inner need to know, to relate knowledge to himself. And that school is as much a part of him as though it actually grew with him. That’s really what an institution is. It’s an extension of man and his needs. And this must be made greater and greater by the architect. He must refuse the program, he must change the client’s program — which reads in the form of areas — into spaces. He must change corridors into galleries; he must change lobbies into places of entrance; he must change budgets into economy. Architectural space is a space within which you read how the space is made; within the space, the columns, the beams, and the stones are in the space itself. A great span must have nothing in it, but that which is captured by the span. And the decision of the structure of the span is also a decision in light. A vault is a choice in character of light. You shouldn’t open one room to the other to find out how the space is made. Within the space itself is the structure of that space. That makes architecture different from building, just building. All building is not architecture.

MUSIC

(Continued from page 12)

less blocked, except the single outlet through his fingers. “Archangel” the once-famous dancer Maud Allen breathed aloud, when I spoke of her beloved friend Ferruccio Busoni. “Archangel — and Archdevil!” Richard Buhlig, who had known Busoni well, growled back at her across the table. They did not quarrel, each remembering a man outside the common knowledge.

Guy Maier told me of taking the young Vladimir Horowitz to
visit Schnabel. Horowitz was convinced that Schnabel did not approve his playing and would not wish to meet him. After the amenities, Schnabel invited Horowitz to sit at one of the two pianos, handed him the score of the Mozart two-piano sonata and sat at the other piano. I shall not attempt to reproduce Maier’s superlatives describing what then happened; one can no more than try to imagine the interplay of two so distinct styles. Before starting the slow movement, Schnabel, across the two pianos, hissed: “Nicht schnalz.” It was unjust; it was the perpetual conflict of two un-reconciled traditions.

One can hear today on a record Gustav Mahler limply reading at the Welte-Mignon pianistic apparatus from the finale of his Fourth Symphony. When Busoni returned to Vienna to play the Emperor Concerto a second time with Mahler, he was summoned by a note to come to Mahler’s office. There he was kept waiting, a half-hour, forty minutes. The door to the inner room burst open; Mahler almost ran across the waiting-room and out the other door, snapping over his shoulder as he passed by Busoni, “Nicht schnell!” Mahler felt that Busoni at the last performance had played too rapidly; he dared not tell him so face to face. Buhlig told me this; he had it from Busoni.

And the anecdotes of Buhlig and Schnabel, friends of fifty years. Schnabel was present at the first program of Buhlig’s second Beethoven sonata cycle in Los Angeles. I shall never forget the little square man in frock coat and square top hat, a visible anachronism, marching away from us down the street with a strut like a miniature Brahms. Next day, by way of mutual friends, came Schnabel’s verdict. “He lacks nothing.” Schnabel said of Buhlig, “except sensuality.” “Sensuality” Buhlig snorted, hysterical between laughter and fury, his most conspicuous characteristic thus obliterated. Later during the same series, Schnabel played the Diabelli Variations on a Wednesday evening. That morning a critic had written of Buhlig’s Monday evening recital: “It was the greatest piano-playing I have ever heard.” (I endorse the statement.) The next morning Buhlig drove his old friend and rival to the station. On the platform Schnabel said how happy he was to have heard Buhlig play once more. “And the critics gave you great praise.” Then turning his head as he climbed up to the Pullman, “But that was only one person’s opinion!”

Friends, furies, rivalries — but they bring tears to the eyes. The two pianists, the one all German, the other from Chicago, met as boys, pupils of Leschetizky in Vienna. Buhlig, slightly the elder, was the first to break away from the “Paderewski atmosphere”; the next year Schnabel followed him to Berlin. They became members of the Busoni circle, those who visited Busoni at his apartment in the afternoon, retiring with him into the back room with the pianos to discuss their technical problems; Busoni never gave lessons. With inexorable Germanic decision Leschetizky had assigned Buhlig, the dramatic performer, to study Beethoven sonatas and Schnabel, the lyricist, to study Schubert sonatas. For a few years the young Buhlig was the rising soloist, while Schnabel played chamber music. Later the wheel of fortune spun.

One tries to read through the anecdotes to discover the spirit of these extraordinary men and a few women, who lived and made music like princes of the blood. And though one suspects a deeper tragic stuff in them than shows through the cheerful weaving of tales in Harold Schonberg’s The Great Pianists, the book offers a plenty for enjoyment, filled out with an abundance of technical and stylistic information.

BOOKS

(Continued from page 9)

INVENTING THE FUTURE (Alfred A. Knopf, $4.95) by Dennis Gabor, physicist and Fellow of the Royal Society, also expresses an optimistic view of the future. It is his principal thesis that we not only can determine the rate of progress of our material future, but that for the preservation of civilization, we must. The two elements which can overwhelm us are an all-consuming technology and over-population. We can, if we have the will, resolve both problems by invention. As he says, Gabor eschews the pessimism of Anatole France or Bertrand Russell and believes that Man can still preserve himself and his planet.

THE NAKED SOCIETY by Vance Packard, (McKay, $5.95) is a very serious and shocking report of the extent to which our privacy has been violated, the guarantors of State and Federal constitutions notwithstanding. Packard makes no claim to being what the pedagogues call “an exact scientist” working in an “exact science,” but he does pile up the facts in an endless chain of evidence to prove his case: that we are constantly being investigated as individuals or as members of groups or organizations in ways which are illegal if not immoral. Packard is concerned with the erosion of some fundamental tenets which we used to respect. The Art of Investigation has gone to fantastic lengths: wire-tapping is but one facet of the constant effort to accumulate information. The Great Snooper literally begins at birth, follows us through school, college, our first jobs and on into adulthood. The dossier is purchasable and is used by countless pitchmen and sales organizations to inundate us with junkmail, phone calls, solicitations and invasions of our peace if not our privacy. But beyond this nuisance, there is the real danger that we are being dossierized to the point where it becomes dangerous to be different, independent. Big Brother is watching us.

THE MEANING OF HISTORY by Erich Kahler, (Geo. Braziller, $5.00) is an assertion of man’s freedom of choice and historic evolution to the growing freedom of men to make multiple choices. In this sense Kahler is an optimist in the tradition of most of the great historians. Kahler synthesizes the traditions and beliefs of East and West into a statement of belief in progress and salvation. In substance The Meaning of History is a reply to the nihilists of history from Nietzsche to the Existentialists.

THE TALK IN VANDALIA by Joseph P. Lyford, (McNally & Loftin, $3.50) is a journalist’s “survey in depth” of an average American town deep in the heart of America. Gathered with the assistance of the Center for the Study of Democratic Institutions, this is a report on the changing face and soul of rural America. What bothers smalltown America? The high cost of farming and civil defense. An excellent and important report.
that nobody has ever had enough time to determine its actual value but the mathematicians have an approximate method which uses Sterling's formula:

\[ n! = \left( \frac{n}{e} \right)^n \sqrt{2\pi n} \]

From this we find that 1000! is approximately equal to:

\[ 10^{2570} \]

This number is so large that it would take this whole page to write it all down, but how big is it, really? Well, how many times does your heart beat in a normal lifetime? 70 years \times 365 days \times 24 hours \times 60 minutes \times 60 seconds = 2,207,520,000 thumps. This is approximately \( 2.2 \times 10^9 \) which is very small in comparison to the 1000! number.

Since the number of heartbeats in a lifetime doesn't give us a "feel" for the number of possible combinations of eight-room houses let's look for another large number close at hand.

How many atoms are there in the universe?

There are about \( 10^{24} \) atoms per cubic foot of the Earth.

Then the Earth contains: \( (8000 \times 5000)^3 \times 10^{24} \times 10^{24} \times 10^{24} \) atoms.

The sun contains: \( 6.4 \times 10^{24} \times 10^{24} \times 10^{24} \) atoms.

The Solar System: about \( 10^9 \) atoms.

The Milky Way Galaxy (ours): about \( 10^9 \) atoms (10 billion stars).

100 million galaxies: about \( 10^{10} \) atoms.

So us to keep one-up on all of the super galaxies that will perhaps be discovered by new type equipment in the future:

Say 100 million super galaxies: Approximately a total of: \( 10^{20} \) atoms in the universe!

This didn't accomplish much toward understanding just how big a number 1000! is, except to state that 1000! is a great deal more than all of the atoms in the universe.

Some of you are sure to be saying by now: "That's like the problem of the monkeys writing all of the books in the British Museum — most of the books are gibberish".

But these houses are being designed by architects and there is not so large a proportion of gibberish. Well, how much of the 1000! number is gibberish?

Let us go way overboard and assume that only one of these houses in ten thousand will have the most happy combination of understanding rich clients and building departments and a good architect.

Then: \( 10^{2570} = 10^{2566} \) which is about as big as before.

By now it should be clear that the reason that none of the houses or structures are ever exactly the same is that there are so many possible combinations of best solutions!

Why, then, do they look so similar?

The only logical explanation would seem to be that almost all of the architects are either deliberately or subconsciously restricting themselves to very narrow pathways insofar as the variations regarding Space, Volumes, Shapes and Styles are concerned.

There are certainly enough colors.

There are plenty of solutions.

We have enough materials.

It isn't logical that they should remotely resemble one another!

All numbers under 201 from: Mathematical Tables from Handbook of Chemistry and Physics.

All numbers over 201 supplied by More Goldwater, Combinatorial Analyst, who will supply bigger numbers on demand.


ART

(Continued from page 7)

empty volumes hovering above. Then, he subdivides the central hall with a group of asymmetrical free-standing walls that are long enough and solid enough (not like those perfectly ridiculous metal dividers that now ruin many museums) to suggest that they are true enclosures, safely supporting their burden of paintings. At certain intervals, a panel from floor to ceiling suggests another level, and serves as effective foil for the exhibition of sculpture.

While even Speyer cannot provide the intimate spaces most of these paintings were painted in and intended for, he has so effectively combated the hostility of the hall that it is possible to contemplate the paintings without feeling overwhelmed.
The 1964 Institute of Church Design, a program first held last year for the purpose of acquainting architects with present-day developments in theological disciplines, will be held on the campus of the Pittsburgh Theological Seminary June 1-20. Sponsored by the Seminary and the Carnegie Institute of Technology, the Institute will be in two sections this year June 1-12 and June 8-20. Twenty-five architects, each of whom has designed at least one church, will attend each session.

Meanwhile, it was noted by Rabbi Eugene J. Lipman of Washington's Temple Sinai, during a two-day seminar held by the AIA, that "The rabbi, minister or priest over the age of 50 has life tenure and has a tendency to build a monument — this has nothing to do with religion." The architect is faced with a dilemma, he continued. "If he gives the parish what they want, the building is a failure; if he gives them what they deserve, they get a phony; so the architect should give them what he believes they ought to get."

The First World Congress of Craftsmen, a program planned to discuss the problems of world craftsmanship and communications and to establish an international association of craftsmen, will be held June 8-19 on the campus of Columbia University in New York City. Dr. d'Arcy Hayman of UNESCO will give the keynote address at the congress which is sponsored by the American Craftsmen's Council.

Plastic design, cable-hung roofs, space frames, delta girders will be among the topics discussed at the 16th National Engineering Conference sponsored by the American Institute of Steel Construction May 14 and 15 at Omaha.

"Public Opinion and the Building of Cities" will be the subject of a seminar May 14 and 15 at the San Francisco Press Club. Speakers representing the press will be Grady Clay, editor of Landscape Architecture and real estate editor of the Louisville Courier-Journal; and George McCue, urban critic for the St. Louis Post-Dispatch. Seminar is sponsored by the San Jose State College Department of Journalism and Advertising and the CC, AIA.

**Saarinen**

New 38-story home for CBS in New York (left) by Eero Saarinen & Associates carries vertical ductwork in the triangular perimeter concrete columns (to be faced with black granite). The building, with 20,000 square feet to a floor, will occupy only 43% of the site, the remainder to be open plaza below street level on all four sides.

The 54 exterior columns are 49' high, 4'11" wide and 3'7½" deep. The subway cuts through the building foundation and heating, air-conditioning and other mechanical equipment will be contained on the second floor rather than the basement.

**Mies in Basic Black**

At right: model of the Toronto-Dominion Center consisting of a single-story Banking Hall, a 55-story Bank Building and a second 44-story office building rising from a four-acre plaza. Exteriors will be black steel, stainless steel sash and bronze-tinted glass. Architects of the $125 million complex are John B. Parkin Associates and Bregman & Hamman of Toronto, Mies van der Rohe, consultant.

Standing in Penn Station's stead will be the new Madison Square Garden Sports and Entertainment Center (left) by Charles Luckman Associates. The circular sports complex will be 425' in diameter, with cable-hung roof allowing the 22,000-seat arena to be column-free. Four glass enclosed escalator towers project from the circular building and a pedestrian bridge connects it with the 29-story office tower. An "all-new Penn Station" will occupy the concourse levels.

**New Madison Sq. Garden**

Sculpture of the Month

"The Fountain" by Alexander Calder Painted black steel, 1962, 69" x 9'8" x 72". Universal Building North, Washington, D.C.
This is a most unusual pencil, and it belongs to a most unusual company. Both should be working for you. Consider... Because faithful execution of your design is imperative, you are meticulous when choosing a builder. Rightly, you demand experience and proven capabilities. You demand knowledge of your professional requirements, and you demand consummate workmanship. That pencil belongs to Fiesta Pools, a company with such qualifications. Fiesta maintains a Commercial Division of swimming pool engineers who are assiduously attentive to every detail of your design. Equally important, Fiesta is the only pool builder which uses no sub-contractors in swimming pool construction—there is never shifting of responsibility. You are invited to write for Fiesta's technical bulletins and brochures — no one will call on you without your request. (Incidentally, the pencil is very sharp because it symbolizes Fiesta's pricing policy.)

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READER SERVICE — PRODUCT INFORMATION

Turn to page 41 for prepaid inquiry card.

(201) Visualite louvred windows, full frame and strip hardware, illustrating vertical and horizontal installations, with blades of wood, aluminum, and colored and clear glass. Stainless steel tension clips, an exclusive Visualite feature, insure louvre tightness in both the gear and cam operated windows. Available in standard and custom sizes. Other products include Spray Mask, to protect frames from stains and plaster burns, and Magix Metal-Lube, a silicon base lubricant. Acker and Acker.

(202) Industrial building products in aluminum, including sheeting, rib roofing, industrial siding, etc. Also have available information on hand rails wrought aluminum products, curtain walls, store fronts, windows and doors. Aluminum Company of America.

(203) Amtico Carefree vinyl flooring, solid vinyls that are available in 20 patterns and unlimited custom colors as well as in conductive tile, plastex rubber flooring in marbledized patterns featuring 22 colors. American Bilt-Rite Rubber Co.

(205) American Maid shower doors and tub enclosures featuring decorative laminated glass and acrylic panels with gold, satin and polished frames. Also available in other plastics and wire glass and in special anodized finishes. American Shower Door Company.

(206) Manufacturing a complete line of quality paint products and exhibiting the Color Key library, an original method of color selection. Divided into Color Key #1 and Color Key #2, the method separates the entire spectrum into only two palettes with the colors in each mechanically related for total harmony to facilitate the pre-selection at a glance of the entire range of colors for all decorating. Ameritone Paints by Vi-Cly Industries.

(207) Manufacturers of Anti-Hydro, Aridseal and Amurseal waterproofing. Amorport hardener and the new Demicon Curehard, the single application material to cure chemically harden and dust proof concrete. A written guarantee is available on Anti-Hydro Products when application is supervised by a factory representative. Anti-Hydro Waterproofing Company.

(208) Supplier of Baxco CZC (Chromated Zinc Chloride) for pressure treatment of lumber to guard against termites and dry rot in foundations, sub floor framing and sheathing, and of Baxco Pyrose for pressure treatment of all lumber to resist fire and flame spread termites, insects and dry rot. Both materials are approved under I.C.B.O. research recommendations and each piece of Pyrose pressure treated lumber bears an Underwriter's Laboratories Inc. label. J. H. Baxter and Company.

(209) Architectural letters and plaques in bronze, brass, aluminum and nickel. Also, custom fabricators of all types of architectural metal work including stairs and handrails, store fronts and entrances, window walls, solar screens, flag pole holders, cast aluminum mail boxes and bank depositories, plus elevator entrances, doors and frames, elevator cars, and conveyors. A. J. Bayer Company.

(210) Rubber and vinyl tile flooring in 51 marbled and plain colors with rubber cove base to match. Also display rubber stair treads with matching tile and base. Special color matches are available at no extra charge on orders of 2000 square feet or more. Burke Rubber Company, Inc.

(211) Manufacturers of Cabots stains, oils, waxes and colloidal paints for preserving, protecting, and coloring all types of exterior and interior woodwork, as well as adhesive products, damp-proofing and clear waterproofing materials for brick and concrete. Samuel Cabot, Inc.


(215) Colored, decorative glass panels by Jim Weaver executed from the architect's own pictorial specification or abstract design, including motifs that carry from solid to transparent areas. Cal-Western Manufacturers.
(216) Exclusive distributors of Monkey Pod hardwood paneling and suppliers of all types of hard and soft plywood, masonite, and Formica decorative laminates. California Panel and Veneer Co.

(217) An association of member mills whose Redwood lumber is programmed, graded and milled under close supervision and given the CRA Trademark of quality. Both finish and construction grade Redwood are available. Flooring, paneling, facia, finish and millwork. California Redwood Association.


(220) An extensive line of decorative panels for sliding, folding, or fixed partitions. Unlimited designs are available including carved wood grille patterns, the palisade panel for use as an opaque room divider, and panels with inserts of perforated metal, fabrics and translucent plastics. All feature the exclusive overhead hardware and bottom guide and quality hardwood frames. Carlton Products.

(221) Dex-O-Tex latex base troweled-on flooring and roof deck coverings which include special decorative terrazzos, static conductive floors, industrial flooring and acid proofing, underlayments, adhesives and mastic products. Crossfield Products Corporation.

(222) A complete line of washroom dispensers for commercial and industrial buildings including chrome roll dispensers, recessed towel dispensers, and waste receptacles in satin buffed stainless steel and prime coated steel and towel and tissue dispensers in chrome, white stainless steel, copper plate, and Kromex finish in green, bronze and gray. Crown Zellerbach Corp.

(223) Structural clay products including Steelfyrd brick, Imperial brick with cellular openings to create static air space for insulation and less weight, and Bel Air flats for walkways, decorative veneer, wall capping patios, pool decks and window ledges. Davidson Brick Company.

(224) Ply-Sawn, the Douglas fir siding for a new dimension in exterior siding, and random plank Philippine mahogany plywood paneling from Mindanao and Luzon, either unfinished or pre-finished, for use as an interior wall finish. Davidson Western Plywood Co.

(225) Maintains a continuing policy of programs and informational services for the architects, including the Gold Medallion Seal for residential construction and the Exclusive Merit Award for commercial and industrial buildings that conform to required standards of excellence in electrical installation. Information on these is available from the department's residential or commercial utility consultants. Department of Water and Power.

(226) Styrofoam, a feather-light board of expanded polystyrene for concrete forms, floor, wall and roof insulation, insulating plaster base and pipe and vessel covering. Also manufacture Saraloy 200 and pyrofilm waterproof membranes Saraloy 400 elastic flashing Sorbord insulation board, Roofmate FR roof insulation, and the Milliken wall system. The Dow Chemical Company.

(227) Plastifloorte, a resilient floor covering of vegetal felt backed by jute burlap canvas, coated with plastic for use indoors and outside on wood, concrete, and tile, where a carpeting effect is impractical but desired. Available in four patterns and a variety of colors, and suitable also as a covering for interior walls. European Chemical Corporation of America.

(228) Execute scale models of all types of buildings and site developments stressing details in design and materials. Glenn Evans Miniatures.

(229) Manufacturers of intercommunication and sound systems for schools, hospitals, medical buildings, commercial structures and residences, with consultation services for layouts available for any type application. Executive Systems & Controls, Inc. of Southern California.

(230) Laminart, a high pressure decorative laminated plastic manufactured in Los Angeles. The new line, with samples available at the display, includes solid colors, wood grains, decorative, and special patterns. Fabricon Products, Division of Eagle Picher Company.

(231) Natural, cellular, lightweight lava stone for garden display and masonry veneer in a color range from light grey to charcoal, as well as sierra tan, and available in varied sizes, shapes and custom cutting. Featherock, Inc.

(232) Manufacturers of roofing materials including built-up roofing, Rex-Kote, Acrylic Coat, aluminum reflective and asphalt emulsion coatings, and Uni-Thik asphalt shingles. Also make concrete forms and Monform water-proofing membrane, acoustical tile, insulating materials including board, batt, roll and Canec roof insulation, Ceiling products. Coronado Products, Division of George W. Hunter Co.

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**Automatic Sliding Door Closer**

Tred-Top and Flint-Mastic bituminous flooring. The Flintkote Company.

(233) A high pressure plastic laminate in solid colors decorator designs and wood grains with up-to-date samples available at the moment. A Formica exclusive is the custom design service of sealing materials, designs and art treatments to Formica. The newest development is the brushed finish laminate surfacing for kitchen cabinet. Also available are Formica flush faced doors. Formica Corporation.

(234) An extensive line of overhead doors including wood, both paneled and curved, and the new Fibula door of Fiberglas and aluminum for garages, and a variety of doors for commercial and industrial use. Featured in the display is a working model of the new telescoping clearance in multiple door installations with the safety factor of non-contact. The post is in all models. Also manufacture hardware for all types of sectional and rigid doors, operators, weatherstripping, pass doors and rosettes. Frantz Manufacturing Company.

(235) An extensive line of concrete block, both structural and veneer, including Flagcrete, Lacerstone, Slumpstone, Terraccrete and Viking Stone, as well as sculptured and flat concrete screen block. General Concrete Products, Inc.

(236) Textilite, the high pressure decorative laminate in both conventional and textured surfaces with samples available in the solid colors, decorator designs and wood grains. The latest development is the Candy Stripe pattern for commercial installations featuring a 2-inch stripe running the width of the sheet. General Electric Laminated Products.

(237) Koroseal, a vinyl wall covering of precision calendered vinyl sheet welded to flame-retardant fabrics in a wide variety of high-styled and functional patterns. It is registered and approved for flame-retardance by the California State Fire Marshall, B. F. Goodrich Co.

(238) Illustrations of a complete line of acoustical tile, including wooden fiber, mineral and fire rated, and samples of special sizes and colors which the firm features. Also have available suspension systems, integrated lighting, luminous panels, moldings and other accessories for acoustical work. O. F. Grani, Inc.

(241) Marvel interior finish in color or as a base for paint, exterior stucco in a wide choice of weather-resistant colors. Marbricrete finish in color and imbedded with exposed pebbles or marble chips, acoustical-type textured plaster for use where acoustical properties are not required. Hi-Sorb acoustical plaster in many colors, and a swimming pool finish resistant to acids and alkalies. Highgoods and Stucco and Lime Products Co.

(242) A complete line of jamb type garage door hardware and accessories in all doors and weights, both residential and commercial, also, structural devices such as hinges, anchors, connectors, "T" and "L" straps, concrete form ties and catalog items. Distributors: Hollywood Wonder Action Discounting Stair. Holmes Hardware and Sales Company.

(243) Manufacturers of Hoeltzinger steel folding gates for all types of commercial installations. Also available, when appearance is the predominant factor, folding gates of cold rolled steel, aluminum or bronze constructed of cold formed and track sections to receive ball bearing rollers, machined bearings and brass washer construction, built-in cylinder locks for standard or master-keyed cylinders and flush wall cabinet to receive gates. Hoeltzinger Iron Works.

(244) Manufacturers of putty and caulking compounds for all glazing and caulking problems, including Hunco architectural caulking compound for use where a permanent elastic expansion joint is required and Hunco commercial caulking compound used as a sealant for cracks, joints and around door and window frames. H. R. Hunt Putty Manufacturing Company.

(246) Hydro-T-Metal, a homogenous, fireproofing surface of zinc, copper and titanium which offers the longevity and attractiveness of copper with reduced cost. The material is used for sheet metal work and plant accessories as no painting is necessary initially or for maintenance. Hydrometals, Inc.

(247) A masonry veneer of fabricated stone with the realistic appearance of quarried stone. Made of concrete, crushed rock and sand, it is available in a variety of natural colors and comes in sheets approximately 3' x 4' in size and one inch thick. It can be used as an exterior or interior finish. Loma Stone Sales Company, Inc.

(248) A variety of colors and textures in facebrick including Normar, Roman, Colonial Amsterdam, Economy Normal, Hillcrest Splits and Alberhill Pavers. Also manufacture Kord Modular and oversize common brick, fire brick and flue lining. Los Angeles Brick & Clay Products Company.

(250) Dual Window Wall, a system consisting of a metal louvre exterior with glass louver interior, both movable. Also manufacturers aluminum louvre windows, frame strip brick window, Roller King aluminum rolling windows and doors, and Aqua King shower and tub enclosures. Louvre King, Inc.

(251) Cam operated, stainless steel, louvre window strip hardware and overhead suspended aluminum rolling window with Fiberglas screen. Also manufacture an aluminum railing surround for louvre windows with steel or aluminum hardware and a bottom rolling aluminum swinging glass doors. Louver Leader, Inc.

(252) The Series 300 aluminum sliding window for commercial use and Capri Cavalier aluminum sliding door with outside slide design. Also available is the residential line including the Rollmaster, an aluminum sliding window with both sections removable, and the Capri Cadet aluminum sliding glass door. Lujon Corporation.

**NOTES ON THE SYNTHESIS OF FORM**

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(253) Marlite plastic finished wall panels for residential, commercial and industrial use, featuring wood grain reproductions, decorator patterns and pastel colors available in sheets and plaques.

(254) Manufacturers of roof sheets of heavy metal construction with spring levers and lock and padlock h.asp, and steel ceiling hatches. Both products are available in special materials and sizes. Metal-Tite Products.

(255) Ornamental garden art in cast stone, including statuary and bowls for fountains and a variety of designs and shapes in garden benches and planters. Available in natural or white as well as custom work in colors to match almost any background. "C"atapult Limited.

(256) A complete custom kitchen, designed by Jeanette Copp, N.Y.S.I.D. Iwo, under the contemporary Paul McCobb line suited to open plan kitchens, also used for built-in storage throughout the house and assembly for office furniture, and versatile 600 Series adaptable to any period from Cape Cod to oriental modern. Cabinets are of northern maple finished in natural grains of maple, autumnal maple, teak, and walnut, and in 16 decorator colors, with choice of hardware. Mutscher of California, Inc.
For Manufacturers' Product Literature and Information

1. Circle number on coupon corresponding to the number preceding the listing.

2. Print name and address and occupation.

3. Remove and mail prepaid, addressed card.

1. A complete package of information literature on new Armstrong Ventilating Acoustical Ceiling systems has been compiled for architects and engineers by the Building Products Division of the Armstrong Cork Company. Fully illustrated brochure gives complete details on operation of the new ceiling system, how it reduces noise. Also through elimination of air diffusers and a large amount of supply duct work; ease of history for installation; available at no extra cost. Armstrong Cork Company.

2. An attractive, 32-page booklet describing a number of steel-framed homes is available from Bethlehem Steel Company. Write for Booklet AO. Color and black and white photographs describe outstanding steel-framed houses in many areas in the United States. Floor plans, construction information, and costs are described. Examples of mountain cabins, apartments, and steep hillside site solutions are shown. Bethlehem Steel Company.

3. New informative brochure available from Cervitor Kitchens, gives concise, important specifications, details and features of their space-saving kitchen units; under-counter; built-in, free-standing units manufactured in limitless sizes, with or without range, oven, sink, refrigerator, ice maker, stove, dining table, etc.; ideal for offices, homes, apartments, and businesses. Cervitor Kitchens Incorporated.

5. Handsome illustrated folder describes and gives complete details on the Container Corporation of America Color Harmony Manual based on the Oswald system, and designed to improve the planning and use of color by artists, designers, manufacturers and consumers. The book includes sample color chips. Container Corporation of America.

6. Interior Design: Crossroads have all the components necessary for the elegant contemporary interior. Available are the finest designed products of contemporary styling in: furniture, carpets, draperies, upholstery, wall coverings, lights, appliances, oil paintings, china, crystal and flatware. Booklet available. Crossroads Mfg., Inc.


8. Plywood For Today's Construction, a new catalog with basic information about fir plywood properties, grades, types and uses has been published by Douglas Fir Plywood Association. The 20-page booklet, indexed for AIA filing systems, also contains information about special products and about plywood floor, wall and roof construction systems. A special new section discusses plywood component construction. Single copies of the booklet 592 are free. American Plywood Association.

9. (9) Two new pamphlets on folded plate roofs and stressed skin panels are available from the Douglas Fir Plywood Association. Each brochure contains structural details, illustrations and descriptive text; valuable addition to any collection of data on components; updates previously available information; other booklets in the components series describe box beams, curved panels, trusses and pallets. Available free to architects, fabricators, and builders. American Plywood Association.

10. Furniture: A complete line of imported upholstered furniture and related tables, warehoused in Burlingame and New York for immediate delivery; handcrafted, high-quality furniture moderately priced; ideally suited for residential or commercial use. Dux Inc.

11. Contemporary Fixtures: Catalog, data good line contemporary fixtures, including complete selection recessed surface mounted, down lights incorporating custom wide angle Pyrex lenses, recessed, semi-recessed surface mounted units, utilizing reflector lamp; modern chandeliers for widely diffused, even illumination; Luxo Lamp suited to any lighting task. Selected units merit specified for CSHouse 1950. Harry Gitlin.

12. A new, 12-page executive furniture catalog has just been completed by Hiebert, Inc., manufacturers of a complete line of executive office furniture. New catalog contains detailed illustrations of the line, including executive desks, secretarial desks, side storage units, corner tables, conference table, executive chairs, and side chairs. The center spread features a full-color photograph showing the various Hiebert furniture pieces. Copies of the catalog may be obtained free of charge. Hiebert, Inc.

13. The 36-page Hotpoint Profil Catalog for architects and builders contains specifications on Hotpoint's full line of products, including built-in ovens, dishwashers, disposers, heating devices, refrigerators, ranges, air conditioners, laundry equipment. Also included are diagrams of twelve model Hotpoint kitchens with complete specifications for each. Hotpoint.

14. Interpace has published a 6-page brochure on the new Contours CV, a lightweight ceramic architectural facing for exterior and interior use. The brochure features photographs of 12 standard designs in a wide pattern variety ranging from those achieving mandallion effect to ones which vary the play of light. The brochure also details dimensions for individual custom designs which can be designed up to 1 1/2" x 1 1/2", International Pipe and Cements Corp.

15. Catalogs and brochures available on Mult一同 and X-Alum series of contemporary furniture designs by George Kasparian. Experienced contract dept. working with leading architectural and interior design firms. Kasparian's, Inc.

16. Complete line of furniture designed by Florence Knoll, Harry Bertoia, Eero Sarinen, Richard Shultz, Mies van der Rohe and Lew Butler as well as a wide range of upholstery and drapery fabrics of infinite variety with color, weave and design utilizing both natural and man-made materials. Available to the architect is the Knoll planning unit to function as a design consultant. Knoll Associates, Inc.

17. Lietzy Porcelains announces the addition of two new shapes to their line of porcelain cabinet pulls bringing the line, designed for the use of architects and interior designers, to a total of eight designs. All pulls available in four colors delivered from stock: white, black, cerulean and amber. On custom order pulls can be produced in ten additional colored glazes. Lietzy Porcelains.

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