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CONTENTS FOR MARCH 1946

ARTICLES

Industrial Design by Ernest K. Mundt

It Doesn’t Add Up by Harmon Alexander

Gallery of Everyday Art by Elizabeth McCausland

ARCHITECTURE

Case Study House No. 13 by Richard J. Neutra, A.I.A.

Apartment Project by Gregory Ain, A.I.A.

SPECIAL FEATURES

Art, Grace Clements

Art—San Francisco Notes, Dorothy Puccinelli Cravath

Music, Peter Yates

Notes in Passing

Adolph Gottlieb

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Lewis Mumford, in a recent issue of The Saturday Review of Literature, wasn't mincing words when he expressed his deep-felt horror at what is now being done, or not being done, about the atom bomb.

In understandable alarm he shouted: "GENTLEMEN: YOU ARE MAD!" It was Henry Miller, however, who anticipated, prophesied, and raised the flags of danger long before the existence of the atom bomb was made known to the citizens of this democracy.

Ever since Miller returned to America at the outbreak of the war he has been writing things about his native land, and in the process he has disturbed a lot of people—people who do not wish their right hand to know what their left hand is doing.

Evidently, Henry Miller has bared more sociological and psychological wounds than any other contemporary writer. It is not necessary to look far for the reasons which have gained him such a distinction. Any of his recent books give plenty of clues, but particularly The Air-Conditioned Nightmare. Miller has a way of digging around in our backyards, our attics, and our history which is not in the books. He also uncovers cesspools and expounds causes. He tells you to your face things you would just as soon forget (if indeed you have ever so much as admitted them.) And alas!

He sometimes tells you things which are better left unsaid, which are trite, or foolish, or off on a tangent. But it is better to have non-sense with sense, than to have no sense at all.

Most everyone knows that there are plenty of things wrong in the world. War, greed, hate, poverty, injustice, stupidity, fatuousness, pride, ignorance—whatever they may be, we are pretty well aware of our sins. The trouble with Henry Miller is that he tells us the truth. We have disturbed a lot of people—people who do not wish their right hand to know what their left hand is doing.

"I had the misfortune to be nourished by the dreams and visions of the workers slums erupting like cankerous sores on the fringed industrial web. One-third of the population is in the military, and we have never quite been able to catch up, and the other two-thirds of the population is in the military. It is also why the comfortably entrenched literati's reactions can be epitomized in one such critic's hysterical battlecry: "RUN FOR YOUR LIVES!" pathetically tempered in conclusion by the plea: "Miller, stay away from my lamp!"

"Miller has a way of making people squirm. He would like them to squirm and write until they picked themselves up out of the mud. He has the impatience of a man who knows that it is already late—very late. At the very outset of his cross-country meanderings (America was not yet in the war) he found a large number of the principals of THE nightmare already on the stage. The atomic nightmare is but the last (or the next to the last) sequel to the nightmares which Miller endured. Can we call this thing hate or cynicism which impels him to cry out as if to say: "Wake up America! It's time to stump the experts!"

We also know those nightmares of the workers slums erupting like cankerous sores on the fringed industrial web. One-third of the nation ill-fed, ill-housed, and all the while salesmen overhead in planes shuttling to and from their gleaming air-conditioned skyscrapers, Miller sees this as raw and festering wounds, epitomized by lettering on the side of a dilapidated dwelling: "GOOD NEWS! GOD IS LOVE!" He lived the nightmare of the poor, of the imprisoned, of the halt the lame and the blind; of the Negro and the Jew and the American Indian witnessing the havoc wrought upon a great land. He also experienced the nightmare of the creative man, the painters, the musicians, the writers—marveling that they were able to survive at all. He even tasted of a Hollywood soiree, and shared with countless aspirants the quixotic whim of a Guggenheim board of examiners.

This feverish account is scarcely the issue of a man given to hallucinations. There is too much sober sense intertwined. Who, today, is to pass on sanity as we prepare to make a laboratory out of the mid-Pacific? Miller, at the outset, admits he may be disillusioned: "I had the misfortune to be nourished by the dreams and visions of great Americans—the poets and seers," he writes. "Some other breed of man has won out. This world which is in the making fills me with dread. I have seen it germinate; I can read it like a blueprint. It is not a world I want to live in. It is a world suited for monomaniacs obsessed with the idea of progress—but a false progress, a progress which stinks. It is a world cluttered with useless objects which men and women, in order to be exploited and de-

*The Air-Conditioned Nightmare, by Henry Miller.
Published by New Directions, 1945; Price $3.50.

continued on page 9
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The Tenth Annual Drawing and Print Exhibition of the San Francisco Art Association, at the San Francisco Museum through March tenth, is extremely large and heterogeneous, styles ranging from photographic realism to extreme abstraction, with the abstractionists somewhat in the majority. Due probably to the size of the show, museum fatigue sets in rapidly; and an adequate review would make quite a volume.

There are entries from all parts of the United States, prints by all methods including the comparatively new silk screen process, drawings done with, or on, practically everything. Altogether, although the show is less unified than usual, it presents a more representative cross section of what is actually being done in art than most of the annuals. Probably this is the result of the two jury system used for selection, one jury of artists and the other of laymen.

Quality, also, varies greatly, but there are excellent examples of almost every school of thought from academism to surrealism, inclusive.

Prizes, however, all went to either abstractions or decidedly non academic pictures; the Purchase Prize, to Eleanor Coen of Chicago, for her color lithograph, Conversation by the Lagoon; Artists Fund Prize to Edgar Taylor of Berkeley for a crayon drawing, Scooters. Honorable Mentions, Residuum, by George Harris, and an ink drawing by Lucretia Van Horn, both abstractions, and a rather surrealist serigraph by Edward Landon, That Which We Mourn; On Okinawa, ink and crayon by Charles Safford, and a lithograph by Charles White calledAwaiting His Return, both done in very angular style with strong emotional content.

The Graphic show could very well be used as a demonstration of the variety of media available to artist print makers; but to add to the information about prints, in the study gallery there is a large explanatory exhibit of the various stages in the making of color reproductions by several processes, including collotype and woodblock, showing all the stages of printing, the individual color plates and the finished product, and, also, the original paintings.

There is, further, a one man show of serigraphs by Herman Warsager, one of the original developers of silk screen printing for use in the fine arts. His woodblocks, shown also, have a remarkable depth of color and a solidity not usually found in this medium. Due, according to his own explanation, to many overprintings of cool and warm hues; he has experimented in black and white prints also.

Edward McNear shows gougaches, mostly landscapes, in soft yet strong colors, objectively handled.

Many San Francisco artists have been using a mixed tempera underpainting and over glaze technique with good results. The De Young Museum is showing nice examples of this method done by Lenard Kester, who certainly seems to know his stuff. These pictures are mostly small and very lively landscapes with ancient trees done in a flurry of glaze, scumble and palette knife technique that is very effective, although there also are beaches with figures, and landscapes without trees, that are equally satisfying.

Several portraits of clowns and such seem rather mawkish by comparison.

Francis de Erdely at the same Museum has many carefully labored drawings, mostly of people, in black and white, which seem just to miss the convincing form that it is evidently the artist's intention to convey. Much better are his things in which the emphasis is on color and composition rather than form.

Maxim Kopf has a very large show of representational paintings, landscapes, somewhat in the manner of Gauguin, from the South Seas, large portraits, of Paul Robeson as Othello, of Vilhjalmur Stefansson, of elderly actresses, large religious compositions, and several New England landscapes.

The City of Paris Gallery is showing three well known local artists, Bill Gaw, Leah Hamilton, and Hamilton Wolf. Bill Gaw is dipping his toes in the current wave of abstract experiment. In addition to several of his magnificent flower paintings there are in this show various results of his new approach, mostly, so far, objectively seen elements somewhat rearranged; as in the Abalone Tree, realist shells hanging on a limbless trunk in a partly abstract setting; or arrangements of pieces of pattern in design. Leah Hamilton has been moving steadily toward less and less objective painting for some time, simplifying and eliminating until color and shape, while used quite abstractly, do not eliminate the "story" but rather intensifies its subjectivity. Here she shows some of her newest pictures and a few of her earlier landscapes as well. Hamilton Wolf seems to be progressing in richness of design and of "paint quality." He shows several intricate and satisfying abstractions and semi-abstractions, and a monumental seated woman done much more simply than is usual with this artist.

—DOROTHY PUCINELLI CRAVATH
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LOS ANGELES  DETROIT  MILWAUKEE
Los Angeles is a city of small cultural islands surrounded by vacant lots. During the month of January this associate editor turned a music critic and paddled his canoe among the islands to discover the various accomplishments of the natives. His anthropological report, begun last month, continues:

January 20, at the Wilshire-Ebell Theatre, Werner Janssen conducted the Janssen Symphony in a program fit to shake the complacency of all who for the first time on this especial occasion came uptown to hear them. The house was filled for the first non-radio performance, played by Johana Harris, of a piano concerto originally written by her husband Roy for broadcast by Paul Whiteman. Mr. Janssen's first appearance bore out most presuppositions. The angular agony of uncouth and violent gestures with which he led a routine playing of the national anthem reached a climax, when he appeared to be driving his fists through the floor to no more result than a couple of loud thumps from the drums. The audience expected the worst of the Tragic Overture by Brahms. They heard instead a controlled, technically finished, and well sustained rending, a quality of performance maintained throughout the whole of a long and more than usually exciting evening.

The Piano Concerto by Roy Harris introduced to Los Angeles a charming and competent pianist, who has also the distinction of being the composer's wife. They are expecting their second child in March. Johana Harris played with crisp control a work as delightful and technically competent in construction as it is unexpected in effect. Critics who passed it over for superficiality failed to keep in mind that it was written, like the famous Rhapsody in Blue, for a particular purpose and occasion. Modernists, who prefer to be puzzled and astounded, while insisting that a useful structure should be functional, failed to observe how effectively the overlaid rhythms of the first movement display and transform the continuously reiterated little theme, baffling the head and foot tappers who would try to keep it in its place, and with what functional accuracy the multiple tiny rhythmic counters make their points. The concerto rises through a fast-slow-fast alternation to a second slow movement for piano solo, polyphonically moving through simple successive chords without passing notes, characteristic of the composer's growing artistic maturity and finesse. This theme is then treated in two variations for piano and orchestra, the first beautifully altering the original theme by the addition of passing notes as a new melody. The variations lead directly into a rather disappointing cadenza, which is followed by the concluding fast movement. Rhumba and samba rhythms (3 plus 3 plus 2 over 4) give the texture a free articulation. The concerto rewards the musicianship more than the vanity of the solo player. For those who prefer to be noticed there are concertos by Khatchaturian or Martucci, put together in the tradition of that period when the efficiency of a machine was often appraised by the amount of noise it made. The Sibelius Third Symphony, contrary to the program annotator's vague description, was composed after a trip across the English channel in a fog. In the tradition of Mendelssohn's voyage music it glitters with the sun upon the waters, darkening in the second movement under the slow creeping of the fog. It is the least substantial but not the least competent of the composer's larger works. The crisp attack and dynamic responsiveness of the playing would have done credit to any orchestra in the land. A little Sinfonia by Friedemann Bach for two flutes and strings again showed firm orchestral handling, although one could properly object to the fortissimo-dimuendo at each entrance of the sufficiently noticeable theme. The second major event of the evening was a group of interludes and two soprano solos, alternating singing and sprechstimme, from the opera Wozzeck by Alban Berg. The music uses the twelve-tone technic as well as the Schoenbergian division into separate formal

continued on page 10

MUSIC

TYPOGRAPHY • FINE ARTS

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Books on the Fine Arts

WITTENBORN AND COMPANY • 38 East 57th Street, New York 22
graded, are taught to regard as useful. The dreamer whose dreams
are non-utilitarian has no place in this world. Whatever does not
lend itself to being bought and sold, whether in the realm of things,
ideas, principles, dreams or hopes, is debarred. In this world the
poet is anathema, the thinker a fool, the artist an escapist, the man
of vision a criminal."

Eager to be rightly understood Miller later explains: "Since
I am not of Indian, Negro, or Mexican descent I do not derive any
vengeful joy in delineating this picture of the white man's civiliza.
Eager to be rightly understood Miller later explains: "Since
I am not of Indian, Negro, or Mexican descent I do not derive any
vengeful joy in delineating this picture of the white man's civiliza.
Among the artists who read *The Air-Conditioned Nightmare*
there will be those whose toes are stepped on and those who say
"Amen." Miller writes at considerable length about artists in this
book, and in doing so presents an awkward contradiction. Himself
a watercolorist, more expressionist in inclination than otherwise,
he is apt to measure art from the point of view of painting for
painting's sake, or art for the self's sake. But this is too harsh an
evaluation in a way, because Miller also is able to speak about
the larger aspects of art, recognizing its relatedness to life and the
importance of its function far better than many who expound on
art alone, whether abstract or representational. Miller is capable of
demonstrating not infrequently that he knows only too well what
is wrong with so much art today. He quotes one of his acquaintances
in saying: "Pictures in an exhibition hall are like wares on
a bargain counter. ... Pictures have no place today in the home—
the houses are not right." Now these are words which won't be liked particularly by a lot of
people who paint pictures. Nor will the host of American-scene
painters relish Miller's attitude toward the "sterile stylizations of a
Grant Wood or the convulsive, Neanderthal efforts of a Thomas
Benton." But his sympathy for the true artist is never lacking.
Bitterly he observes that "art comes last in the things of life which
preoccupy us. The young man who shows signs of becoming an
artist is looked upon as a crackpot, or else a lazy, worthless ex­
berrance. He has to follow his inspiration at the cost of starva­
tion, humiliation, and ridicule. He can earn a living at his calling
only by producing the kind of art which he despises. If he is a
painter the surest way for him to survive is to make stupid portraits
of even more stupid people, or sell his services to the advertising
monarchs who ... have done more to ruin art than any other
single factor. ... Take the murals which adorn the walls of our
public buildings—most of them belong in the realm of com­
cmercial art. Some of them, in technique and conception, are even
below the aesthetic level of the Arrow collar artist. The great
concern has been to please the public, a public whose taste has been
vitiated by Maxfield Parrish chromos and posters conceived with
only one idea, 'to put it over.'

All well and good. But where Miller's conception of art does not
measure up to his ethical insight is when he regards the artist as
a special kind of man. If, with Coomaraswamy, he can invert this
to the acceptance of *every man a special kind of artist*, it is pos­
sible that he may attain a more cohesive philosophical whole.
The latter concept would no doubt help him to place more correctly
the hideous products which he finds on every side, including "art." It
would also help form the tangible link between art (which al­
ready he knows must be related to life) and the sterile lives of the
"exploited and degraded." Perhaps it is too much to expect of one
man, particularly a Henry Miller. But in spite of his blind spots
he is among the few who yet remain to tell us of the heritage that
might be ours. If he finds the "American type par excellence" with
"not a speck of human dignity left. The white worm squirming
in the vise of respectability," it is not with malice that he speaks but
with love and belief and hope that we might wake up before it is
too late. "Amazing how men can be trained to kill in all kinds of
weather. Almost as intelligent as horses," he says in an aside. A
man does not turn a phrase of this sort to be funny.

Miller lays his cards on the table: "I look upon the world not as a
partisan of this country or that but as an inhabitant of the globe.
No inhabitant of the

---

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Europa... go into a tantrum at the very mention of the word mysticism.

There are many today whose toes are tender from the encounter with such a world view. Miller foresees the unhappy spectacle of white civilization moving blindly, stupidly, toward self-destruction. "We have not grown more humane, through our discoveries and inventions, but more inhuman. . . . It may be that this is the great melting pot of the world. But the fusion has not begun to take place yet. Only when the red man and the black man, the brown man and the yellow man unite with the white peoples of the earth in full equality, in full amity and respect for one another, will the melting pot serve its purpose. Then we may see on this continent—thousands of years hence—the beginnings of a new order of life. But the white American will first have to be humiliated and defeated; he will have to humble himself and cry for mercy; he will have to acknowledge his sins and omissions; he will have to beg and pray that he be admitted to the new and greater fraternity of mankind which he himself was incapable of creating."

When we come to recognize the implications of this wisdom, we will have solved the riddle of what is really wrong with our art. Great life-concepts are accompanied by great art-concepts. The latter will have as little to do with probing the psyche of the individual unconscious (Expressionism) as it has to do with American scene painting (Representationalism). If and when we attain full stature as human beings (providing we survive the nightmare) we will evolve an art form which is capable of communicating the essence of such a new and wondrous Reality.—Grace Clements

MUSIC
continued from page 8

movements underlying the freely continuous dramatic utterance. The extreme Latin temperament, if one may call it that, of Isidore Souez, the vocalist, disappeared at once when she was dealing with the music, which she sang with precise intonation and emotional effectiveness. Unfortunately for the dramatic sense her sprechstimme in no way differed from her singing, so that the contrast between thought felt inwardly and thought spoken was not rendered. The program concluded with another operatic excerpt, the lurid Dance of the Seven Veils from the opera Salome by Strauss. The spirit, attack, and finely concerted playing of this orchestra testify to the admirable leadership of Mr. Jansen, whose devotion to music is shown by the interesting development of its programs.

Monday evening, January 21, in the Wilshire-Ebell Theatre Richard Buhlig began the cycle of seven recitals, sponsored by Evenings on the Roof in collaboration with the Music Guild, during which he will play for the second time in Los Angeles the 32 Beethoven sonatas. It is hard to believe that a pianist of such intensive powers as Buhlig revealed in the first Beethoven cycle two years ago could actually have grown in technique, imagination, and creative energy since that time. The fact is that he has grown. After the usual libation to the gods of a first sonata, opus 10:1, poured out to relieve his extreme beginning tension, Buhlig received his reward of inspiration in a transforming penetration of the deliberately formal Sonata, opus 22. This sonata, which the composer wrote to show what he could do in the politest manner of Clementi, is usually played for charm. It is considered dull—but not as Buhlig, revealing the hidden inward demonic substance, close to play it. Such revelation does not please all listeners. There are those who prefer to be bored in the tradition rather than reborn in the substance.

With the third sonata, the D minor, opus 31:2, Buhlig entered into undeniable greatness. Formerly I have disagreed with his playing of this sonata, but this time I was convinced. The final work of the evening, the Sonata opus 53 (Waldstein), overwhelmed any remaining doubts concerning the supreme greatness of Buhlig as a Beethoven pianist. American audiences are inclined to regard the physical competence of an exact reading of the notes as proof of good performance. Such physical competence, as Schnabel recently remarked, has little to do with the demands of music. A concert performance, if it is to be more than the routine affair required by the impresario's business, should be an extraordinary occasion both for the performer and for his audience. A recital by Buhlig grows upon the listener like a religious experience, like a mind questing through the failures of circumstance the timeless moment of a unique illumination. The desire is neither hedonistic nor sensuous but deliberately and voluntarily religious, a conviction of order underlying chaos and that voluntary religious, a conviction of order underlying chaos and that
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The week continued with a Music Guild recital by Artur Schnabel at the Philharmonic Auditorium, January 23, an irrevocably disappointing experience. Like many music-lovers of my generation I learned about the Beethoven symphonies from Toscanini broadcasts and about the Beethoven sonatas from recordings made by Schnabel in the early thirties. One's memory returns again and again to the greatest of these recordings: the incomparable performances of the Sonatas opus 31:3, opus 54, opus 78, the slow movement and fugue the Hammerklavier Sonata, opus 106, the slow interlude and return of the fugue theme in opus 110, and, though I have never been able to feel the power of imagination others find in it, the consummate execution of opus 111. Even the least of these recordings is above an average performance. They have stood for us during the nearly fifteen years since they first began to be issued as a standard of excellence in music. Not the only standard and perhaps not the best standard: "better than" or "worse than" Schnabel has become a commonplace of musical estimation. Among the best of the Schnabel Beethoven recordings is his playing of the Diabelli Variations, that colossal expansion of a thematically useful little waltz by the publisher and composer Diabelli. The abounding gusto, ripeness, generosity, and laughter; the alternate variations of intense seriousness like stained glass lights in this chapel of the cosmic spaces; and the final fugue and minuet which are among the uttermost revelations of piano music; all these contrasts, qualities, and textures Schnabel separately realized; but the underlying dynamic pulse, which should be as steady as the turning of the earth, with which spinal nervous system each part in character and tempo should be directly integrated, is weakened by too free treatment of the individual variations. This failure to hold together into an extensive unity the contrasting manners of large Beethoven work in variations is still more clear in the recording of the so-called Eroica Variations, opus 35.

The January 23 recital began with the four Impromptus, opus 42, by Schubert, unwisely substituted in my opinion for the Beethoven Sonatas opus 21, 23, 26, and, though I have never been the third was succeeded, after a long pause while the doors of the hall were prematurely opened, by the first appearance...
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MUSIC
continued from page 12
ance of the old true Schnabel style, the sinuous and flexible line lyrically lying with the measure, making strict time a counterpoint. It was as if the sun had burst through a damp darkness. But the playing of the Mozart C minor Sonata, without the Fantasy, brought back murky obscurity and in addition a mannered and artificial interpretation unlike anything one had ever heard from Schnabel in the past. Here and also in the Diabelli Variations it was as if the music had sugared in the playing, becoming granular in texture and unexpectedly sweet. Again and again he began in his old manner and then wandered, using an extravagant pianissimo and a sforzando followed by an abrupt pause that made no point. Yet the vast genius of the music was not lost, for Schnabel's playing, though weak in comparison with his great recital of last season, still stood head and shoulders above the generality of pianists. For years he has lavished the best of his loving devotion and workmanship upon these variations, ever with the interest of a ripened understanding exploring newer and more remote experience.

Wednesday evening, January 30, again presented by the Music Guild, Schnabel returned to the very summit of his skill. Like a Prospero he summoned airy spirits, repelling earthy and demonic elements, so that the usually foreboding andante of the Archduke Trio became in his reading, like the abjuring of "rough magick" in The Tempest, a renunciation of the tragic. The spirit of play, which is the brighter hemisphere of art, produced an evening of spontaneous musicianship. And spontaneous the playing had to be under the circumstances.

A week before the concert John Pennington, first violinist of the London String Quartet, which was to have shared the evening with Schnabel, was rushed to the hospital for an operation. In the emergency the Guild turned to Evenings on the Roof to borrow the string quartet, consisting of Eudice Shapiro and Marvin Limonick, violinists, Virginia Majewski, violist, and Victor Gottlieb, cellist, whose Roof performances of the Hindemith Third Quartet and the Beethoven Quartet in A minor, opus 132, have already made musical history in Los Angeles. Adopting the name the American Quartet, a group designation that has long been needed, these players had to prepare in less than seven days, interrupted by their own studio activities and by Schnabel's absence to play a recital in San Francisco, a program including the Mozart G minor Piano Quartet, the Beethoven Archduke Trio, opus 97,
and the unfamiliar Dvorak Piano Quintet. The event proved again that abundant rehearsal is no substitute for ability. The members of the new American Quartet, though young, are far from inexperienced and except the second violinist have been playing together for several years. They played and Schnabel with them as if the Philharmonic Auditorium were a homely parlor and there was no audience. The affection, the freedom and the exactness, the intimacy of tonal balance, the exquisite sensibility of rhythm, the incisive attack, and vigorous projection were such as are rarely heard in chamber music. Some listeners cavilled that the pianist played too loudly, or that the strings were too soft. In fact a fine gradation was achieved. As a chamber music pianist Schnabel has no rivals. Compositions in the style of the Mozart Piano Quartet and the Beethoven Piano Trio were written by pianists in a style intended to give the heavier medium prominence, the piano drawing firm structural outlines, the strings providing a finely graduated color wash. Instead of choking the pianist and aiming at a double concerto for strings and continuo, this playing used each instrument in its natural voice from finest pianissimo to exultant forte; and in the more largely and loosely organized Piano Quintet a full fortissimo from all instruments was not too much.

The second Buhlig Beethoven piano sonata recital at the Whilshire-Ebell Theatre, presented by Evenings on the Roof, was even more extraordinary, if that is possible, then the first. The nervousness of the first evening had vanished, and Buhlig began in his best form. If a criticism is necessary, one might remark a tendency in the faster movements of the first three sonatas to let freedom of movement overrun the placement of the important struck tones that mark the motion in its place, causing a gluey effect which sounds like but is not the result of digital failure to play the proper notes. Buhlig's Beethoven playing is now such that there is good reason to say, perhaps there has been no better. Technically he is not and never can become flawless, as I could easily demonstrate by showing the innumerable tiny displacements within the larger wavelike rubato which give each work its unitary wholeness. But the errors this season are so slight, so much a part of the technical accomplishment, and so obviously not mistakes that they scarcely affect and certainly do not impair the vast technical structures he realizes by his incredible technique. His technic is not

continued on page 54

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IT WOULD SEEM THAT THE political opportunists both in and out of Congress are hoisting their tail feathers and streaking like addle-headed chickens across the nearest road. In this case the old joker is, of course, that they think there will be more votes on the other side.

Whatever Mr. Churchill represented before his speech in Fulton, Missouri, is something properly for the history books. What he very obviously represents now is the foremost of the toxin-sounders for Anglo-Saxon supremacy and how to stuff the local ballot box as a hedge against the future. (By what right he felt privileged to use an American college as a platform from which to issue the call for world reaction is of course infuriating but subject for another comment.) Right now it is interesting and terrifying to observe the stampede to his colors of all those who have proved, by their opinions and their votes in both houses of Congress, to be the most tragically blind men of this or any other time.

In the present confusion the question one is tempted to ask is “what the hell are we up to now”—and part of the answer is obviously that we are up to a realignment of American political forces into a coalition of reaction plucked from both the Democratic and Republican party. A coalition determined to maintain the past despite its own very dubious ability to pull a rabbit out of the old hat and make it look like a decent future.

The scare campaign that is only now collapsing, though directed at one of our most powerful allies, has turned inward upon itself, and those elements responsible for it stand out clearly (though completely unabashed) as the true enemies of an America now committed beyond all hope of retreat to the larger horizons of world collaboration.

However frustrating the times, fortunately it is becoming much easier to detect the true motivations behind the activities of the Rankins and the Bilbos on both sides of the political fence. We begin to see them as creatures of a larger plan—as rather contemptible spokesmen for that portion of public opinion that remains stubbornly parochial and blindly arrogant in the face of the convulsive readjustments of our time.

It is obvious that we are too close to the enormous shifting of weights and measures within the heart of our social system to be completely aware of every thread that weaves itself into the complicated pattern of the American dream—1946 version. But it is too late to plead ignorance of the change that is now taking place in the world’s life and in the immediate now of our own personal lives. An era is passing. A way of life is changing. Tremendous and terrifyingly deep human readjustments are in the making, and whether or not the results affect us this day or the next, there will be within our time quite a different world of economic and social problems with which to deal.

The finest wisdom of our leaders cannot in any way stop this movement or change its direction. Their best service can be rendered only in adjusting and rationalizing these new material and spiritual values that spring from the deep heart and the mind of the people themselves. It is impossible to speak in specifics upon such a broad base, though certainly there are those who, as specialists in the vast house of man’s activities, can relate the trends and tendencies of this mass movement. It is a little like reshaping the surface of the earth after enormous illimitable convolutions originating in the very core of the world. The change is much deeper than the adjustment of boundaries, the rewriting of trade schedules, the granting or taking away of commercial concessions, the control or non-control of materials, of credits or tariff restrictions. For the first time in the history of man these things which have been all important are now the least important, for despite them the change will take place.

We face these times with a mixed feeling of exaltation and frustration, and somewhere between the two one understands the fear and the uneasiness that is everywhere.

Therefore we can no longer ask questions in terms of what somebody else is doing, or, “what they are up to now.” We must be very sure of our own intentions and be able to state them with a clear conscience, and we cannot bend our energies to serve any other purpose than a world of reason. And so suddenly the great war-time figure of a Churchill diminishes, and we must accept him as his own people accepted him—as a small and brilliant voice of the past who, on pain of death, must not be permitted to preach a crusade against a time that has so obviously outlived him.
Adolf Gottlieb is a thoroughly American painter with a strong conviction that the path toward expression in American art lies neither in the 'local scene' approach, nor in the abstract tradition of the great French Moderns. For Gottlieb, the problem resolves into working out and integrating that combination of form and subject matter which means a great deal to him as an artist and which he has a right to use as his own.

Every painter begins with certain limiting factors, whether it is the rectangle of the canvas or a gold or vermilion ground on which to paint. But Gottlieb carries this limitation idea further, dividing his canvas into a pattern of rectangles. Each offers a problem to be solved within its box outline.

Throughout his work Gottlieb has been preoccupied with rectangular shapes and he conceived the idea of dealing with formal problems of painting and subject matter by the use of the "pictograph." The box-type design integrates time by presenting all
together a number of things which occurred at different times. Each boxed idea is separate but the whole has a unity of conception. By this, Gottlieb seeks to get away from the single moment in his paintings. He goes through the process of eliminating everything not meaningful to him, keeping only those significant fragments of visual phenomena or memories scattered in time and space which the pictograph ties into a totality of experience.

As a springboard, Gottlieb often uses a mythological idea rather than a specific object or thing. He digs in to find pieces which relate to the idea and express it for him, trying to keep away from any literal representation of an actual story or the physical appearance of some classical figure. In utilizing this method of digging out fragments of consciousness he indulges in a kind of free association, with the result that certain shapes are put down on the canvas—shapes which may later come to be interpreted as specific symbols.

He does not try to arrive at abstraction in the sense of reducing natural objects to geometric shapes, but starts with arbitrary shapes, lines, and forms which are elements of painting. There is no effort to distort or arrive at representation, but if images appear by themselves they belong to the painting.

Consequently we find suggestions of man, fish, and animals. But Gottlieb does not believe in the hierarchy of animals or man. In his paintings a circle is just as important as a man. A line may represent man and continue on as just a line with a life of its own and a justification for being.

Gottlieb’s paintings are about people and people’s feelings. They are not about inanimate things, not landscapes, not still lifes. He feels that if he sticks to feelings and they are normal other people will share them, that one of his functions as an artist is to make the spectator see the world his way.
INDUSTRIAL DESIGN

BY ERNEST K. MUNDT

Industrial design, as it confronts us today, is too complex to be defined briefly. All the objects which surround us in home or office, in street, factory or farm, form part of it, from razor blade and bathtub to candlestick and dinner ware, from fountain pen to turret lathe, from plow and reaper to automobile and airplane. Instead of considering the question of what industrial design is as a whole, when its differentiated aspects are likely to bewilder us, we shall try to take a specific point of view, located at the source, from where things look far simpler. We might take the position of the industrial designer. For him, the problem is summed up in the question: "What form shall I give to my products and how do I know that the form chosen is adequate?" Seen under this aspect, industrial design becomes a form problem.

At first glance this aspect seems to be self-evident and platitudinous; but it may turn out to be the thread of Ariadne leading through the labyrinth. If the interpretation of the term form is taken inclusively enough, as by the artist for instance, it has much wider connotation than mere shape. Even today, while lacking a unifying transcendental idea which pervaded the formal creations of outstanding periods of culture, form still includes, in addition to shape, color, texture, and what is called decoration; form comprises all the qualities of an object which act on our senses and our appreciation. These qualities are to a great extent determined by the functions for which the object is designed, by the materials from which it is made, and by certain human needs, aesthetic, emotional, or spiritual, which also want to be satisfied. The designer's main contribution towards an achievement of form is to visualize these different requirements in their importance as constituents of form and then to integrate them into a balanced and satisfying whole. To understand the designer's quest for form today it is necessary to appreciate the specific conditions under which the problem exists at the present time. These conditions gave rise to the term Industrial Design. They may best be seen against a historical background.

Before the times of industrialization and mass-production practically every thing was custom-made. There were individual craftsmen, brought up in the traditions of their guilds, as well as individual customers, whose needs they satisfied. These craftsmen worked within two sets of limitations which helped them in their tasks as designers. On the one side they had their craft. Through a long training period as apprentices and journeymen, these craftsmen grew intimately acquainted with their materials. The blacksmith, locksmith, gunsmith learned to know their steel; the carpenter, carriage builder, and cabinet maker experienced the qualities of wood; the tanner, shoemaker, and harness maker knew what leather could do; the spinner and weaver learned the limitations of their fibers. Since they had no power tools, these artisans discovered and explored the inherent qualities of their materials, they experienced their resilience and formability through their muscles and through action which was physical as well as mental. This process of conquest led to an intimate experience which without a doubt had a decisive influence upon their ideas as designers. (In those days the designer and the maker were still the same person. Our word Art has its roots in the term to make.)

Thus, if a cabinet maker had to make a chair, he necessarily thought in terms of wood. He selected a kind with the right properties. He knew without hesitation the dimensions necessary for a back to be rigid enough or for a leg to accommodate the necessary joints. He was unable to exaggerate the curves of an armrest because he was well aware of the limitations set by his technique and by the fibre of the wood. He was aware of them because he had tried them out for himself. Through trial and error, checked against the cumulative experience of his trade, he had arrived at that experience which—according to Oscar Wilde—is the sum total of our errors, but which, as Schopenhauer has found, has the advantage of certitude.

The well understood materials and techniques form the one set of limitations. The other set is contained in the customer for whom the work was made. This customer was a man the craftsman knew. He knew his family, his social position, his creed, his principles of behavior, his likes and dislikes. The man who ordered the work and who made were united in a common interpretation of terms such as Individual and Society, Authority and Freedom, Beautiful and Ugly, Good and Bad. If this customer ordered a chair, the craftsman knew precisely what was wanted and the customer knew he was exactly understood. The subtle tides of progress and tradition carried them both.

Against this background of relative harmony and human scale, we may compare the present-day scene which is rather complex and difficult to comprehend. New factors, like natural power, mass-production, and capitalist markets, have gradually entered the field and caused many inconsistencies. It is necessary to investigate this changed world at some length, to establish some of its main features in order to secure an approach to the problem of design today.

The pertinent traits of the age of the craftsman have been depicted above in high-relief in order to clarify the points in question. For the same reason the following description of the modern scene emphasizes the contrasts with the past rather than the continuity which, through living traditions, links the present-day developments to the past.

The great changes which separate the world of the industrial designer from the world of the craftsman were brought about mainly by scientific discovery and the exploitation of the forces of nature. Harnessing wind and water with the primitive means of handcraft was not enough to introduce new aspects. Steam and electricity, however, exploded the concepts to which man had grown accustomed since his early days. The concept of physical power, based on man-power, was destroyed through the possibility of using natural energies to an extent that rapidly outgrew all known proportions. The concept of distance, based, say, on the traveling habits of the horse, was destroyed through the rapid development of transportation and communication far beyond established experience. The collapse of the concepts of power and distance initiated the collapse of other concepts such as efficiency and time.

Previous to the use of power tools, the... (continued on page 50)
Mathematics is a science and like any science its purpose is to help make our daily lives easier to live. But somehow mathematics has fallen far short of achieving this. In school, where we are required to study this science, our life is made miserable by having to use it; out of school, where we shun it as much as possible, our life becomes unduly complicated by our not being able to use it.

It can't be that there is something the matter with mathematics. It can't be that there is something the matter with us—not with so many of us, at any rate. There seems, however, to be rather much evidence that the trouble lies in the process of getting mathematics and us together.

For example, would anybody teach a child how to walk by making him run a race with his fellows? Yet this is the way we were taught arithmetic. We had hardly grasped the fact that one and one is two before our teacher was trying to find out how fast we could add. We were pitted against the rest of our class, we were clocked, we were constantly hounded to make more speed. Why? What was the hurry?

Mathematicians themselves are seldom fast adders. Why is it necessary that children add a particular column in four seconds instead of six? We've seen over and over again what this leads to. Everybody except the calculating genius develops all kinds of complexes and frustrations. Consequently in adult life, not only can't we add that column in four seconds, we can't even do it in six. Chances are it takes us ten seconds and we have to add it ten times in the bargain. Then we're faced with the annoying problem of having to decide which of the ten answers is the correct one.

Forcing a child to calculate rapidly is bad enough, but how much more absurd it is to make him do something rapidly when he doesn't even understand what it is he's doing. One of the main reasons why we find it difficult, if not impossible, to handle numbers is because mathematics is taught not as something which arises out of our every-day life, but as something extraneous to it—something which exists outside of us and is brought into our life.

The text book writers would deny this. They would point out, as most of them do in their preface, how very practical their particular book is. All the problems are in simple terms—the child can readily understand, terms with which he is completely familiar; all the problems are related to his play, his home, his school. Sure enough, if you look through the book, you’ll find the author is 100% correct. The problems are indeed the very same practical problems that we as a child met in our daily life.

But these problems are not in themselves mathematics. The mathematics consists in their solution and in order to solve them we have to know to add, subtract, multiply, and divide. Now it is these processes which are not related to our life. These processes are taught as if they were a collection of ordained commandments that apparently come out of the blue and seemingly have no meaning whatsoever concerning anything with which we're familiar.

How, for example, is division taught? “To divide 175 by 7,” says the book, “since 7 doesn't go into 1, you say 7 into 17 is 2 and 3 left over. So you put down the 2 and prefix the 3 to the 5. Then you say... etc... etc...”

I think you’ll agree that any connection between this and your day-to-day life is purely coincidental. Nevertheless, this complete abstraction, this mathematical hocus-pocus is relentlessly drilled into our skull and pounded into the crevices of our brain cells until it seems our head is going to split wide open. But the human head can take a great deal. Somehow or other it doesn't split and somehow or other we learn division—after a fashion, that is.

Now what?

Now our teacher gives us one of those practical every-day problems. It's a problem we were able to solve almost automatically before we ever came near the school. Only now we have to solve it by a process called division. One number must be divided by another and we have to determine which number is to be divided by which. To arrive at this decision involves a process of reasoning which is somewhat obscure.

Where are we, Division which was supposed to be the means of solving the problem turns out to be something quite different. It turns out to be the very opposite. It becomes something that stands between the statement of the problem and its solution. It becomes the obstacle, the hurdle, the stone wall which prevents us from solving the problem. Show the average person a fraction and he trembles. His blood pressure sky rockets. His pulse climbs to 157 and drops to 6. His temperature soars to 212 and sinks to 27 below zero. He alternates between fever and chills 37 times in 14 seconds. He stands gaping at the fraction transfixed and as soon as he can gain control over himself he turns on his heel and dashes madly into the night.

There are many reasons why so many of us are terrified by fractions, but without doubt one of those reasons can be found in the way we were introduced to numbers in general and to fractions in particular.

Man's number concept today is far different from what it was when he first climbed down out of the tree. It has broadened enormously; it has undergone changes; it is still changing. Nobody would think of teaching a child that the world is flat (continued on page 53)
case study house

# 13

This is the second of two houses designed for the magazine's Case Study House Program by Richard J. Neutra. He has taken two hypothetical families, the first, a Mr. and Mrs. Omega, were pretty thoroughly digested in the October issue. We now come to the problem of Mr. and Mrs. Alpha and the solution of their particular project.

Mrs. Alpha's sister and her husband, the Omegas, have their house on the next lot to the north. Together these people had decided on a most favorable scheme, to settle themselves side by side—with their houses and gardens in a harmonious relationship. In this manner, it should be possible to preserve both a controlled and agreeable view out of the major rooms of their homes, and to accomplish desirable privacy—(in other words, to avoid a breakfast nook that looks directly into someone else's bathroom windows.)

It is only a miracle when houses not planned together avoid mutual
nuisances. Any sensible pair or group of prospective home owners can co-ordinate their effort—right from the lot purchase to the employment of an architect and later of a building contractor—so that they will derive from the combination greater advantage and savings.

As made clear by site sketch and model, which show the relation of the two houses to each other, the lovely mountain view remains for both saved and unobstructed! The buildings and adjoining free areas are staggered for a minimum of mutual interference.

Of course, within all this combined planning, the Alpha house is a unit of its own and in itself. It could well stand alone, without its companion. But together the two give an atmosphere and form that favorably reflect upon each of them.

The tall and shading trees, landmarks of this spot of Southern California foothill land, have been preserved for everybody's visual benefit. The Alphas are, as a family, a little older than the Omegas. In this case the two girls are the younger, eight and ten, and their brother is thirteen. The Alpha and Omega girls have been playing together.
THE PLAY AND PICNIC PATIO SERVES FOR ROUGH AND MOST FORMAL USE
for years, and the detached lath house, which Mr. Alpha, (an ama-
teur-and after workinghours horticulturist, wants to overgrow with
vines}, will contain a large room for youthful gatherings, a neutral
ground dedicated to the children of both families.

The Alphas have a requirement as to spaces and facilities for their
family of five, which, on many points, is not unusual: Living quarters
with a fireplace; a dining bay or room, articulated off these general
living spaces; definitely two outside sitting areas well connected with
it—one with morning light, and the other with evening sun—but
not the too early rays when they are still hot. The Alphas feel that a
cool afternoon sitting space is an asset in the foothill plain. The two
outdoor living areas, although naturally on different sides of the
building, should, (and this was a specific wish of Mrs. Alpha), psy-
chologically connect with each other. (This seemed a difficult con-
dition! And it was aggravated by Mrs. Alpha's anticipation that on
occasions of picnic parties, with youngsters about, there would prob-
able be continuous traffic from one open air terrace to the other;
—root beer to be spilled and greasy sandwiches to drip.) The plan
shows how we solved the problem by using the same coarse pavement
north and south of the building and passing through a zone of the
living quarters adjacent to the hearth of the fireplace. When the
sliding doors are open, there is a unity of the entire social area in—
and—outdoors and on both sides of the building.

The living quarters, should on occasion be able to accomodate a guest,
—if possible as far removed from the family sleeping quarters and
toileting facilities as possible. The Alphas, among themselves, are
not very prudish, but they think that their negligé-behaviour might
be bothersome and embarassing to an adult guest.

We decided that a guest of this sort hardly ever goes to bed, while
the family stays up in the living room, and so a bay with a couch, not
far from the powder room and entrance lavatory, where a drape can
be pulled, would be the best solution. (Mr. Alpha, who as we already
have mentioned, is a chronic horticulturist, promised he would use
this bathroom on Saturday afternoons. It was, however, agreed that
a future very simple addition should be provided for: a special gar-
dener's toilet, west of and back to back to the entrance lavatory.)

The Alphas explained that a very regular informal out-of-door tak-
ing of meals and hospitable feeding of others was a cherished practice

1 garden tool storage at entrance pergola
2 powder room near entry
3 utility room and laundry
4 kitchen with service counter from kitchen
5 dining space with service counter from kitchen
6 2-car shelter
7 living quarters
8 family activity room opening on to patio 13
9 washroom, shower and toilet section
10 boys room with 2-story bunk and lavatory
11 girls room with lavatory
12 parents bedroom with lavatory
13 dining patio
14 social terrace
15 service yard
16 entrance pergola
with them. The barbecue adjoining the outdoor fireplace and a benchlike set of two steps was very welcome to them. Likewise, they desired a very intimate connection of this primary food-and-meal patio with the culinary production center. Accordingly, only a few steps need be taken to carry trays from the porthole in the dining bay and kitchen wall to the outside eaters. The kitchen itself overlooks the outside service area, and on its other end connects in an “L” with utility room and home washing facilities. The service entrance is placed where the two wings meet, and where groceries and purchases made in town, enter from the car parked under the garage roof overhang.

The Alphas desired at least a modest indoor family play room. Without spending much money here, it was to be divided off from the more quiet sitting room, where visitors are received. We decided to simply enlarge the hall which leads to the bedrooms, and a few feet added in width turned the corridor into something more usable. (A broad sliding door on its long exterior front helps to widen this space into the outside on friendly days.)

The boy has occasional school fellow guests, so a double bunk bed seemed the best idea with a lavatory right in the room and a desk near the window. This suggested the idea of providing similar facili-
ties for each of the private rooms or sleeping quarters. This to avoid crowding of bathroom facilities.

The clients desired one tub-equipped bathroom; one completely separate, and separately usable shower; and one equally independent toilet, all clustered into one section of the house to reduce plumbing runs.

All private rooms, and especially the parents quarters, have a defined sleeping and an equally defined "living section." The parents enjoy a sliding door out into their own private garden. The social space as well as the private rooms all have a magnificent view of the mountains.

In appearance this house has been designed with constant thought for its relation with its neighbor. The same facing and finishing materials, as well as similar fixtures are used.
The considerations and motives given for the type of flat but slanting roof, draining the rain water in the same direction as does the sloping ground itself, were readily accepted. The angle of roof pitch, the light gravel cover are identical on the Alpha and Omega houses; they are prominent features of harmonizing the buildings with each other and with the sloping grounds, an effect which the sketches can only incompletely show.
RIGHT: Detail from one of the introductory exhibits. "The FORM of everyday things is determined by USE . . . MATERIALS . . . TECHNIQUES . . ." The caption behind the teapot reads: "Use or Function is the main source of Form. Look at the TEAPOT: it is a container for tea, but in addition the spout must be designed to pour without dripping the handle must be easy to hold and pleasant to touch the lid must not fall off while pouring the pot must be easy to clean the pot must be of a material that will not absorb odors the pot must be pleasant to look at. AN OBJECT IS WELL DESIGNED IF IT SATISFIES ALL PROBLEMS CONNECTED WITH ITS USE." In the foreground, radio designed by Alexander Girard for International Detrola Corporation, Detroit.

Maple Arm Chair with webbed seat and back; developed for army use, manufactured in Beecher Falls, Vermont.

CENTER RIGHT: Close-up of exhibits of "Well-Designed Articles from Minneapolis Stores." The dropped ceiling is made of 2x2 redwood; lighting fixtures by Kurt Versen. Radio-phonograph console designed by Alexander Girard for International Detrola Corporation, Detroit.

CENTER LEFT: View from the entrance of the Gallery toward the Reading Lounge which is separated from the exhibition space by a rope partition. Furniture by H. G. Knoll.

BELOW LEFT: Section of the exhibition space. Plywood partition at right screens curator's office and workroom. Wall colors are deep blue-green, intense chartreuse yellow, and white.

BELOW RIGHT: Products contributed by designers and manufacturers from all parts of the country for the opening exhibition "Ideas for Better Living". Table in foreground shows bake sheet and pan by Reynolds Metals, Kentucky; electric iron by General Mills, Minneapolis; pressure cooker and kitchen scale designed by Sundberg & Ferar, Detroit, for Landers, Frary and Clark, Connecticut. At right, "Storage Wall" developed by Life Magazine and The Architectural Forum.
A PERMANENT INFORMATION CENTER FOR HOMEMAKERS opened this January at the Walker Art Center in Minneapolis. By launching an Everyday Art Gallery dedicated to the "minor arts" of daily living, a leading American art museum initiated a community activity, which augurs well for greater public use of the arts in America. Organized to enable the consumer to obtain information and standards for architecture, home furnishings, and all the objects and tools of daily life, the Everyday Art Gallery is the first gun in what may well become a nation-wide movement for "better living" through active consumer participation and education in modern design.

The objectives of the Everyday Art Gallery have been formulated by its curator, Hilde Reiss, as follows: "Our gallery has been established to help build a better environment for daily living. This includes many things we use every day—buildings, vehicles, furniture, fountain pens, frying pans, door knobs, drinking glasses. Large or small, all affect human well-being. None need be ugly or awkward.

"Are home furnishings satisfactory? Are they designed for today? Or are they survivals of the past? Do lighting fixtures look like candles or are they clean forms of the age of electricity? Are chairs for hoopskirts or shorts? What relation is there between utility and beauty. The Everyday Art Gallery plans to answer these questions."

Some of the first answers are to be found in the opening exhibition, "Ideals for Better Living," designed and installed by Miss Reiss, in collaboration with William Friedman, assistant director of the Art Center. A brief theoretical display of the evolution of form from use sets the stage for new radios, electric irons, heaters, pressure cookers, chairs, tableware of many kinds, architectural plans, the Life-Architectural Forum "Storage Wall," and related materials. Succeeding exhibitions will show contemporary furniture, fabrics, ceramics, home planning, and other special fields. To encourage local retailers to merchandise products of good design, the feature "Well Designed Objects from Minneapolis Stores" will be repeated in the fall, in time for the Christmas trade, and thereafter will be an annual event.

The Everyday Art Gallery comes on the scene with an especial timeliness. The war is over—we hope. The deep, bright thoughts of millions turn toward "Home." There is the peace and security and beauty which total war does not offer. There is the modest aspiration of humanity for a hearthside of its own—a dream particularly potent since millions of homes the world over have been destroyed. Further, from a point of view of the national economy, only expanded consumption will enable the United States to maintain the high level of wartime production and so to avert the twenties' lamentable pattern of inflation, artificial prosperity, and utter collapse. The world market, of course, can absorb production goods; but consumers' goods are an immediate and crying need at home.

Hence a museum program directed to consumers is a "natural." In terms of consumer demand, the new Everyday Art Gallery is well timed, even though there is not as yet an abundance of consumer products. More, this demand is by no means confined to the Middle West. The recent double spread of pictures in the New York Times Sunday Magazine section, showing installation shots and individual exhibits in the gallery's first exhibition, "Ideals For Better Living," touched a live nerve in the American buying public: the Times received a quantity of enquiries as to where the objects shown could be purchased in New York! General response, among publications and institutions, to the gallery's opening also indicates that this new museum activity possesses wide public appeal.

What is the source of this appeal? D. S. Defenbacher, the Walker Art Center's director, states it briefly: "For some ten years the conviction has been growing on me that the so-called fine arts are overrated, not in their humanistic qualities but in their supposed appeal to all other forms of art ... . The overrating is, to my mind, a matter of proportion of human use and need. Numerically there are more people in the world who do not have an interest in painting and sculpture than there are who do. There is no person, however, who is not interested in the products of the 'other' arts—those which form his daily scene. These—his tableware, his easy chair, his kitchen stove—are emblems of his taste, his accomplishment, his responsibility. They are woven into the whole complex fabric of his being." (Continued on page 54)
APARTMENT PROJECT

by Gregory Ain, A. I. A.
Designed to provide a more typical family living space than the average apartment, these projected buildings were planned to overcome the usual disadvantages of multi-family dwellings—lack of privacy, lack of separate garden spaces for outdoor living and children's play, and proximity to the street and to street noises—without loss of ground or income for the client.

Two adjoining lots form the site. For best use of the land all garages were placed on one lot, which made it necessary to join them to the main building by a continuous wall in order to satisfy certain legal requirements. Staggering of the buildings results from irregular setback restrictions. Land which in another scheme might have been a tantalizing but unusable common green here becomes a series of enclosed patios, one adjacent to the living area of each unit.

The apartments are entered from paved walks along the north sides, the simple "row house" plan permitting each apartment to have its own entrance at ground level. A high wall separates the walk from the patios. Paved ex-
cept for small squares for planting, the patios require very little maintenance. They are so placed that they are not visible from neighboring units. The bedrooms open to spacious balconies overlooking the gardens. Under each apartment there is a full basement which may be used for storage or as a rumpus room. No windows face the street except in the bachelor units above the garage.

Exterior walls will be of corrugated transite with unbroken wall spaces treated in bright colors as a foil for the landscaping. Windows in the stairwell will be of obscure glass. The stair treads will be wood planks covered with linoleum; wire glass will be used for the risers to light the stairway to the basement.
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A Home To Live In, Play In—This design, winner in the Suburban Home class of the recent American Builder prize competition, is by Charles and Arthur Schreiber of Chicago, Illinois. It takes full advantage, with its triple-purpose recreation area, of the trend toward building ample play room into tomorrow's homes. Adapted from American Builder Magazine, to show how a new idea in home heating—the Coleman Floor Furnace—can help increase comfort and "livability."

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Warm-Floor Comfort; Low-Cost Area Heating—The floor plan below shows how a Coleman Floor Furnace system can provide independent, automatic heating, with "warm-floor" comfort, for each of the three major areas of the house. Such a system includes one or more individual, automatic units (3 used here). Each floor furnace can be set to give ideal comfort for its own area—operates independently of other units—with minimum fuel expense. The initial cost of a multiple installation may be lower than that of a central heat plant capable of doing an equal job. Note that no basement is needed for warm floors with this new advancement. Coleman Floor Furnaces will be available post-war in gas, oil or LP-gas models.

Write for catalog and detailed information, Dept. AC-536, Coleman Company, Inc., 332 East Third Street, Los Angeles 54, California.

This Cutaway View of the Coleman Floor Furnace shows how 3 important features especially combat cold floors and increase comfort: (1) Coleman's exclusive patented streamlined bottom that speeds warm-air travel, up to 35%—warms a bigger area; (2) Large area of heating surface for fast warming of cold air before it flows out of the furnace; (3) Big efficient burner that gets most heat out of fuel for low-cost operation. At right: "Phantom floor" shows how the furnace is set in the floor, with only the register at floor level, in recreation room of Schreiber house.
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new developments

furnishings, lighting, wall covering

- Newest development in outdoor furniture is a clean-lined group of aluminum models by Deeco, Inc., of Los Angeles. The line is made of three-quarter-inch solid aluminum extruded rod. Cross bracing is attached by flat-head screws, leaving a surface unmarred by bolt heads. Spring supports are extruded as a flanged part of the frame, distributing stresses uniformly throughout the entire piece.

The furniture is polished to chrome-like finish and treated chemically to resist corrosion. Covering fabrics are made of water repellent heavy duck, and table tops of laminated plastic. Models include lounges, chairs, tables and folding chairs. Heaviest piece, a chaise lounge, weighs 48 pounds.

Deeco is a new organization established by the Deutsch Company, manufacturer of hydraulic fittings and valves for aircraft. Deeco owns and is the chief customer of Central Metal Corporation. Deeco's 100,000-square-foot manufacturing plant is located in Burbank on the same site where Aeron Corporation manufactured.

- Westinghouse Lamp Division has developed a “lighthouse in a tube,” most brilliant lamp ever made for general commercial use. It is a 1000-watt tubular bulb with powerful yellow-green light streaming from a mercury vapor arc the diameter of a cigarette.

The air-cooled lamp produces 60 lumens for each watt of electricity consumed, enabling it to pack the mightiest punch of practical artificial illumination in the world. Total output is 60,000 lumens. It was designed for lighting high ceiling factories, baseball diamonds, indoor sports arenas and other expansive areas where a high level of lighting with a minimum of reflectors is desired.

- Information just released on Varlon indicates the stainproof wall covering has stood up under a kicking around that shouldn’t happen to a saloon floor.

Dumped on samples of Varlon—and subsequently washed off with soap and water—were Crisco, chicken fat, Spyr, Mazola Oil, lard, butter, lubricating grease and oil, castor oil, olive oil, peanut butter, Vaseline, Unguentine, furniture polish, dirty grease, red and blue inks, lead pencil, all colored wax crayons, brown and black shoe polish, lipstick, eyebrow pencil, liquid shoe cleaners, scuff and heel marks, meat sauces, salad dressings, syrup, face cream, jam, chocolate candy, coffee, tea, rum, whisky, gin, beer, and blood.

In special tests technicians of Varlon, Inc., Chicago, washed Varlon 25,000 times, applied flame to it for five minutes, poured water in a cup-shaped sample, turned German cockroaches loose on it for six days, sandpapered it, applied Fade-Ometer lights to it for 24 hours, put salt water on it, let bacteria and mold grow on it and exposed it to Phenol, cod liver oil and sour milk, all without visible effect, and with no resultant odor.

Varlon stainproof wall covering is built up into a composite unit with either paper or cloth backing. It may be applied by customary paper hanging methods. Paper backed Varlon trims as easily and smoothly as any ordinary wall covering. Cloth backed, it is tougher but trims smooth and straight with no tendency to pull or ravel at the edges.
appliances, accessories, gadgets

- A new automatic washer was introduced in Chicago recently by the 1900 Corporation. Called the Whirlpool Whirlmatic, the new model washes, rinses, and damps dries with a single dial setting. It has a top-hatch opening, does not require bolting to the floor, and can be started or stopped at any point in the washing cycle without beginning the cycle over again.

- An adjustable quadrangle of interest to architects and engineers was announced recently by the Stewart-Jackson Instrument Company of Los Angeles. Angles from 0 to 90 degrees, pitch scales from 0 to 24/12, percentage slopes from 0 to 100 percent, sine or cosine functions, and tangents may be found with the S & J Quadrangle. It has eight drawing edges, is rectangular in shape and may be used as a triangle. Price is $7.50.

- House to house calls on hundreds of American housewives helped shape the design of a new Presteline electric range built by Domestic Appliance Division of Pressed Steel Car Company. Three arrangements of burners were worked out to satisfy the preferences of 97 percent of the housewives questioned. The range comes with three burners and a deep well cooker grouped on the right, two on each side, or all four in line in the rear. Other features are seven heats for each burner, fluorescent illumination of the range top, 17x17x20-inch oven with broiler at the top, Fibreglas insulation, and aluminum barbecue pan. Oven, deep well cooker, and appliance outlet of the Presteline are fully automatic, operating through a selector switch and clock timer.

- A new, bright, electro-deposited coating made up of about 45 percent tin and 55 percent copper has been developed by the British Tin Research Institute in London. The alloy is called speculum. It has the color of silver, hardness between nickel and chromium, and high resistance to corrosion and tarnish. Uses include coatings on jewelry, table ware, bathroom fixtures, and all interior metal trim.

- Nickel plating inside steel pipe is now possible through a process developed by the Bart Mfg. Co. of Belleville, N. J. Pipe up to 18 inches in diameter in lengths of 20 feet may be plated, after which welding, reducing and bending will not destroy the lining.

- Outside protection for steel pipe has been developed by the Bakelite Corp. of New York City. A coating of partially polymerized phenolaldehyde resins is hardened to a glass-like surface by heating.

- Home inter-communication systems are gaining popularity both for new construction and installation in existing houses. Executone, Inc., of New York, offers a two-station home outfit for $49.50. The inter-com can be used for everything from eavesdropping on the baby's room to checking callers before opening the front door. Both permanent and portable installations can be made. Calls may originate from any station. A complete setup can link the head of the house with every room at all times.

- Swallow Airplane Company of Wichita, Kansas, has announced a compact, door-hugging, floor-hugging door holder suitable for light doors in homes up to heavy-weight theater doors. The new gadget is the Doormaster. Spring-loaded, it brings tremendous pressure to bear without slipping. A bullet catch holds it out of the way when not in use. The Doormaster is fabricated of durable aluminum, mounting a rubber foot on the piston. It is hung from the door by two flat-head screws. Price is $1.95.
news

* California architects must become crusaders for civic beauty if the awkwardness of unplanned city growth is to be eliminated, Charles O. Matcham, president of the Southern California Chapter, American Institute of Architects, said recently. "I am at times somewhat skeptical of the full truth of the statement that California Architects are great leaders," he said. "We have other and greater obligations than merely those to our own individual clients. . . . I wonder whether in California are . . . really doing our utmost to plan our cities as they should be to achieve perfect economic, moral, and social living, to design buildings with full sense of permanence and dignity, to eliminate unsightly eyesores along our boulevards and highways, to take leadership in our public life, even political life if need be, to fulfill the accomplishments of our duty.

He asked architects to "assume leadership in every phase of the life of our very rapidly growing community," Los Angeles.

* Winning designs in the Chicago Tribune's $24,000 Chicagoland Prize Homes competition were shown during February in the Chicago Art Institute. With them were 175 other contest entries chosen by the judges as meritling special attention. Designs also were published in the Sunday Tribune.

Three problems were set up for the entrants. Problem 1 required a house of less than 1100 square feet of floor area, suitable for 30 by 150-foot lot, and adequate for a father, mother, and six-year-old son. Problem 2 called for a house of not more than 1400 square feet, suitable for a 56 by 150-foot site, and adequate for a father, mother, son, 12, and daughter, 8. Problem 3 was a house of not more than 1700 square feet, suitable for a 75 by 150-foot lot, and adequate for father, mother, two daughters, 16 and 6, and son, 12. Chicago builders and architects were judges.

* Complete information on financing, location, planning, construction, furnishing, landscaping, and advertising tourist courts is given in a new book, Tourist Court Plan Book, published by the Tourist Court Journal of Temple, Texas. The plan book has been offered as assistance to persons planning additions to present tourist courts or construction of new courts. Tourist court coffee rooms and service stations also are handled.

Following the first 80 pages of description and illustrations of successfully operated tourist courts are 50 pages of floor plans. Small, medium, and large courts are shown. Some are original conceptions by Tom E. Lightfoot, staff consulting architect of Tourist Court Journal. Others are plans of tourist courts now in operation.

The plan book is the first of its kind on the market. Price is $27, including a year's subscription to the Journal.

building and building materials

* Nearly half the future home owners in the United States want homes tailored to their specific needs and whims, according to a survey conducted by the Curtis Publishing Company. Answers were obtained from 4007 families living in 35 states and 118 cities. Planning to build or buy houses were 34.3 percent of the families interviewed. Of that percentage, 49.5 percent wanted to build according to their own plans. The others didn't know or were split between buying new houses and old houses.

Only 18.4 percent of the prospective owners would go to an architect to acquire a house. Real estate agents will get the most business (30.6 percent) with builders considered the first to see by 20.2 percent. Largest desired price bracket was from $4500 to $5999—25 percent, but 21.8 percent would seek houses priced from $6000 to $7499. Median price was $5943. Preference in type of architecture went first to Colonial (18.8 percent), second to bungalow (17.1 percent) and third to modern (11.8 percent), a gain from previous surveys for modern. Runners up were Cape Cod, ranch-patio and English, with nearly 38 percent of the persons interviewed not bothering to state any preference.

* Despite drastic shortages of some building materials, construction in the 11 Western states has gone into a boom this year, according to a review by the trade publication, Western Building. A hundred and ninety-six cities in the area reported a gross valuation of $99,447,978 in January, up 423.88 percent over the figures of a year before. Totals were based on building permits issued.
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THE POSTWAR HOUSE, inspired creation of Fritz B. Burns, features two installations of Panelsray, the new radiant infra-red gas heater. In the master bathroom, Panelsray is installed to conform to the modern curved wall. The other bathroom shows a regular installation of Panelsray. Panelsray has been specified in four of the Case Study Homes being sponsored by Arts & Architecture.

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Permit valuations of more than a million dollars were recorded by 21 cities, and nine reached construction values of more than two million. Greatest was Los Angeles, with permit valuations totaling $17,760,141. Long Beach was second with $5,280,870 and San Francisco third with $3,118,314.

• Quality of the more than two tons of special purpose steel in the average American home can make the difference between low-cost, forget-about-it maintenance or wallet-shattering repair and replacement bills.

Such is the theme of a 24-page booklet, "Know Your Steel When You Build or Remodel," published by the American Rolling Mill Company of Middletown, Ohio, makers of Armo steel.

Four basic products and their uses are illustrated in the booklet. Armo Galvanized Paintgrip Steel has a full weight coating of zinc, over which a Bonderized coating is applied at the mill. Result is a steel which takes paint immediately and holds it. Armo Galvanized Ingot Iron is the first and oldest of "quality galvanized sheets" for such uses as built-in air ducts and roof drainage systems. Other products are Armo Stainless Steel and Armo Enameling Iron.

Paintgrip uses include gutters, downspouts, roofing flashing, metal awnings, garage doors, exposed air ducts, kitchen cabinets and drawers, and furnace casings. Stainless Steel also is used for roof drainage systems in its natural silvery gray tone and is tops for kitchen drainboards, tableware, cooking ware, kick and push plates on doors, and bathroom accessories. Enameling Iron is the base for porcelain enamel surfaces on scores of kitchen and bathroom appliances. It does not absorb food odors and will not stain even when a neglected cigarette burns itself out on the surface.

Stated purpose of the booklet is "to help you and your architect or builder make sure that you get the right sheet steels for the vital equipment and construction you will buy for your home."

• Sufficient quantities of plastic-finished Marlite to meet increasing demand are expected to be available soon since Marsh Wall Products, Inc., of Dover, Ohio, has completed a new factory with custom-built equipment.

The new building adds 60,000 square feet of factory space to the production end of the firm. General Manager V. R. Marsh said the addition will step up delivery dates of Marlite and Marsh Mouldings to dealers and will enable technicians to make continued improvement of products through new manufacturing and research facilities.

INDUSTRIAL DESIGN

continued from page 29

amount of work a man could do in a day was somehow a basic unit, organically integrated with man's need for rest, his desire for change, and his capacity for mental and emotional effort. The strengthening of his arm, figuratively speaking, to an unknown proportion was bound to upset the balance of his scales. The old harmony between man's imagination and his ability to carry things out slowly disappeared.

This development towards disintegration was not confined to manual labor and industry. It rapidly affected the other branches of civilization. Like a vault, the keystone of which had broken, the whole edifice of culture tended towards disintegration. Instead of a great composition of strictly correlated activities, we now hold an infinite number of little groups of specialists, cut adrift and...
struggling along in their own limited fields, without a clear common basis or a common goal.
The disturbing aspects of this situation have long been hidden behind the amazing feats of technological progress which stood in the foreground of public interest for several generations. They are being seen now, however, and many thinkers of our time have given their opinions as to the dangers inherent in such an unbalanced, nay, disorganized, state of man's affairs. Alexis Carrel in medicine, Lewis Mumford in housing and living, Aldous Huxley in social culture, to name only a few, have shown that we are heading for disaster if we go on as we do. Gerald Heard says in his latest book (Pain, Sex and Time): "The . . . optimism that 'progress' is going on and that our civilization cannot crash because its technical advance is spontaneous, inexhaustible and beneficial is . . . contradicted by experience. That advance of evolution . . . has ended. It ended in this generation. In our time the attenuated association between means and ends snapped." This association is an essential connection for any further progress. Today we have the technician, because his means are divorced from ends, destroying civilization (and with it its technicality: for physical science is destroyed by the scientific war it makes possible) at the commune. "Men below the technician in any mental calibre."
Some writers already see this critical tension between ends and means as temporal. Antoine de St. Exupery, for instance, when he speaks of the role of the airplane as a tool and not as an end in itself (in Terre des Hommes), depicts the scene with a more optimistic note. His keen sense for human values permits him to put it this way: "It seems to me that those who complain of man's progress confuse ends with means. True, that man who struggles in the unique hope of material gain will harvest nothing worth while. But how can anyone conceive that the machine is an end? It is a tool. As much a tool as is the plough. If we are afraid that the machine is going to engulf man it may be only because we lack perspective for the judgment of transformations that go so deep. What are the hundred years of the history of the machine compared with two hundred thousand years of the history of man? It was only yesterday that we began to pitch our camp in this country of laboratories and power stations, that we

*See the atomic bomb.

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took possession of this new, this still unfinished, house we live in. Everything around us is new and different—our concerns, our working habits, our relation with one another. Our very psychology has been shaken to its foundations, to its most secret recesses. Our notions of separation, absence, distance, return, are a reflection of a new set of realities, though the words themselves remain unchanged. To grasp the meaning of the world today we use a language created to express the world of yesterday. The life of the past seems to us nearer our true natures, but only for the reason that it is nearer our language. Every step on the road of progress takes us farther from habits which, as the life of man goes, we had only recently begun to acquire. We are in truth emigrants who have not yet founded our homeland.

This picture of an ultimate assimilation of industrialization into a human way of life, however, is focused on a point rather far in the future. It may be indicative of a development in which we are taking part, but it may not offer great immediate help to the present-day designer. His situation is still characterized by the disintegration depicted above, and he is confronted with a perplexity which may be described this way: the designer is no longer the maker. Because of the specialization which has invaded almost every field of human activity, he has lost the intimate contact with materials and tools; he only offers suggestions as to what to make by means of drawings and models. He is a specialist himself within his own limited field. Even if he tries to overcome this handicap by trying to establish closer contact with the workman, he does not quite find the expected reassurance: the old craftsman with his comprehensive knowledge of materials and techniques has changed with the introduction of power tools and the subsequent specialization of working processes. The power tool, with its non-human strength, forms, treats, and alters materials to an extent which goes potentially beyond human experience. The specific qualities of these materials, which seemed inherent on the level of handiwork and, having been respected, had decisive influence on design, are negligible for the technician with his clever devices of industrial technique. Any material can be forced to do almost anything today; and the material with the least character of its own is best suited for modern production methods. At the same time, modern machinery has deprived man of his chance to experience his materials as the artisan has done. The man with the machine no longer sets his strength against the strength of the steel: he pushes a button. And he does not follow his piece of work through the different processes of making: he is a specialist himself, rolling the sheet, stamping the disc, drawing the shape, milling the rim, or polishing the finished pan. Else he knows nothing.

Thus the designing artist of today has lost the guidance of materials and techniques. From friendly and experienced collaborators these have sunk also: following orders of anonymous slaves: for masters but leaving the designer without advice. Auguste Renoir complains somewhere in a letter about the same situation in the field of painting when he says: “This craft which we shall never know in its entirety because no one can teach us any more since we emancipated ourselves from tradition.”

The other guide the craftsman had, who was the patron, has likewise abandoned the designer of today. This patron whom Ananda Coomaraswamy in one of his lectures describes as follows: “The artist was not a special kind of man, but every man was a special kind of an artist. It was for the patron to say what should be made; for the artist, the “maker by art,” to know how to make. . . Nor was the patron a special kind of man, but simply our consumer. This patron was the “judge of art”: not as a critic or a connoisseur in our academic sense, but one who knew his needs, as a carpenter knows what tools he must have from the smith, and who could distinguish adequate from inadequate workmanship, as the modern consumer cannot.” As a matter of fact, even this modern consumer had hardly any direct influence on the designer of today. Beyond some necessarily quite limited personal contacts the designer knows only a “market,” an impenetrable something which exists in the minds of sales engineers and in the computations of business surveys. The alleged needs of this anonymous and rather formless market, interpreted to him by an executive who is not the desirable “judge of art,” because his interest in the matter is purely financial, take the place of the old customer.

Materials, techniques, understanding criticism, patrons: none of them help to guide the designer of today. Confronted with the task, enormous in scope and responsibility, to form our tools of living, the designer stands alone. To recognize this situation, however, and to admit its implications, may be the first step towards finding a remedy.
and then later correcting this illusion. Yet the equivalent is done in mathematics. When we begin the study of arithmetic we are inoculated with the same primitive number concept that early man had. What happened to primitive man shouldn’t happen to us. But it does. A fraction enters our life like an atom bomb and blows our number concept to smithereens. Some of us never can get re-organized and can never quite get around to building a new number concept that includes fractions.

The concept of a fraction itself has grown to be something quite different from what it once was. But this, too, has had little effect on the way fractions are taught. Consider these statements: 3 oranges cost 15c; an airplane goes 200 miles per hour; a meter is 39.37 inches; 4 out of 5 people hate arithmetic. Each of these statements is expressed by a fraction. Yet these statements seem to have little, if any, connection with each other and certainly no apparent relationship to a piece of pie which is the way we were first introduced to fractions in school.

As a matter of fact, the use of a fraction to represent a part of something is probably the most difficult function of a fraction to understand. But this is still the first we are taught. We are told further in this connection that the denominator indicates into how many parts the thing has been divided whereas the numerator tells us how many of these parts are to be taken. So far, so good. But then when we translate the statement “3 oranges cost 15c” into the fraction 3/15, what do we find? Why we find, of all things, that the numerator indicates oranges and the denominator indicates money. Not only that, the numerator indicates all the oranges and the denominator all the money. There’s no part of fraction of anything involved here. Then, too, we might have shown the relationship between the money and the oranges by writing the fraction 15/3 in which case, of course, everything we’ve said about the numerator and denominator would have been reversed. What happened to the original definition of a fraction?

Thus to a struggling student of arithmetic, just a young fellow trying to get along, a fraction seems absolutely unpredictable. It never seems to mean the same thing twice. It’s like some mischievous imp. Is it any wonder, then, that so few of us regard fractions as particularly charming company?

The need for mathematics is greater today than ever before. We not only need it in our day-to-day living, but it is also becoming more and more necessary as a means of understanding what goes on in the complex world around us. I began this article with the statement that mathematics is a science. I end with the thought that if this science is to be made available to the people, then it’s about time the teaching of it also became a science.
EVERYDAY ART GALLERY

continued from page 39

Thus the sense of beauty may be said to be molded at mother’s knee as much as the sense of duty. Surely, human beings are aware of color, texture, forms in objects of daily use before they are old enough to enjoy painting and sculpture. Yet how rich a life is possible—leaving out of consideration the distribution of national income, which is another and basic question—in terms of what present-day building, home furnishings and accessories offer the middle income bracket family? Design and manufacture must be improved in order to make modern living available even to this numerically limited group. The Everyday Art Gallery proposes to work toward this end through consumer education, hoping to bring consumer and producer together in a relation more democratic than the manufacturer’s present shotgun attitude of “Take it or leave it.”

This objective of enlisting the consumer in an active use of the “minor arts” is surely one which will win support. For a number of years it has been clear that all is not well with contemporary American art—or artists. Social relations for the encouragement of art have been tenuous, and the audience for art limited. Art has been, by and large, snobbistic, and its enjoyment confined to a clique. Yet art is of little value unless it reaches people. If the arts of daily living, of pots and pans and cookstoves, serve as a bridge to awaken the esthetic sense of the American people, so much the better.

With the nation embarking on a vast home construction program, the writer sincerely hopes that the Everyday Art Gallery will find a wide popular following. More than that, it would be a fine outcome if other large American communities felt inspired to develop similar activities. For the existing centralization of style and fashion in our great cultural metropolis has great dangers as well as great advantages. Perhaps the most hopeful thing about the Everyday Art Gallery is that it came into being more than a thousand miles west of New York City.

MUSIC

continued from page 17

simply larger but in every detail more accurate. His softest playing blends in a continuous plastic unison with the largest tone. And it is always tone, though often thinned or roughened to enforce the tragic urgency breaking the textural surface. One has no longer any sense of the music progressing movement by movement, end to end; there is no feeling of beat or measure except as a controlling wave. The technical flowing and dynamic modelling of the running line make any virtuoso playing I have heard sound like mere note-playing. The arches of the sonatas pass through their final measures without hesitation to an exactly located perfect end. The brief and delightful Fantasy Sonata, opus 27:1, prefaced a splendid reading of the Sonata, opus 10:3, balancing as its own relatively slighter movements cannot the length and deeper emotion of this first of Beethoven’s very large slow movements. The first group of three sonatas made an intricately joined overall composition like an earlier version of a late quartet, pivoting on the large slow movement, balanced by the opening of the second Fantasy Sonata, opus 27:2, rising to a finale that was only short of the Waldstein. This decisive inversion of the three movement sonata sequence, by putting the principal movement at the end and reducing the proportions though not the importance of the two preceding movements, prepares the shape of the late Sonatas, opus 109 and opus 110, that together made up the second half of the program. The tidal attack and retrogression throughout the first two movements of the E major Sonata are climaxed by the quiet and almost casual laying down of the variations theme, which through steadily extending variation mounts to a realization of all that had there been quietly implicit, and with the final simplicity of an art that needs no further saying the theme returns. In the fugue of the A flat major Sonata one heard all voices polyphonically moving in harmonic separateness; and after the tragic restraint of the slow interlude chord rose upon chord in an unbelievable measure and control of the increasing volume, until like a golden wire of single tone the fugue theme re-emerges. And at the end the fugue bursts into flames.

It will be best to supplement and at least partially confirm statements which have already gone too near the further border of the superlative by quoting the review by Mildred Norton in the Daily News: “The most magnificent piano playing I have ever heard in my life came from the fingers, the mind, and the heart of Richard Buhlig Monday night. . . Of the E major I can only say that the final variations, with their crushing momentum and their sure and controlled resolution in the placidly beautiful final bars, was the most moving experience in my life.”—PETER YATES.

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