TOWARDS A NEW ARCHITECTURE
Le Corbusier
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by

LE CORBUSIER

Translated from the thirteenth French edition
and with an Introduction by

FREDERICK ETCHELLS

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INTRODUCTION

"Say not thou, What is the cause that the former days were better than these?"
—Essex, vii. 10.

A MAN of the eighteenth century, plunged suddenly into our civilization, might well have the impression of something akin to a nightmare.

A man of the 'nineties, looking at much of modern European painting, might well have the impression of something akin to a nightmare.¹

A man of to-day, reading this book, may have the impression of something akin to a nightmare. Many of our most cherished ideas in regard to the "Englishman's castle"—the lichened tiled roof, the gabled house, patina—are treated as toys to be discarded, and we are offered instead human warrens of sixty storeys, the concrete house hard and clean, fittings as coldly efficient as those of a ship's cabin or of a motor-car, and the standardized products of mass production throughout.

We need not be unduly alarmed. All the inventions that go to make up our modern civilization, so far as it has gone, have awakened the same terrors. The railway, it was prophesied, would ruin the countryside, the motor-car the roads, and the airplane the upper air. All these things have happened, and to a large extent the criticisms were true, and yet man still survives and carries on, and seems happy or unhappy to much the same degree as

¹ The first Post-Impressionist show in England horrified most people at the time, yet now the fakers of that receding pre-war past are hailed as being in the great tradition, and are used as sticks with which to beat their successors and followers.
before. The truth is that man has an uncanny faculty of adapting himself to new conditions. He learns to admit and even, in a sneaking sort of way, to like new and strange forms. The new form is at first repugnant, but if it has any real vitality and justification it becomes a friend. The merely fantastic soon dies.

Now, in modern mechanical engineering, forms seem to be developed mainly in accordance with function. The designer or inventor probably does not concern himself directly with what the final appearance may be, and probably does not consciously care. But men are endowed in varying degree with an instinct for ordered arrangement, and this can come into operation even when least thought of. The ordinary motor-car engine is a conspicuous example of this. Some are disorderly and "messy" in arrangement; others well planned and cleanly disposed.

In structural engineering the same thing appears. The modern concrete bridge or dam may be a crude and ungainly affair, or it may possess its own grave and stark beauty; the structure being equally good and functional in either case.

It is inevitable that the engineer, preoccupied with function and aiming at an immediate response to new demands, should produce new and strange forms, often startling at first, bizarre and disagreeable. Some of these forms are not worth constant repetition and soon disappear into the limbo of forgotten things. Others stand the test of use and standardization, become friendly to us and take their place as part of our general equipment. And these good new forms, so foreign to us and so disturbing at first view, are seen in the long run to have a curious affinity with those of a similar function in any good period of history.
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The engineer and the architect have to work with other people's money. They must consider their clients and, like politicians, cannot be too far ahead of their moment. The artist, on the other hand, particularly the painter, may generally find it nearly impossible to
live; but if he is able to establish one of those curious compromises by means of which he can carry on a lean existence, he is at least free (at times) to project himself on paper or canvas without necessary reference to anything or anybody; and to make experiment and research for its own sake. This passion, renewed in our own day by, it is true, a comparatively small body of artists, has resulted in that disconcerting but formidable body of work which angers unnecessarily so many people.

The modern engineer, then, pursues function first and form second, but it is difficult for him to avoid results that are plastically good. The good modern painter pursues plastic form for its own sake, and if he has the necessary ability the results are plastically satisfying.

These things are true of the modern engineer and the painter. Are they true of the architect, who in some ways combines the functions of both? M. Le Corbusier would emphatically tell us “No!” His book is a challenge to the members of his own profession. He writes, that is to say, as an architect for architects, and as a scholar always with an eye on the work of the great periods; and he writes more in sorrow than in anger! He is no fauve, no “revolutionary,” but a sober-minded thinker inspired by a fierce austerity. Towards a New Architecture was written, of course, originally for French readers, and there are points in it which obviously have not the same force applied to conditions in England or America; but the book¹ is the most valuable thing that has yet appeared, if only because it forces us, architects and laymen alike, to take stock, to try to discover in what direction we are going, and to realize in some dim way the

¹ Taken in conjunction with Le Corbusier’s later volumes, Urbanisme and L’Art Décoratif d’aujourd’hui.
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MODERN SYNTHETIC MATERIALS
MEWES & DAVIS, F.R.I.B.A., ARCHITECTS.
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strange paths we are likely to be forced to travel whether we will or no.

The average architect of to-day, then, M. Le Corbusier would tell us, is a timid and poor-spirited creature, afraid to look facts in the face. He plays his little tricks with this or that historic "style," and he can turn his attention to order from "Gothic" to "Classical," to "Tudor," "Byzantine," or what not. By concentrating his training so largely on these superficial aspects, Le Corbusier would say, all "styles" become equally available to the architect for exploitation. Not so, he would say, is great or even good architecture produced.¹

But it will be said, we cannot escape the past or ignore the pit from which we were hewn. True; and it is precisely Le Corbusier's originality in this book that he takes such works as the Parthenon or Michael Angelo's Apses at St. Peter's and makes us see them in much the same direct fashion as any man might look at a motor-car or a railway bridge. These buildings, studied in their functional and plastic aspects—all that is accidental or merely stylistic being relegated to its proper minor place—emerge under a new guise and are seen to be far more closely and strangely akin to a first-rate modern concrete structure or a Rolls Royce car than to the travesties of themselves on which we have batten.

This book, then, is an important contribution to the modern study of architecture, and to the study of modern architecture; it may annoy but it will certainly stimulate. M. Le Corbusier has not wasted time and space on a catalogue raisonné of modern buildings; he has

¹ This is, of course, a relatively new state of affairs dating roughly, with exceptions, from the time of the Industrial Revolution; though the Victorian era in England, with all its faults, had its own mind and its own outlook.
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confined himself to the statement of some of the problems that confront the modern man, and so the modern architect, and he has indicated solutions as much by his presentment of ancient buildings as by that of modern ones.

These problems arise mainly out of the vastly increased scale on which modern enterprise is conducted. The Trust or Combine has greatly ameliorated its character in latter years, and seems likely to be a permanent feature of “big business”; the Store has largely replaced the small shop; urban dwellers are finding themselves more and more housed in huge blocks of flats; problems of transport and traffic will sooner or later demand a radical transformation of our
streets—all these factors mean fresh problems and fresh solutions, and it is our business to use the materials and constructional methods to our hand, not, of course, blindly, but with a constant endeavour to improve them.

And this process is certainly going on, whatever we may think of the results. An architecture of our own age is slowly but surely shaping itself; its main lines become more and more evident. The use of steel and reinforced concrete construction; of large areas of plate glass; of standardized units (as, for example, in metal windows); of the flat roof; of new synthetic materials and new surface treatments of metals that machinery has made possible; of hints taken from the airplane, the motor-car or the steamship where it was never possible, from the beginning, to attack the problem from the academic standpoint—all these things are helping, at any rate, to produce a twentieth-century architecture whose lineaments are already clearly traceable. A certain squareness of mass and outline, a criss-cross or “grid-iron” treatment with an emphasis on the horizontals, an extreme bareness of wall surface, a pervading austerity and economy and a minimum of ornament; these are among its characteristics. There is evolving, we may begin to suppose, a grave and classical\footnote{But not imitatively so.} architecture whose fully developed expression should be of a noble beauty.

It is a delight to note the first faint indications of a spontaneous and unforced interest in aesthetic matters on the part of the modern man. He has had an admirable unconscious schooling through the trim efficiency and finish of the machines and apparatus which surround and govern so much of his daily life. Already the average user of the motor-car is beginning to take a keen pleasure in good bodywork, in
cleanliness of line and general design. It must be many years indeed since such close attention has been given to a particular aesthetic problem by so large a number of human beings. It is not too much to hope that this interest may soon include within its scope our modern architecture, passing from, it may be, an appreciation of works of a

functional or purely constructional character to embrace works of even greater significance.

I give here one or two quotations which seem to suggest the trend of thought in this direction. They are not taken, it will be seen, from "revolutionary" sources.

"... education has touched business groups, companies and combines, who march behind the banner of better building ... and contribute to the aesthetic amenities of cities and towns by
allowing architects freedom from stereotyped ideas, thereby per-
mitting glimpses of the twentieth-century spirit in building. . . .
Industrial buildings are accepted as deplorable necessities by some
critics . . . the terms 'utilitarian' and 'barsh' are regarded
as synonymous. . . .” Mr. John Cloag, who writes this in the
Architects’ Journal of January 12, 1927, thinks the latter
view "exasperating," and goes on to say: "Utility untram-
melled by an imagined need of some disguising 'style' is
not lacking in beneficent effect upon the form of an industrial
building."

Mr. R. A. S. Paget, in a letter to The Times, summarized
in the Architects’ Journal of April 7, 1926, thinks that Regent
Street should have been designed as two great continuous stores
facing one another in separate blocks which composed it, being
connected by covered ways, tunnels or bridges at convenient
intervals, so that customers could pass from one block to another
in protection from the weather. He would also have had direct
covered communication from the Tube station to the shops and
motor omnibus passenger stations, so that the public could alight
and embark under cover. The pavements in front of the shops
would be arcaded, while the lighting of the ground-floor shop-
fronts would be secured by clerestory windows in the shop-fronts
themselves above the level of the roof of the arcade, so as to avoid
the objections which were fatal to Nash’s original arcades. On
the roof of the arcades he would form an attractive open-air
promenade for use in fine weather, with raised foot-bridges
crossing the side of the streets.

From an advertisement in the "Hospital" number of the
Architects’ Journal of June 24, 1923—"'The modern hospital
is a triumph of the elimination of the detrimental and the un-
essential. Because of its absolute fitness to purpose its operation
theatre—like the engine room of an ocean liner—is one of the
most perfect rooms in the world.” (This is indeed the voice of
Jacob!)
As to mass-production, this is no new thing. All use of machinery has, of course, tended to mass-production. But the process goes much further back. The carpenter’s plane bears much the same relation to the adze that the safety razor does to the older sort (which I confess I am conservative enough still to use), and in both cases the more modern tool achieves what we may call a mass-produced surface. And printing began merely as mass-produced writing. We have been burdened in this country with a timid Arts and Crafts movement, which has inevitably helped to obscure and deny the real virtues of mass-production; but this feeling, though it still lingers, is negligible, and even “artistic” people may now enjoy without apology the admirable products of mass-production.
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Above all, in considering the vital problems adumbrated in this book, we must avoid any sort of snobbery. To take a small and unimportant case, the outcry against the modern roadside petrol pump seems to me a good example of this, and to be also the purest nonsense. I do not, of course, pretend that petrol pumps possess any great beauty or interest; but they are probably pleasanter than our pillar-boxes, and certainly than the majority of our lamp-posts. They are painted in clean heraldic colours which perform to perfection the true purposes of heraldry, and they give some touch of life and colour to our evil suburbs and our moribund villages.

This book, then, in its English dress, is published with the object of stimulating thought and arousing interest in the serious problems with which it deals. I have no doubt that some of the modern French work illustrated in these pages will appear unpleasing to many of us, but that might apply to individual architectural works of any school. We claim, and I think rightly, that we have gone far in this country towards solving the problem of the small or medium-sized house that shall be trim, well and economically planned, and pleasant in its general lines. We can hardly claim to have gone as far in matters of town-planning on a large scale, or in the provision of the immense modern structures which will inevitably be needed still more in the near future. A reading of this book may open out some avenues of thought in this direction.

Some apology is needed for the translation. M. Le Corbusier writes in a somewhat staccato style which is a little disconcerting even in French; and his book is of the nature of a manifesto.
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My aim has been to present a rendering as close and literal as possible, at the expense of some awkwardness in phrasing and the retention of a certain number of Gallicisms.

FREDERICK ETCHELLS.

NOTE.—Since the above was written I have read with much interest and pleasure, as some of my readers must have done, the report of the admirable paper read before the Royal Institute of British Architects on Monday, March 14, 1927, by Mr. Howard Robertson on "Modern French Architecture." The tone, both of the paper itself and of the discussion which followed it, was so discriminatively sane and judicious that I advise any reader of this book to procure a copy of the Journal of the Royal Institute of British Architects of March 19, 1927, where a full report will be found.

F. E.

A ROOFING TILE
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THE ENGINEER'S ÄSTHETIC AND ARCHITECTURE

THE Engineer's Ästhetic, and Architecture, are two things that march together and follow one from the other: the one being now at its full height, the other in an unhappy state of retrogression.

The Engineer, inspired by the law of Economy and governed by mathematical calculation, puts us in accord with universal law. He achieves harmony.

The Architect, by his arrangement of forms, realizes an order which is a pure creation of his spirit; by forms and shapes he affects our senses to an acute degree and provokes plastic emotions; by the relationships which he creates he wakes profound echoes in us, he gives us the measure of an order which we feel to be in accordance with that of our world, he determines the various movements of our heart and of our understanding; it is then that we experience the sense of beauty.
ARGUMENT

THREE REMINDERS TO ARCHITECTS

MASS

Our eyes are constructed to enable us to see forms in light.

Primary forms are beautiful forms because they can be clearly appreciated.

Architects to-day no longer achieve these simple forms.

Working by calculation, engineers employ geometrical forms, satisfying our eyes by their geometry and our understanding by their mathematics; their work is on the direct line of good art.

SURFACE

A mass is enveloped in its surface, a surface which is divided up according to the directing and generating lines of the mass; and this gives the mass its individuality.

Architects to-day are afraid of the geometrical constituents of surfaces.

The great problems of modern construction must have a geometrical solution.

Forced to work in accordance with the strict needs of exactly determined conditions, engineers make use of generating and accusing lines in relation to forms. They create limpid and moving plastic facts.

PLAN

The Plan is the generator.

Without a plan, you have lack of order, and wilfulness.
ARGUMENT

The Plan holds in itself the essence of sensation.
The great problems of to-morrow, dictated by collective
necessities, put the question of "plan" in a new form.
Modern life demands, and is waiting for, a new kind of
plan, both for the house and for the city.

REGULATING LINES

An inevitable element of Architecture.
The necessity for order. The regulating line is a guarantee
against wilfulness. It brings satisfaction to the understanding.
The regulating line is a means to an end; it is not a recipe.
Its choice and the modalities of expression given to it are an
integral part of architectural creation.

EYES WHICH DO NOT SEE LINERS

A great epoch has begun.
There exists a new spirit.
There exists a mass of work conceived in the new spirit;
it is to be met with particularly in industrial production.
Architecture is stifled by custom.
The "styles" are a lie.
Style is a unity of principle animating all the work of an
epoch, the result of a state of mind which has its own special
character.
Our own epoch is determining, day by day, its own style.
Our eyes, unhappily, are unable yet to discern it.
ARGUMENT

AIRPLANES

The airplane is the product of close selection.
The lesson of the airplane lies in the logic which governed the statement of the problem and its realization.
The problem of the house has not yet been stated.
Nevertheless there do exist standards for the dwelling house.
Machinery contains in itself the factor of economy, which makes for selection.
The house is a machine for living in.

AUTOMOBILES

We must aim at the fixing of standards in order to face the problem of perfection.
The Parthenon is a product of selection applied to a standard.
Architecture operates in accordance with standards.
Standards are a matter of logic, analysis and minute study; they are based on a problem which has been well "stated." A standard is definitely established by experiment.

ARCHITECTURE

THE LESSON OF ROME

The business of Architecture is to establish emotional relationships by means of raw materials.
Architecture goes beyond utilitarian needs.
Architecture is a plastic thing.
ARGUMENT

The spirit of order, a unity of intention.
The sense of relationships; architecture deals with quantities.
Passion can create drama out of inert stone.

THE ILLUSION OF PLANS

The Plan proceeds from within to without; the exterior is the result of an interior.
The elements of architecture are light and shade, walls and space.
Arrangement is the gradation of aims, the classification of intentions.
Man looks at the creation of architecture with his eyes, which are 5 feet 6 inches from the ground. One can only deal with aims which the eye can appreciate, and intentions which take into account architectural elements. If there come into play intentions which do not speak the language of architecture, you arrive at the illusion of plans, you transgress the rules of the Plan through an error in conception, or through a leaning towards empty show.

PURE CREATION OF THE MIND

Contour and profile\(^1\) are the touchstone of the architect. Here he reveals himself as artist or mere engineer.
Contour is free of all constraint.
There is here no longer any question of custom, nor of

\(^1\) Modénature. I give the nearest equivalent of Le Corbusier's use of this word.—F. E.
tradition, nor of construction nor of adaptation to utilitarian needs.
Contour and profile are a pure creation of the mind; they call for the plastic artist.

**MASS-PRODUCTION HOUSES**

A great epoch has begun.
There exists a new spirit.
Industry, overwhelming us like a flood which rolls on towards its destined ends, has furnished us with new tools adapted to this new epoch, animated by the new spirit.
Economic law inevitably governs our acts and our thoughts.
The problem of the house is a problem of the epoch. The equilibrium of society to-day depends upon it. Architecture has for its first duty, in this period of renewal, that of bringing about a revision of values, a revision of the constituent elements of the house.
Mass-production is based on analysis and experiment.
Industry on the grand scale must occupy itself with building and establish the elements of the house on a mass-production basis.
We must create the mass-production spirit.
The spirit of constructing mass-production houses.
The spirit of living in mass-production houses.
The spirit of conceiving mass-production houses.
If we eliminate from our hearts and minds all dead concepts in regard to the house, and look at the question from a critical
ARGUMENT

and objective point of view, we shall arrive at the "House-
Machine," the mass-production house, healthy (and morally
so too) and beautiful in the same way that the working tools
and instruments which accompany our existence are beautiful.
Beautiful also with all the animation that the artist's sensi-
bility can add to severe and pure functioning elements.

ARCHITECTURE OR REVOLUTION

In every field of industry, new problems have presented
themselves and new tools have been created capable of resolving
them. If this new fact be set against the past, then you have
revolution.

In building and construction, mass-production has already
been begun; in face of new economic needs, mass-production
units have been created both in mass and detail; and definite
results have been achieved both in detail and in mass. If this
fact be set against the past, then you have revolution, both
in the method employed and in the large scale on which it
has been carried out.

The history of Architecture unfolds itself slowly across
the centuries as a modification of structure and ornament, but
in the last fifty years steel and concrete have brought new
conquests, which are the index of a greater capacity for con-
struction, and of an architecture in which the old codes have
been overturned. If we challenge the past, we shall learn
that "styles" no longer exist for us, that a style belonging to
our own period has come about; and there has been a
Revolution.
ARGUMENT

Our minds have consciously or unconsciously apprehended these events and new needs have arisen, consciously or unconsciously.

The machinery of Society, profoundly out of gear, oscillates between an amelioration, of historical importance, and a catastrophe.

The primordial instinct of every human being is to assure himself of a shelter. The various classes of workers in society to-day no longer have dwellings adapted to their needs; neither the artizan nor the intellectual.

It is a question of building which is at the root of the social unrest of to-day: architecture or revolution.
THE ENGINEER'S ÆSTHETIC
AND
ARCHITECTURE
The Engineer's Ästhetic and Architecture—two things that march together and follow one from the other—the one at its full height, the other in an unhappy state of retrogression.

The Engineer, inspired by the law of Economy and governed by mathematical calculation, puts us in accord with universal law. He achieves harmony.

The Architect, by his arrangement of forms, realizes an order which is a pure creation of his spirit; by forms and shapes he affects our senses to an acute degree, and provokes plastic emotions; by the relationships which he creates he wakes in us profound echoes, he gives us the measure of an order which we feel to be in accordance with that of our world, he determines the various movements of our heart and of our understanding; it is then that we experience the sense of beauty.
THE ENGINEER'S ÆSTHETIC AND ARCHITECTURE

The Engineer's Æsthetic and Architecture—two things that march together and follow one from the other—the one at its full height, the other in an unhappy state of retrogression.

A QUESTION of morality; lack of truth is intolerable, we perish in untruth.

Architecture is one of the most urgent needs of man, for the house has always been the indispensable and first tool that he has forged for himself. Man's stock of tools marks out the stages of civilization, the stone age, the bronze age, the iron age. Tools are the result of successive improvement; the effort of all generations is embodied in them. The tool is the direct and immediate expression of progress; it gives man essential assistance and essential freedom also. We throw the out-of-date tool on the scrap-heap: the carbine, the culverin, the growler and the old locomotive. This action is a manifestation of health, of moral health, of morale also; it is not right that we should produce bad things because of a bad tool; nor is it right that we should waste our energy, our health and our courage because of a bad tool; it must be thrown away and replaced.

But men live in old houses and they have not yet thought of building houses adapted to themselves. The lair has been dear to their hearts since all time. To such a degree and so strongly that they have established the cult of the home. A
roof! then other household gods. Religions have established themselves on dogmas, the dogmas do not change; but civilizations change and religions tumble to dust. Houses have not changed. But the cult of the house has remained the same for centuries. The house will also fall to dust.

A man who practises a religion and does not believe in it is a poor wretch; he is to be pitied. We are to be pitied for living in unworthy houses, since they ruin our health and our morale. It is our lot to have become sedentary creatures; our houses gnaw at us in our sluggishness, like a consumption. We shall soon need far too many sanatoriums. We are to be pitied. Our houses disgust us; we fly from them and frequent restaurants and night clubs; or we gather together in our houses gloomily and secretly like wretched animals; we are becoming demoralized.

Engineers fabricate the tools of their time. Everything, that is to say, except houses and moth-eaten boudoirs.

There exists in France a great national school of architecture, and there are, in every country, architectural schools of various kinds, to mystify young minds and teach them dissimulation and the obsequiousness of the toady. National schools!

Our engineers are healthy and virile, active and useful, balanced and happy in their work. Our architects are disillusioned and unemployed, boastful or peevish. This is
because there will soon be nothing more for them to do. *We no longer have the money* to erect historical souvenirs. At the same time, we have got to wash!

Our engineers provide for these things and they will be our builders.

Nevertheless there does exist this thing called architecture, an admirable thing, the loveliest of all. A product of happy peoples and a thing which in itself produces happy peoples.

The happy towns are those that have an architecture.

Architecture can be found in the telephone and in the Parthenon. How easily could it be at home in our houses! Houses make the street and the street makes the town and the town is a personality which takes to itself a soul, which can feel, suffer and wonder. How at home architecture could be in street and town!

The diagnosis is clear.

Our engineers produce architecture, for they employ a mathematical calculation which derives from natural law, and their works give us the feeling of harmony. The engineer therefore has his own aesthetic, for he must, in making his calculations, qualify some of the terms of his equation; and it is here that taste intervenes. Now, in handling a mathematical problem, a man is regarding it from a purely abstract point of view, and in such a state, his taste must follow a sure and certain path.
Towards A New Architecture

Architects, emerging from the Schools, those hot-houses where blue hortensias and green chrysanthemums are forced, and where unclean orchids are cultivated, enter into the town in the spirit of a milkman who should, as it were, sell his milk mixed with vitriol or poison.¹

People still believe here and there in architects, as they believe blindly in all doctors. It is very necessary, of course, that houses should hold together! It is very necessary to have recourse to the man of art! Art, according to Larousse, is the application of knowledge to the realization of a conception. Now, to-day, it is the engineer who knows, who knows the best way to construct, to heat, to ventilate, to light. Is it not true?

Our diagnosis is that, to begin at the beginning, the engineer who proceeds by knowledge shows the way and holds the truth. It is that architecture, which is a matter of plastic emotion, should in its own domain begin at the beginning also, and should use those elements which are capable of affecting our senses, and of rewarding the desire of our eyes, and should dispose them in such a way that the sight of them affects us immediately by their delicacy or their brutality, their riot or their serenity, their indifference or their interest; these elements are plastic elements, forms which our eyes see clearly and which our mind can measure. These forms, elementary or subtle, tractable or brutal, work physiologically upon our senses (sphere, cube, cylinder, horizontal, vertical, oblique, etc.), and excite

¹ I have not felt it incumbent upon me to modify somewhat rhetorical passages such as the above.—F. E.
them. Being moved, we are able to get beyond the cruder sensations; certain relationships are thus born which work upon our perceptions and put us into a state of satisfaction (in consonance with the laws of the universe which govern us and to which all our acts are subjected), in which man can employ fully his gifts of memory, of analysis, of reasoning and of creation.

Architecture to-day is no longer conscious of its own beginnings.

Architects work in "styles" or discuss questions of structure in and out of season; their clients, the public, still think in terms of conventional appearance, and reason on the foundations of an insufficient education. Our external world has been enormously transformed in its outward appearance and in the use made of it, by reason of the machine. We have gained a new perspective and a new social life, but we have not yet adapted the house thereto.

The time has therefore come to put forward the problem of the house, of the street and of the town, and to deal with both the architect and the engineer.

For the architect we have written our "THREE REMINDERS."

Mass which is the element by which our senses perceive and measure and are most fully affected.

Surface which is the envelope of the mass and which can diminish or enlarge the sensation the latter gives us.

Plan which is the generator both of mass and surface and is that by which the whole is irrevocably fixed.
Then, still for the architect, "REGULATING LINES" showing by these one of the means by which architecture achieves that tangible form of mathematics which gives us such a grateful perception of order. We wished to set forth facts of greater value than those in many dissertations on the soul of stones. We have confined ourselves to the natural philosophy of the matter, to things that can be known.

We have not forgotten the dweller in the house and the crowd in the town. We are well aware that a great part of the present evil state of architecture is due to the client, to the man who gives the order, who makes his choice and alters it and who pays. For him we have written "EYES WHICH DO NOT SEE."

We are all acquainted with too many big business men, bankers and merchants, who tell us: "Ah, but I am merely a man of affairs, I live entirely outside the art world, I am a Philistine." We protest and tell them: "All your energies are directed towards this magnificent end which is the forging of the tools of an epoch, and which is creating throughout the whole world this accumulation of very beautiful things in which economic law reigns supreme, and mathematical exactness is joined to daring and imagination. That is what you do; that, to be exact, is Beauty."

One can see these same business men, bankers and merchants, away from their businesses in their own homes, where everything seems to contradict their real existence—rooms too small, a conglomeration of useless and disparate objects, and a sickening spirit reigning over so many shams—Aubusson, Salon d'Automne, styles of all sorts and absurd
bric-a-brac. Our industrial friends seem sheepish and shrivelled like tigers in a cage; it is very clear that they are happier at their factories or in their banks. We claim, in the name of the steamship, of the airplane, and of the motor-car, the right to health, logic, daring, harmony, perfection.

We shall be understood. These are evident truths. It is not foolishness to hasten forward a clearing up of things.

Finally, it will be a delight to talk of Architecture after so many grain-stores, workshops, machines and sky-scrapers. Architecture is a thing of art, a phenomenon of the emotions, lying outside questions of construction and beyond them. The purpose of construction is to make things hold together; of architecture to move us. Architectural emotion exists when the work rings within us in tune with a universe whose laws we obey, recognize and respect. When certain harmonies have been attained, the work captures us. Architecture is a matter of "harmonies," it is "a pure creation of the spirit."

To-day, painting has outspoed the other arts.

It is the first to have attained attunement with the epoch.\(^1\) Modern painting has left on one side wall decoration, tapestry and the ornamental urn and has sequestered itself in a frame—flourishing, full of matter, far removed from a distracting realism; it lends itself to meditation. Art is no longer anecdotal, it is a source of meditation; after the day's work it is good to meditate.

\(^1\) I mean, of course, the vital change brought about by cubism and later researches, and not the lamentable fall from grace which has for the last two years seized upon painters, distracted by lack of sales and taken to task by critics as little instructed as sensitive (1921).
Towards a New Architecture

On the one hand the mass of people look for a decent dwelling, and this question is of burning importance.

On the other hand the man of initiative, of action, of thought, the leader, demands a shelter for his meditations in a quiet and sure spot; a problem which is indispensable to the health of specialized people.

Painters and sculptors, champions of the art of to-day, you who have to bear so much mockery and who suffer so much indifference, let us purge our houses, give your help that we may reconstruct our towns. Your works will then be able to take their place in the framework of the period and you will everywhere be admitted and understood. Tell yourselves that architecture has indeed need of your attention. Do not forget the problem of architecture.
THREE REMINDERS TO ARCHITECTS

I

MASS
Our eyes are constructed to enable us to see forms in light. Primary forms are beautiful forms because they can be clearly appreciated.

Architects to-day no longer achieve these simple forms. Working by calculation, engineers employ geometrical forms, satisfying our eyes by their geometry and our understanding by their mathematics; their work is on the direct line of good art.
ARCHITECTURE has nothing to do with the various "styles."

The styles of Louis XIV, XV, XVI or Gothic, are to architecture what a feather is on a woman's head; it is sometimes pretty, though not always, and never anything more.

Architecture has graver ends; capable of the sublime, it
impresses the most brutal instincts by its objectivity; it calls into play the highest faculties by its very abstraction. Architectural abstraction has this about it which is magnificently peculiar to itself, that while it is rooted in hard fact it spiritualizes it, because the naked fact is nothing more than the materialization of a possible idea. The naked fact is a medium for ideas only by reason of the "order" that is applied to it. The emotions that architecture arouses spring from physical conditions which are inevitable, irrefutable and to-day forgotten.

Mass and surface are the elements by which architecture manifests itself.

Mass and surface are determined by the plan. The plan is the generator. So much the worse for those who lack imagination!
THREE REMINDERS TO ARCHITECTS

CANADIAN GRAIN STORES AND ELEVATORS
TOWARDS A NEW ARCHITECTURE

AMERICAN GRAIN STORES AND ELEVATORS
THREE REMINDERS TO ARCHITECTS

FIRST REMINDER: MASS

Architecture is the masterly, correct and magnificent play of masses brought together in light. Our eyes are made to see forms in light; light and shade reveal these forms; cubes, cones, spheres, cylinders or pyramids are the great primary forms which light reveals to advantage; the image of these is distinct and tangible within us and without ambiguity. It is for that reason that these are beautiful forms, the most beautiful forms. Everybody is agreed as to that, the child, the savage and the metaphysician. It is of the very nature of the plastic arts.

Egyptian, Greek or Roman architecture is an architecture of prisms, cubes and cylinders, pyramids or spheres: the Pyramids, the Temple of Luxor, the Parthenon, the Coliseum, Hadrian’s Villa.
Gothic architecture is not, fundamentally, based on spheres, cones and cylinders. Only the nave is an expression of a simple form, but of a complex geometry of the second order (intersecting arches). It is for that reason that a cathedral is not very beautiful and that we search in it for compensations of a subjective kind outside plastic art. A cathedral interests us as the ingenious solution of a difficult problem, but a problem of which the postulates have been badly stated because they do not proceed from the great primary forms. *The cathedral is not a plastic work; it is a drama; a fight against the force of gravity, which is a sensation of a sentimental nature.*

The Pyramids, the Towers of Babylon, the Gates of Samarkand, the Parthenon, the Coliseum, the Pantheon, the Pont du Gard, Santa Sophia, the Mosques of Stamboul, the Tower
of Pisa, the Cupolas of Brunelleschi and of Michael Angelo, the Pont-Royal, the Invalides—all these belong to Architecture.

The Gare du Quai d'Orsay, the Grand Palais do not belong to Architecture.

The architects of to-day, lost in the sterile backwaters of their plans, their foliage, their pilasters and their lead roofs, have never acquired the conception of primary masses. They were never taught that at the Schools.

Not in pursuit of an architectural idea, but simply guided by the results of calculation (derived from the principles which govern our universe) and the conception of a living organism, the engineers of to-day make use of the primary elements and, by co-ordinating them in accordance with the rules, provoke in us architectural emotions and thus make the work of man ring in unison with universal order.

Thus we have the American grain elevators and factories, the magnificent first-fruits of the new age. The American engineers overwhelm with their calculations our expiring architecture.
THREE REMINDERS TO ARCHITECTS

II

SURFACE
A mass is enveloped in its surface, a surface which is divided up according to the directing and generating lines of the mass; and this gives the mass its individuality.

Architects to-day are afraid of the geometrical constituents of surfaces.

The great problems of modern construction must have a geometrical solution.

Forced to work in accordance with the strict needs of exactly determined conditions, engineers make use of generating and accusing lines in relation to forms. They create limpid and moving plastic facts.
ARCHITECTURE has nothing to do with the various "styles."

The styles of Louis XIV, XV, XVI or Gothic, are to architecture what a feather is on a woman's head; it is sometimes pretty, though not always, and never anything more.

SECOND REMINDER: SURFACE

Architecture being the masterly, correct and magnificent play of masses brought together in light, the task of the architect is to vitalize the surfaces which clothe these masses, but in such a way that these surfaces do not become parasitical, eating up the mass and absorbing it to their own advantage: the sad story of our present-day work.

To leave a mass intact in the splendour of its form in light,
but, on the other hand, to appropriate its surface for needs which are often utilitarian, is to force oneself to discover in this unavoidable dividing up of the surface the *accusing* and

*generating* lines of the form. In other words, an architectural structure is a house, a temple or a factory. The surface of the temple or the factory is in most cases a wall with holes for doors and windows; these holes are often the destruction of form; they must be made an accentuation of form. If the
essentials of architecture lie in spheres, cones and cylinders, the generating and accusing lines of these forms are on a basis of pure geometry. But this geometry terrifies the architects of to-day. Architects, to-day, do not dare to construct a Pitti Palace or a rue de Rivoli; they construct a boulevard Raspail.¹

Let us base our present observations on the ground of actual needs: what we need is towns laid out in a useful manner whose general mass shall be noble (town planning). We have need of streets in which cleanliness, suitability to the necessities of dwellings, the application of the spirit of mass-production and industrial organization, the grandeur of the idea, the serenity of the whole effect, shall ravish the spirit and bring with them the charm that a happy conception can give.

¹ Or a Regent Street.—F. E.
THREE REMINDERS TO ARCHITECTS

To model the plain surface of a primary and simple form is to bring into play automatically a rivalry with the mass itself: here you have a contradiction of intention—the boulevard Raspail.

To model the surface of masses which are in themselves complicated and have been brought into harmony is to modulate and still remain within the mass: a rare problem—the Invalides of Mansard.

A problem of our age and of contemporary aesthetics: everything tends to the restoration of simple masses: streets, factories, the large stores, all the problems which will present themselves to-morrow under a synthetic form and under general aspects that no other age has ever known. Surfaces, pitted by holes in accordance with the necessities of their destined use, should borrow the generating and accusing lines of these simple forms. These accusing lines are in practice the chessboard or grill—American factories. But this geometry is a source of terror.

Not in pursuit of an architectural idea, but guided simply by the necessities of an imperative demand, the tendency of the engineers of to-day is towards the generating and accusing lines of masses; they show us the way and create plastic facts, clear and limpid, giving rest to our eyes and to the mind the pleasure of geometric forms.

Such are the factories, the reassuring first fruits of the new age.

The engineers of to-day find themselves in accord with the principles that Bramante and Raphael had applied a long time ago.
TOWARDS A NEW ARCHITECTURE

N.B. Let us listen to the counsels of American engineers. But let us beware of American architects. For proof:

[Image of a building]