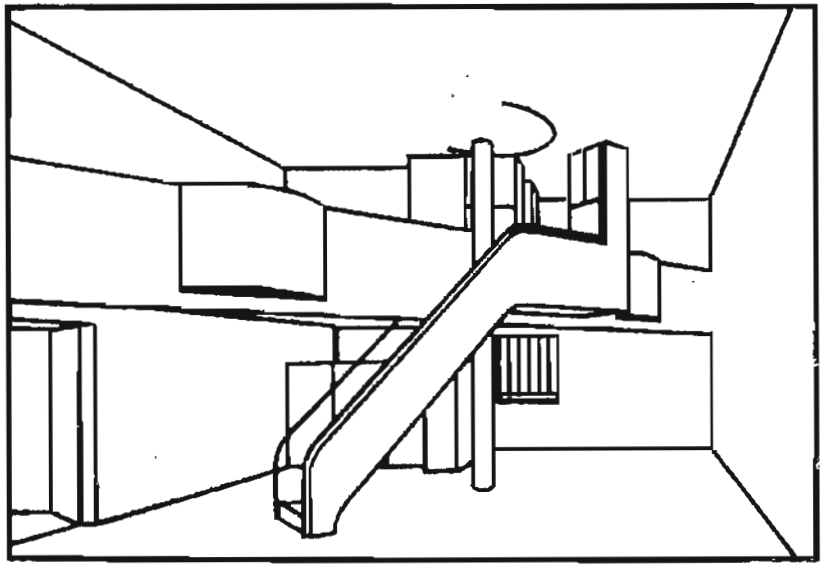
LE CORBUSIER

Towards A New Architecture



ARGUMENT

THE ENGINEER'S ÆSTHETIC AND ARCHITECTURE

THE Engineer's Æsthetic, 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.

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

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.

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.

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

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 sensibility 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 construction, 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.

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.

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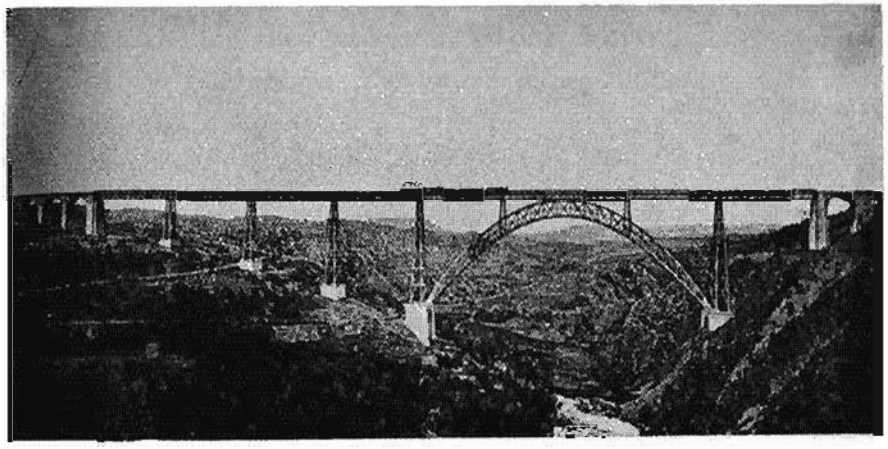

PONT DE GARABIT
Designed by Eiffel the engineer.

THE ENGINEER'S ÆSTHETIC AND ARCHITECTURE

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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.

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-à-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 outsped the other arts.

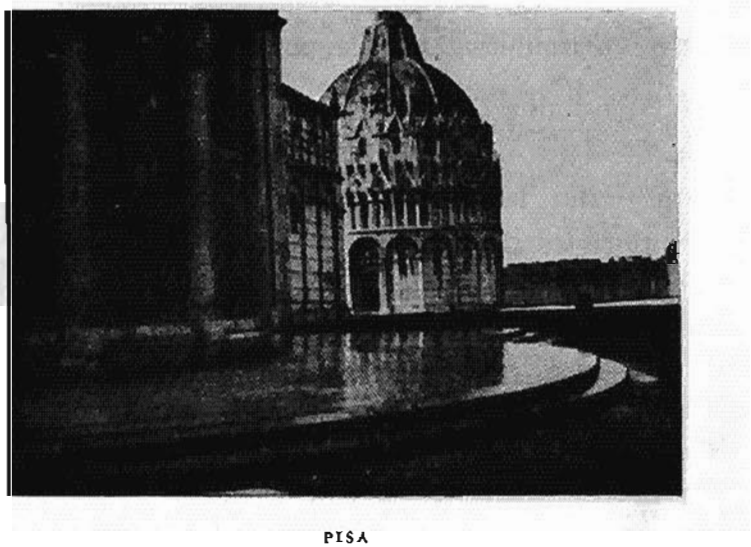
It is the first to have attained attunement with the epoch.[1] Modern painting has left on one side wall decoration, tapestry and the ornamental urn and has sequestered itself in a frame—flourishing, full of matter, far removed from a distracting realism; it lends itself to meditation. Art is no longer 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).

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.



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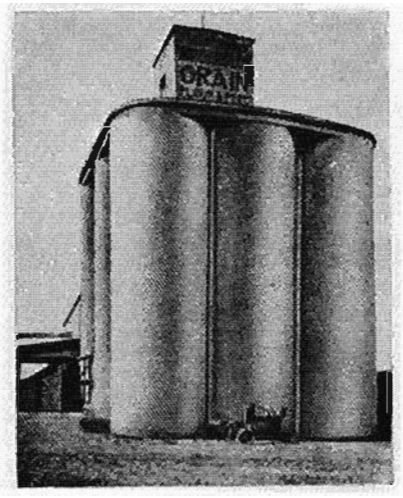
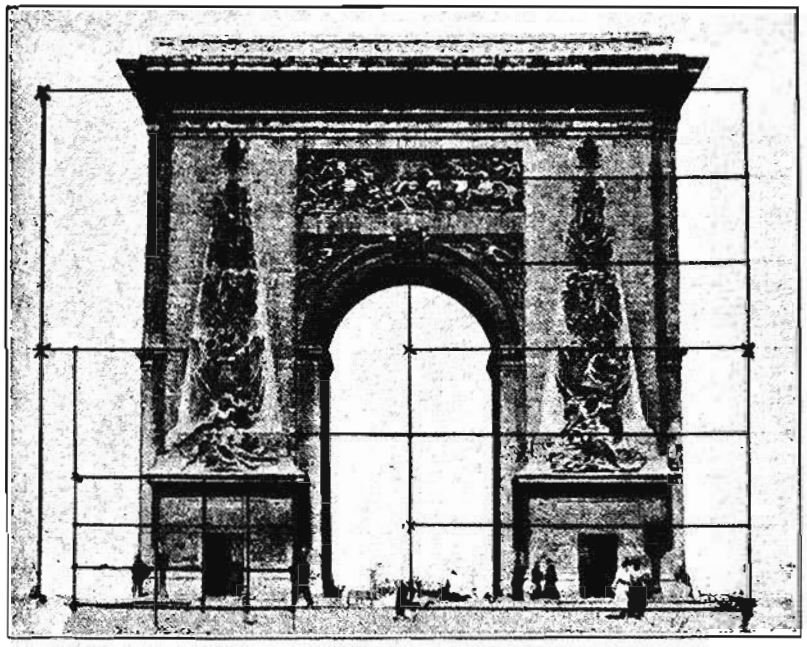


GRAIN ELEVATOR

THREE REMINDERS TO ARCHITECTS

I

MASS



THE PORTE SAINT-DENIS (BLONDEL)

REGULATING LINES

An inevitable element of Architecture.

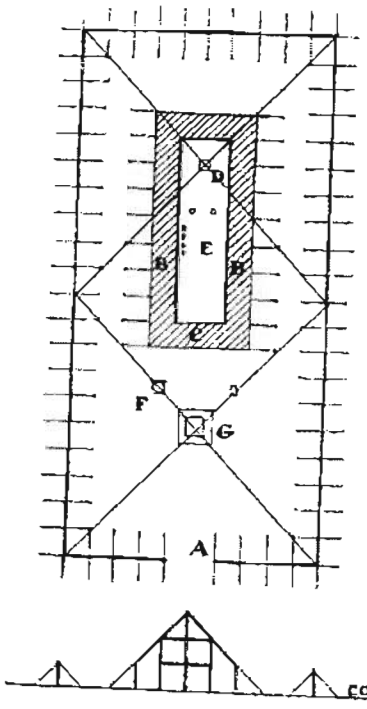
The necessity for order. The regulating line is a guarantee against wilfulness. It brings satisfaction to the understanding.

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.

PRIMITIVE man has brought his chariot to a stop, he decides that here shall be his native soil. He chooses a glade, he cuts down the trees which are too close, he levels the earth around; he opens up the road which will carry him to the river or to those of his tribe whom he has just left; he drives in the stakes which are to steady his tent. He surrounds this tent with a palisade in which he arranges a doorway. The road is as straight as he can manage it with his implements, his arms and his time. The pegs of his tent describe a square, a hexagon or an octagon. The palisade forms a rectangle whose four angles are equal. The door of his hut is on the axis of the enclosure—and the door of the enclosure faces exactly the door of the hut.

The men of the tribe have decided to form a shelter for their god. They place him in a spot where they have made a clearing, properly laid out; they put him under cover in a substantial hut and they drive in the pegs of the hut to form a square, a hexagon, or an octagon. They protect the hut by a solid palisade and drive in the pegs to rake the shrouding of the ropes attached to the tall posts of the fence. They mark out the space to be reserved for the priests and set up the altar and the vessels of sacrifice. They open up an entrance in the palisade and they place it on the axis of the door of the sanctuary.

You may see, in some archæological work, the representation of this hut, the representation of this sanctuary: it is



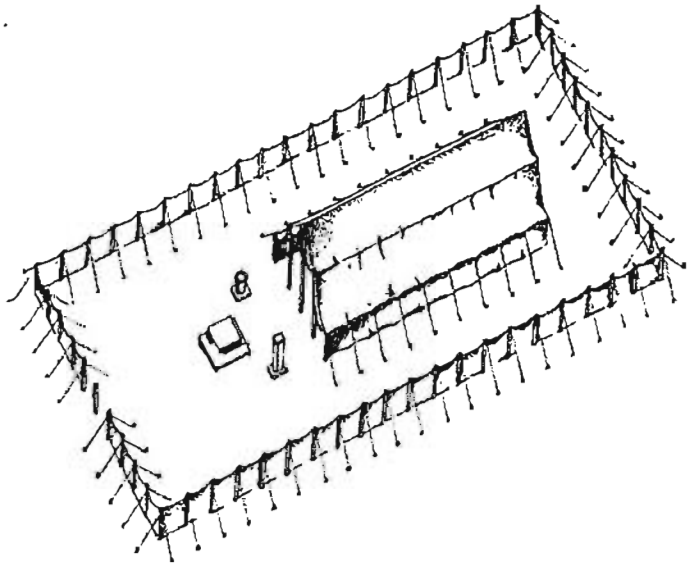
A PRIMITIVE TEMPLE

A. *Entrance.*
B. *Portico.*
C. *Peristyle.*
D. *Sanctuary.*
E. *Instruments of worship.*
F. *Vase of oblation.*
G. *Altar.*

the plan of a house, or the plan of a temple. It is the same spirit that one finds again in the Pompeian house. It is the spirit indeed of the Temple of Luxor.

There is no such thing as primitive man; there are primitive resources. The idea is constant, in full sway from the beginning.

Note in these plans that they are governed by elementary mathematical calculation. They are the product of measurement. In order to construct well and distribute your efforts to advantage, in order to obtain solidity and utility in the work, units of measure are the first condition of all. The



A PRIMITIVE TEMPLE

builder takes as his measure what is easiest and most constant, the tool that he is least likely to lose: his pace, his foot, his elbow, his finger.

In order to construct well and distribute his efforts to advantage, to obtain solidity and utility in the work, he has taken measures, he has adopted a unit of measurement, *he has regulated his work*, he has brought in order. For, all around him, the forest is in disorder with its creepers, its briars and the tree-trunks which impede him and paralyse his efforts.

He has imposed order by means of measurement. In order to get his measurement he has taken his pace, his foot, his elbow or his finger. By imposing the order of his foot or his

arm, he has created a unit which regulates the whole work; and this work is on his own scale, to his own proportion, comfortable for him, *to his measure*. It is on the human *scale*. It is in harmony with him: that is the main point.

But in deciding the form of the enclosure, the form of the hut, the situation of the altar and its accessories, he has had by instinct recourse to right angles—axes, the square, the circle. For he could not create anything otherwise which would give him the feeling that he was creating. For all these things—axes, circles, right angles—are geometrical truths, and give results that our eye can measure and recognize; whereas otherwise there would be only chance, irregularity and capriciousness. Geometry is the language of man.

But in deciding the relative distances of the various objects, he has discovered rhythms, rhythms apparent to the eye and clear in their relations with one another. And these rhythms are at the very root of human activities. They resound in man by an organic inevitability, the same fine inevitability which causes the *tracing out of the Golden Section* by children, old men, savages and the learned.

A unit gives measure and unity; a regulating line is a basis of construction and a satisfaction.

* * *

Is it not true that most architects to-day have forgotten that great architecture is rooted in the very beginnings of humanity and that it is a direct function of human instinct?

When one looks at the little houses of the Paris suburbs, the villas on the Normandy dunes, the modern boulevards

and the International Exhibitions, do they not convince us that architects are inhuman creatures, outside the common order, removed from our own nature and labouring perhaps for some other planet?

It is because they have been taught a strange calling which consists in making other people—masons, carpenters and joiners—perform miracles of perseverance, care and skill in order to erect and stick together elements (roofs, walls, windows, doors, etc.) which have nothing in common and which have in truth for aim and consequence that of being designed for no useful purpose whatever.

* * *

For this reason, the world is unanimous in considering as dangerous gas-bags, shirkers, incapables, dull and hidebound characters, the one or two people who have grasped the lesson of primitive man in his glade, and who claim that there do exist such things as regulating lines: "With your regulating lines you kill imagination, you make a god of a recipe."

"But all earlier epochs have employed this necessary instrument."

"It is not true, you have invented it; you are a maniac."

"But the past has left us proofs, iconographical documents, steles, slabs, incised stones, parchments, manuscripts, printed matter. . . ."

* * *

Architecture is the first manifestation of man creating his own universe, creating it in the image of nature, submitting to the laws of nature, the laws which govern our own nature,

our universe. The laws of gravity, of statics and of dynamics, impose themselves by a *reductio ad absurdum*: everything must hold together or it will collapse.

A supreme determinism illuminates for us the creations of nature and gives us the security of something poised and reasonably made, of something infinitely modulated, evolved, varied and unified.

The primordial physical laws are simple and few in number. The moral laws are simple and few in number.

* * *

The man of to-day planes to perfection a board with a planing machine, in a few seconds. The man of yesterday planed a board reasonably well with a plane. Very primitive man squared a board very badly with a flint or a knife. Very primitive man employed a unit of measurement and regulating lines in order to make his task easier. The Greek, the Egyptian, Michaelangelo or Blondel employed regulating lines in order to correct their work and for the satisfaction of their artist's sense and of their mathematical thought. The man of to-day employs nothing at all and the result is the *boulevard Raspail*. But he proclaims that he is a free poet and that his instincts suffice; but these can only express themselves by means of tricks learnt in the schools. A lyrical poet let loose with a halter round his neck, a man who knows things, but only things that he has neither discovered for himself nor even checked, a man who has lost, through all the teaching he has received, the ingenuous and vital energy of the child who never tires of asking "Why?"

A regulating line is an assurance against capriciousness: it is a means of verification which can ratify all work created in a fervour, the schoolboy's rule of nine, the Q.E.D. of the mathematician.

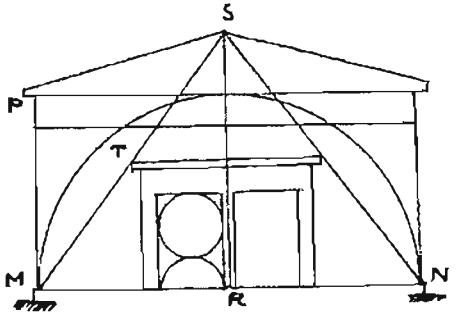
The regulating line is a satisfaction of a spiritual order which leads to the pursuit of ingenious and harmonious relations. It confers on the work the quality of rhythm.

The regulating line brings in this tangible form of mathematics which gives the reassuring perception of order. The choice of a regulating line fixes the fundamental geometry of the work; it fixes therefore one of the "fundamental characters." The choice of the regulating line is one of the decisive moments of inspiration, it is one of the vital operations of architecture.

* * *

Here are regulating lines which have served to make very beautiful things and which are the very reason why these things are so beautiful.

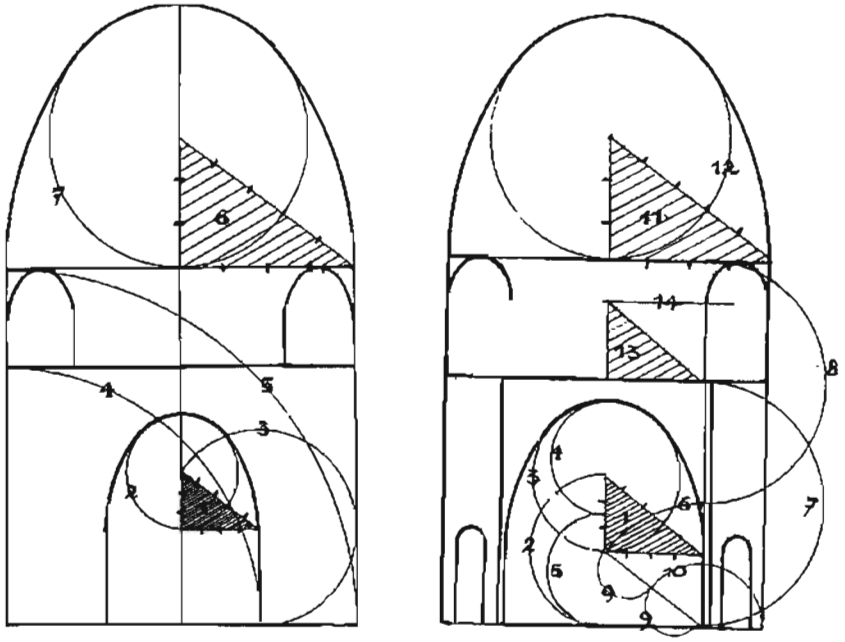
FROM THE MARBLE SLAB FOUND IN 1882:



FAÇADE OF THE ARSENAL OF THE PIRÆUS

The facade of the Arsenal of the Piræus is " regulated " by a few simple divisions which give the proportion of the area to the height and fix the placing of the doors and their dimensions in intimate relationship with the actual proportions of the façade.

EXTRACT FROM A BOOK BY DIEULAFOY:

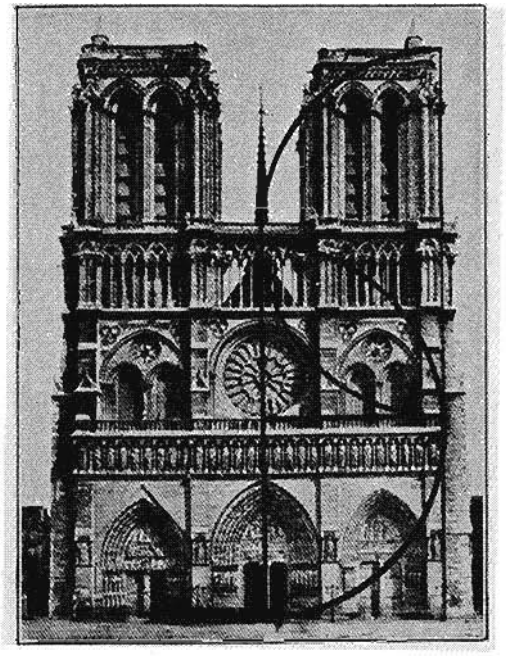


ACHÆMENIAN CUPOLAS

The great Achæmenian cupolas form one of the most subtle conclusions of geometry. Once the conception of the cupola was established in accordance with the poetical needs

of this race and of this epoch, and in accordance with the static data of the constructive principles applied to it, the regulating line comes in to rectify, correct, give point to and pull together all the parts on the same unifying principle, that of the triangle 3, 4, 5, which develops its effects from the portico right up to the summit of the vault.

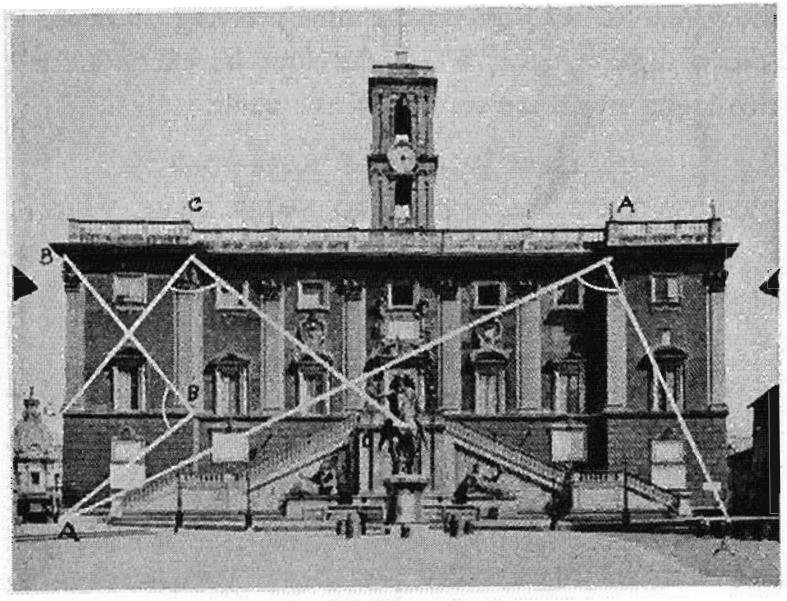
REGULATING LINES APPLIED TO NOTRE DAME, PARIS:



NOTRE DAME, PARIS

The determinant surface of the Cathedral is based on the square and the circle.

REGULATING LINES SHOWN ON A PHOTOGRAPH OF THE CAPITOL:



THE CAPITOL, ROME

The placing of the right angle has come into play to determine the intentions of Michaelangelo, causing the same principle, which fixes the chief divisions of the wings and of the main building, to govern the detail of the wings, the slope of the staircases, the placing of the windows, the height of the basement, etc.

The work is conceived in regard to its situation, and its enveloping mass has been brought into association with the volume and space of its surroundings; it heaps itself together,

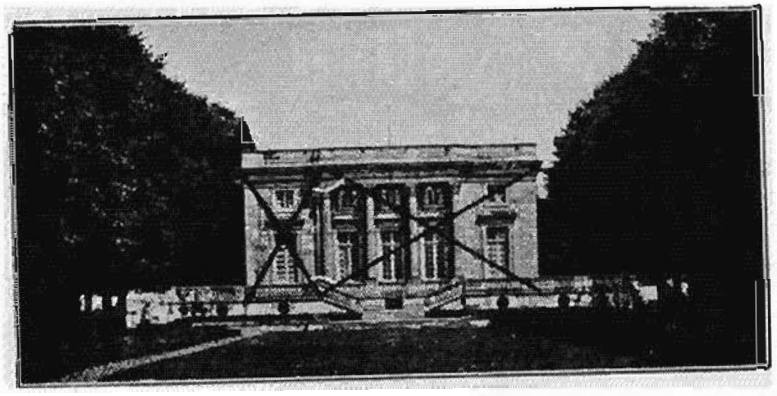
is concentrated, is a unit, expresses the same law throughout and becomes a massive thing.

EXTRACT FROM BLONDEL'S OWN NOTES ON THE PORTE SAINT DENIS

(See the illustration at the beginning of this section):

The principal mass is fixed, the opening of the bay is sketched in. A bold regulating line, on the unit of 3, divides the ensemble of the arch, and the various other parts of the work, as to height and breadth, and governs everything according to the same unit of 3.

THE PETIT TRIANON:

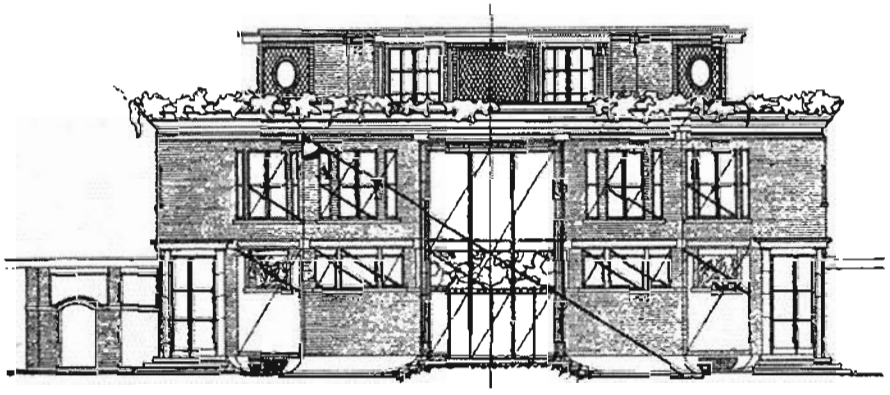


THE PETIT TRIANON, VERSAILLES

Placing of the right angle.

CONSTRUCTION OF A VILLA. 1916:

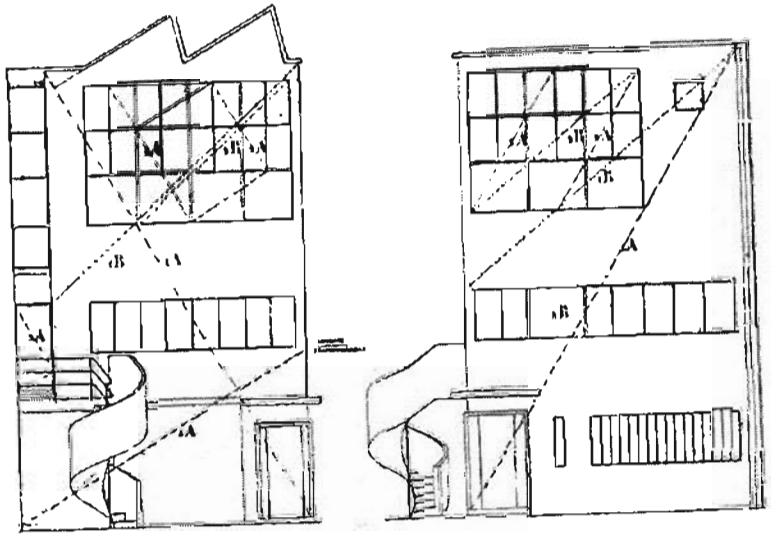
The general mass of the façades, both front and rear, is based on the same angle (A) which determines a diagonal whose many parallels and their perpendiculars give the measure

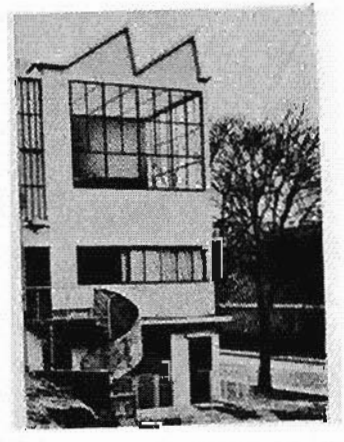


LE CORBUSIER, 1916. A VILLA

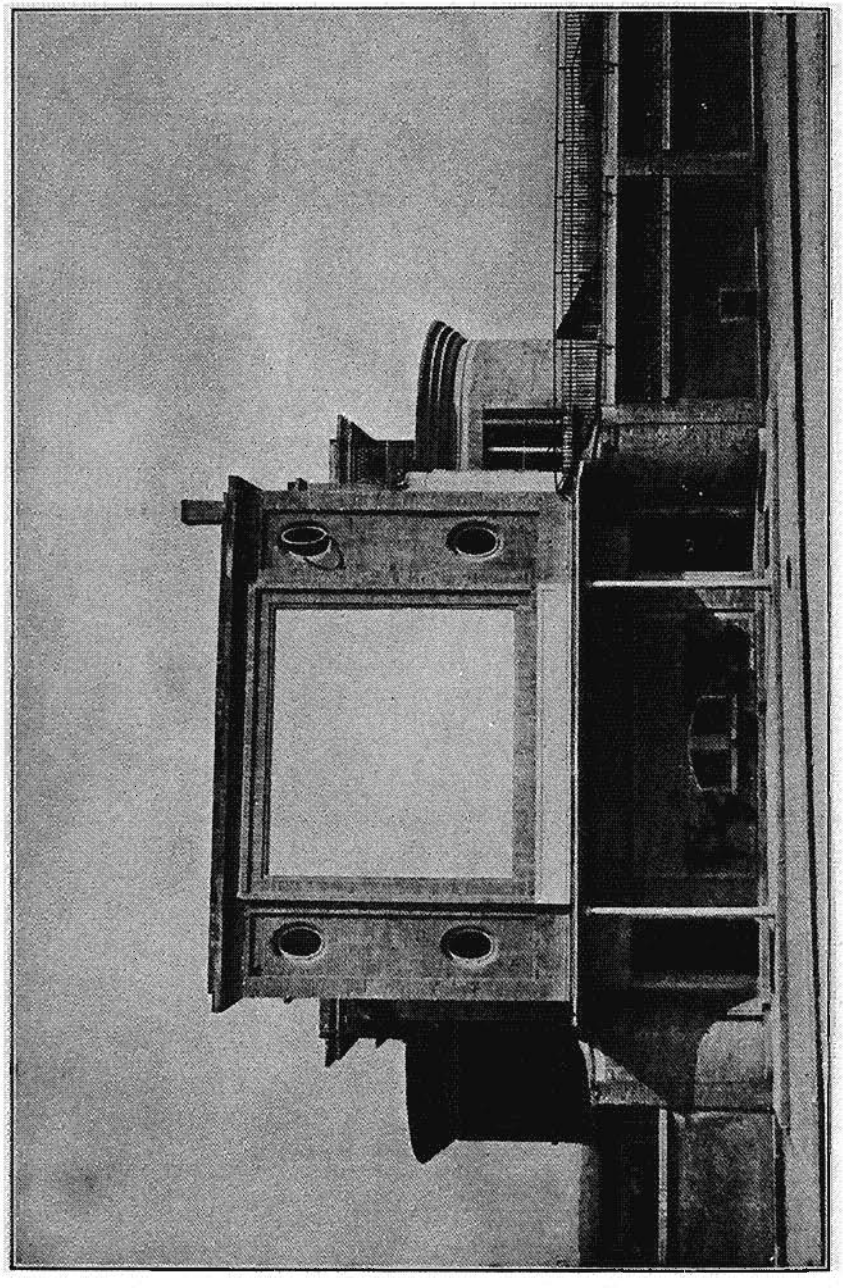
for correcting the secondary elements, doors, windows, panels, etc., down to the smallest detail.

This villa of small dimensions, seen in the midst of other buildings erected without a rule, gives the effect of being more monumental, and of another order.

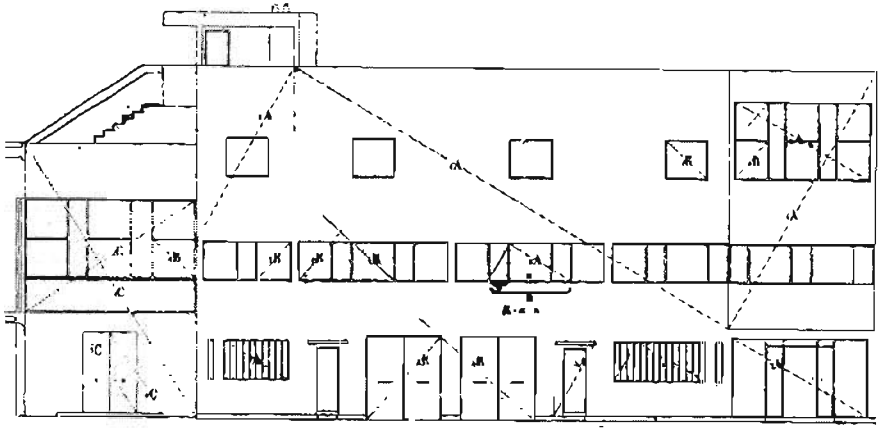


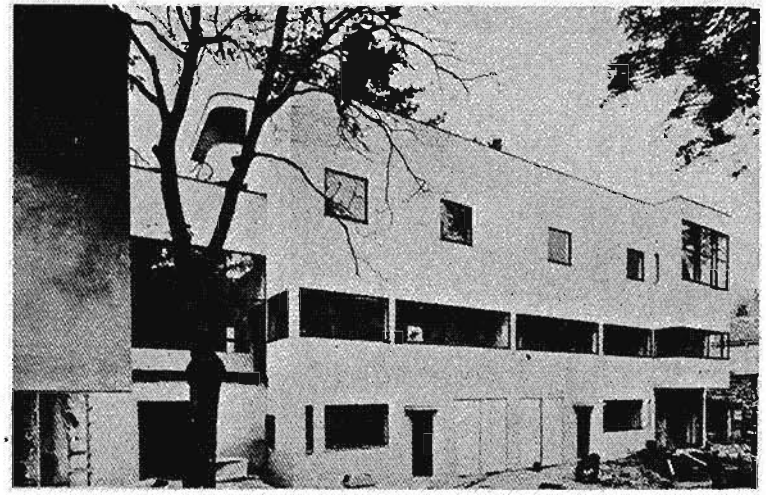


LE CORBUSIER AND PIERRE JEANNERET, 1923. A HOUSE

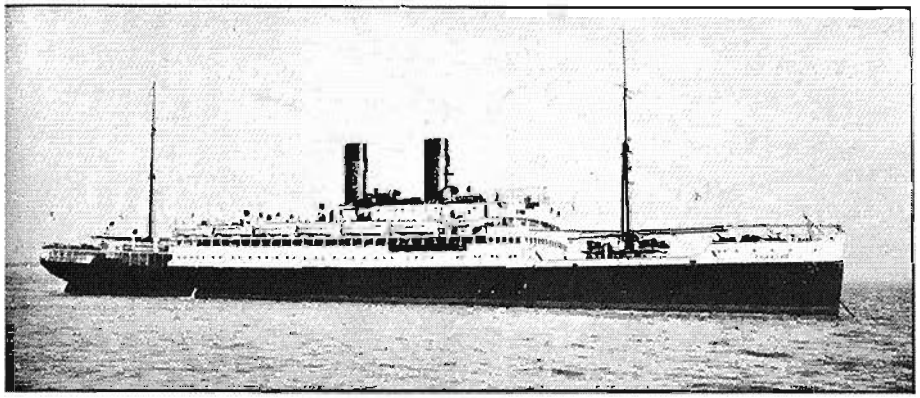


LE CORBUSIER, 1916. A VILLA, BACK ELEVATION





LE CORBUSIER AND PIERRE JEANNERET, 1924. TWO HOUSES AT AUTEUIL



THE "FLANDRE" (CIE. TRANSATLANTIQUE)

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.

EYES WHICH DO NOT SEE

I

LINERS

There is a new spirit: it is a spirit of construction and of synthesis guided by a clear conception.

Whatever may be thought of it, it animates to-day the greater part of human activity.

A GREAT EPOCH IS BEGINNING

Programme of *l'Esprit Nouveau.*

No. 1. October 1920.

Nobody to-day can deny the æsthetic which is disengaging itself from the creations of modern industry. More and more buildings and machines are growing up, in which the proportions, the play of their masses and the materials used are of such a kind that many of them are real works of art, for they are based on "number," that is to say, on order. Now, the specialized persons who make up the world of industry and business and who live, therefore, in this virile atmosphere where indubitably lovely works are created, will tell themselves that they are far removed from any æsthetic activity. They are wrong, *for they are among the most active creators of contemporary æsthetics.* Neither artists nor business men take this into account. It is in general artistic production that the style of an epoch is found and not, as is too often supposed, in certain productions of an ornamental kind, mere superfluities which overload the system of thought which alone furnishes the elements of a style. Grotto-work does not make Louis Quinze, the lotus is not the Egyptian style, etc., etc.

From a tract issued by
l'Esprit Nouveau.

THE "decorative arts" are going strong! After 30 years of underground work they are at their height. Enthusiastic commentators talk of *regenerating French art!* All we need remember of this adventure (which will finish badly) is that something more is being born than a rebirth of decoration: a new epoch is replacing a dying one. Machinery, a new factor in human affairs, has aroused a new spirit. An epoch creates its own architecture, and this is the clear image of a system of thought. During the topsy-turvydom of this critical period, till the arrival of a new age with its ideas set in order, clear and lucid, and with definite desires, decorative art was like the straw which drowning men are said to clutch at in a storm. A vain refuge! Let us remember of this adventure that decorative art at least provided a good opportunity to unload the past and to feel our way once more towards the spirit of architecture. The spirit of architecture can only result from a particular condition of material things and a particular condition of mind. It would seem that events have succeeded one another sufficiently rapidly for a state of mind belonging to the period to assert itself and for the spirit of architecture to reach a formula. Even if the decorative arts are now at the dangerous height which goes before a fall, we may still

say that men's minds to-day have been stirred up to remember what it is they aspire to. We may well believe that the appointed time of architecture has come.

M. PAUL VÉRA: TAIL PIECE

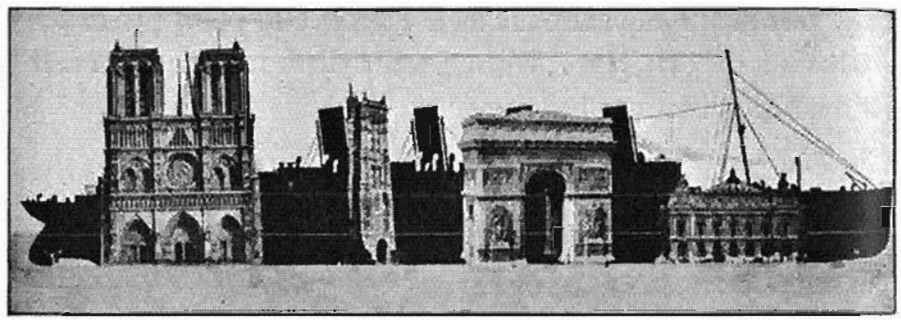
The Greeks, the Romans, the Grand Siècle, Pascal and Descartes, wrongly adduced as witnesses in favour of the decorative arts, have enlightened our judgment, and we now find ourselves immersed in architecture; architecture which is everything—but is not the "decorative arts."

Tail pieces and garlands, exquisite ovals where triangular doves preen themselves or one another, boudoirs embellished with "poufs" in gold and black velvet, are now no more than the intolerable witnesses to a dead spirit. These sanctuaries stifling with elegancies, or on the other hand with the follies of "Peasant Art," are an offence.

We have acquired a taste for fresh air and clear daylight.

* * *

Engineers unknown to the world at large, mechanics in



THE CUNARDER "AQUITANIA," WHICH CARRIES 3,600 PERSONS, COMPARED WITH VARIOUS BUILDINGS

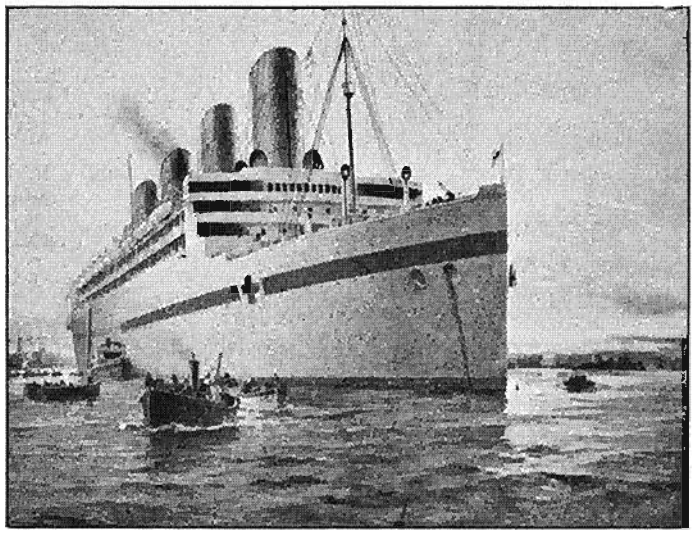
shop and forge have conceived and constructed these formidable affairs that steamships are. We land-lubbers lack the power of appreciation and it would be a good thing if, to teach us to raise our hats to the works of "regeneration," we had to do the miles of walking that the tour of a steamship entails.

* * *

Architects live and move within the narrow limits of academic acquirements and in ignorance of new ways of building, and they are quite willing that their conceptions should remain at doves kissing one another. But our daring and masterly constructors of steamships produce palaces in comparison with which cathedrals are tiny things, and they throw them on to the sea!

Architecture is stifled by custom.

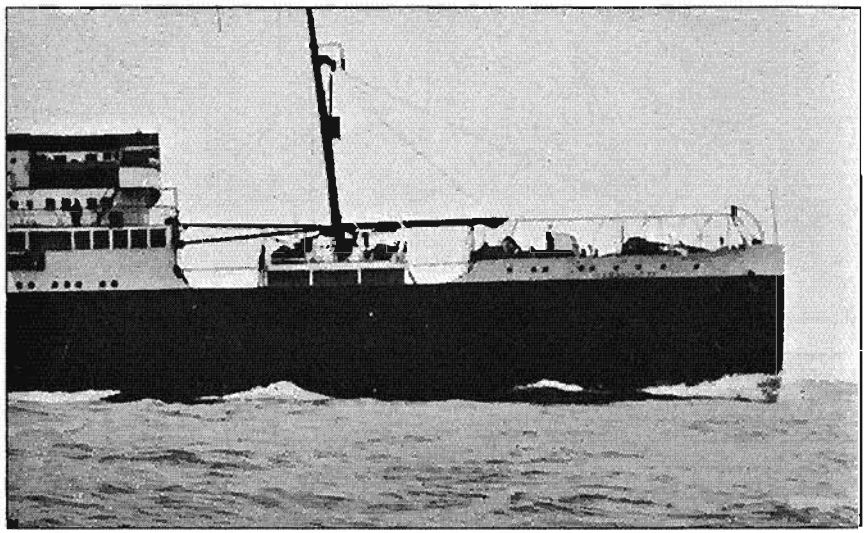
The use of thick walls, which was in earlier days a necessity, has persisted, although thin partitions of glass or brick can well enclose a ground floor with 50 storeys above it.



THE CUNARDER "AQUITANIA"

In a town like Prague, for example, an old enactment imposes a wall-thickness of 14 inches at the top storey of houses, with an additional projection of 4½ inches for each storey below, which means that the thicknesses of walls of buildings may easily be nearly 5 feet on the ground floor. To-day, the construction of facades in which soft stone is used in large blocks leads to this absurd result—that the windows, originally intended to introduce light, are flanked by deep embrasures which completely thwart the intention.

On the valuable ground of our great cities, you can still see masses of masonry rising as foundations for a building, although simple concrete piles would be equally effective.



THE "LAMORICIÈRE" (CIE. TRANSATLANTIQUE)

To architects : a beauty of a more technical order. An æsthetic nearer to its real origins.

The roofs, these wretched roofs, still persist, an inexcusable paradox. The basements are still damp and cluttered up, and the service mains of our towns are invariably buried under stonework like atrophied organs, although a logical approach to the problem, easily realized, would produce the proper solution.

The "styles"—for he must indeed have something to furnish—come in as the great contribution of the architect. They intervene in the surface decoration of façades and of drawing-rooms ; this is the degeneration of "style," the old clothes of a past age ; it is a respectful and servile salute to the past : disquieting modesty ! It is a lie ; for in the "great

periods " façades were smooth, pierced at regular intervals and of good human proportions. The walls were as thin as they dare make them. Palaces ? Very good for Grand Dukes of that time. But does any gentleman copy the Grand Dukes of to-day ? Compiègne, Chantilly, Versailles are good to behold from a certain angle, but . . . there is a great deal that might be said.

* * *

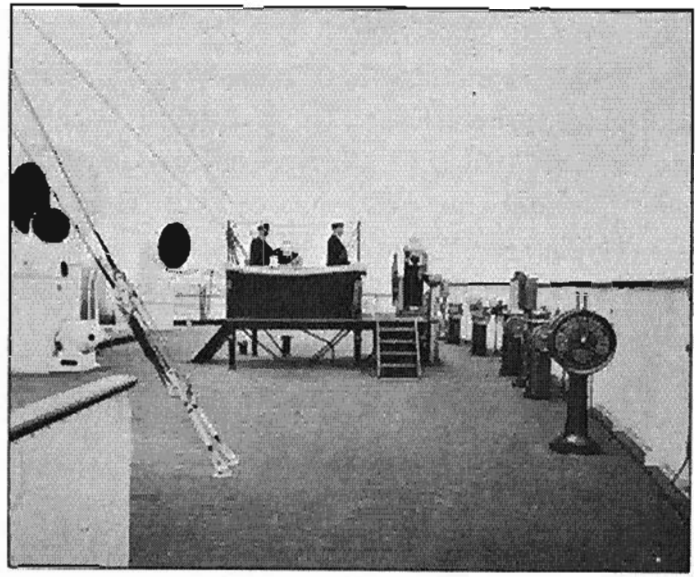
A house is a machine for living in. Baths, sun, hot-water, cold-water, warmth at will, conservation of food, hygiene, beauty in the sense of good proportion. An armchair is a machine for sitting in and so on.

Our modern life, when we are active and about (leaving out the moments when we fly to gruel and aspirin) has created its own objects : its costume, its fountain pen, its evershatp pencil, its typewriter, its telephone, its admirable office furniture, its plate-glass and its " Innovation " trunks, the safety razor and the briar pipe, the bowler hat and the limousine, the steamship and the airplane.

Our epoch is fixing its own style day by day. It is there under our eyes.

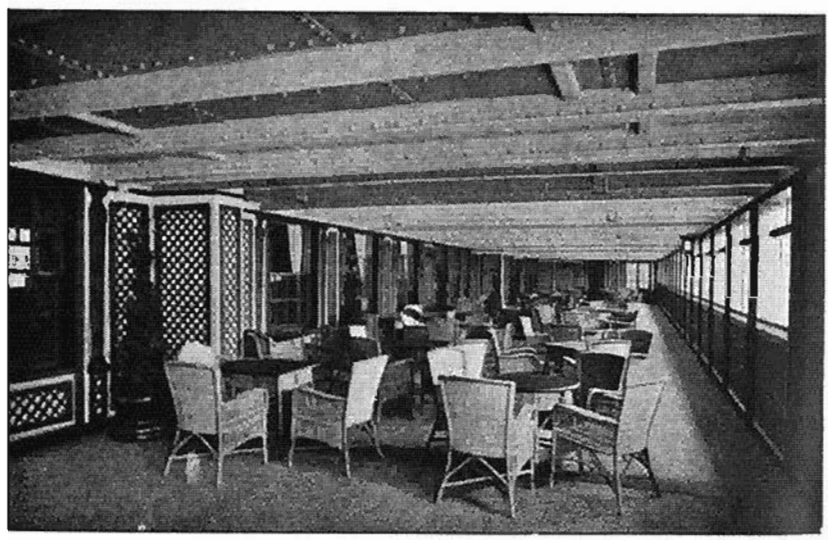
Eyes which do not see.

We must clear up a misunderstanding : we are in a diseased state because we mix up art with a respectful attitude towards mere decoration. This is to displace the natural feeling for art and to mingle with it a reprehensible light-mindedness in



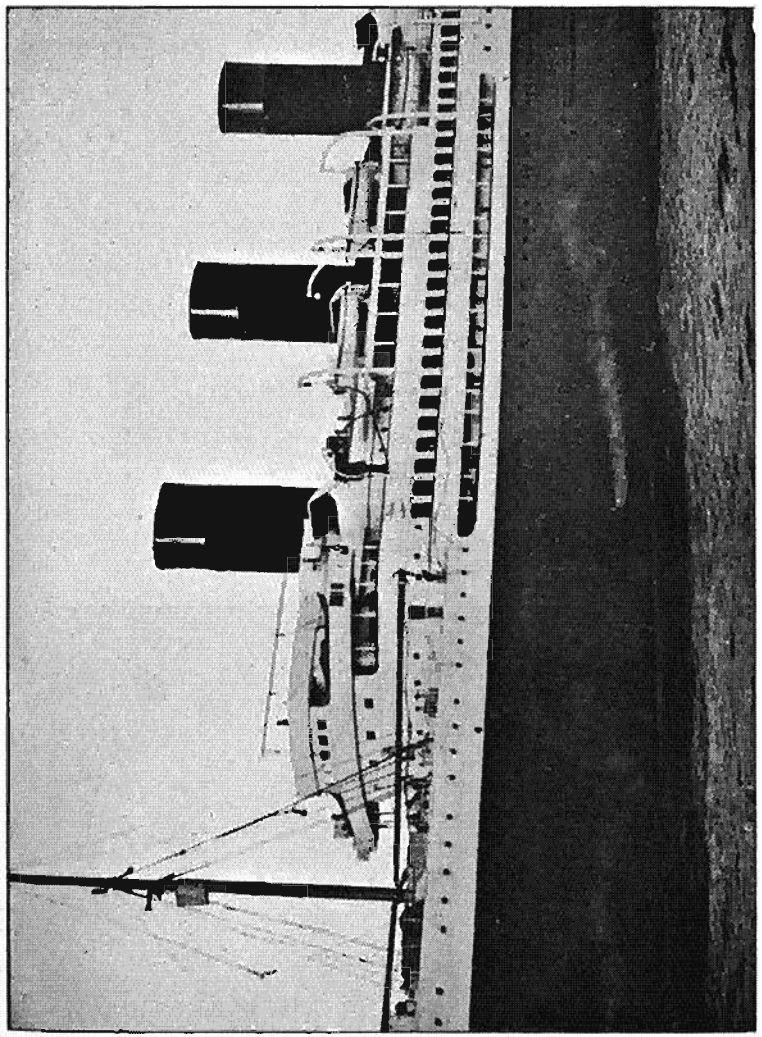
THE CUNARDER " AQUITANIA "

The same æsthetic as that of a briar pipe, an office desk or a limousine.



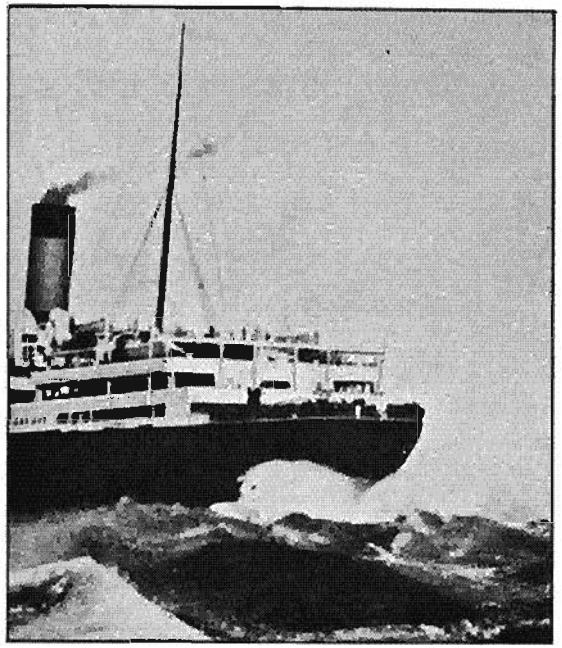
THE " AQUITANIA "

For architects : a wall all windows, a saloon full of light. What a contrast with the windows in our houses making holes in the walls and forming a patch of shade on either side. The result is a dismal room, and the light seems so hard and unsympathetic that curtains are indispensable in order to soften it.



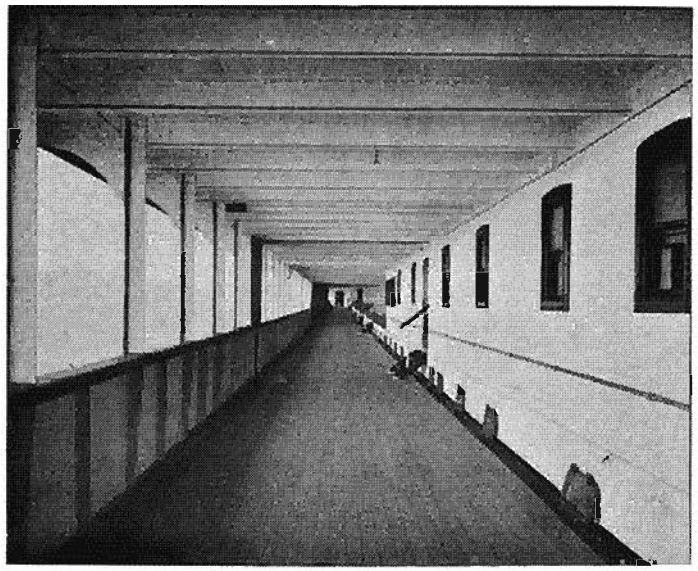
THE LINER "FRANCE"

Made in the Saint-Nazaire yards. Good proportion. Look at this and think of some great buildings.



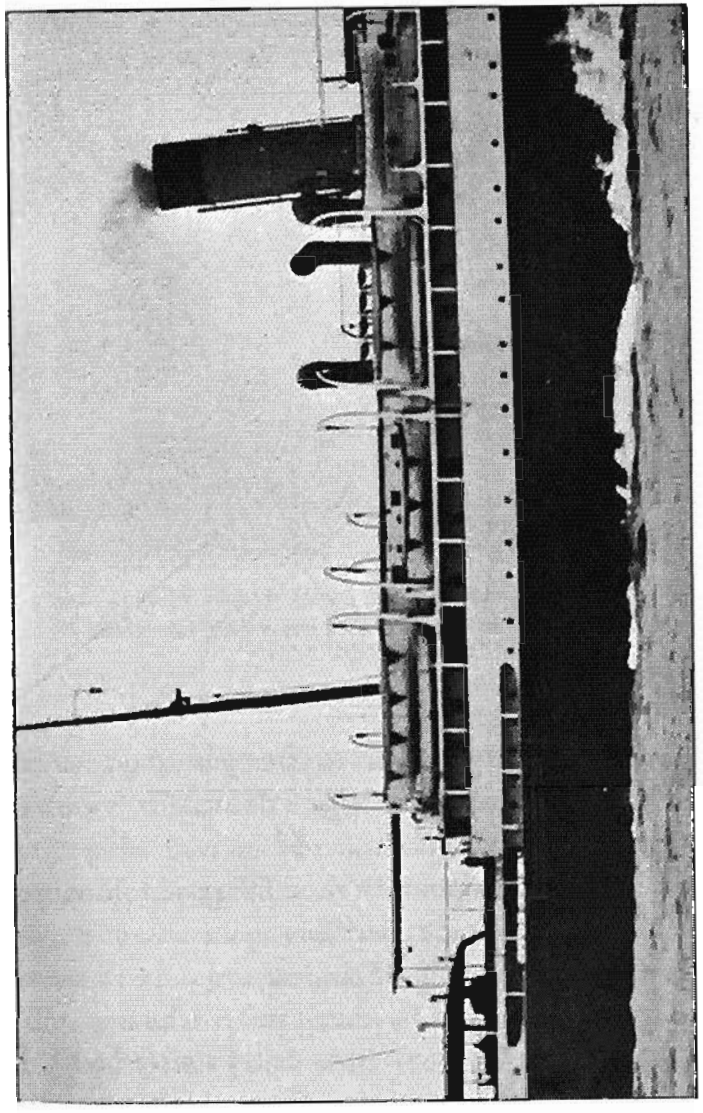
THE "AQUITANIA" (CUNARD LINE)

Architects note : a seaside villa, conceived as are these liners, would be more appropriate than those we see with their heavy tiled roofs. But perhaps it might be claimed that this is not a "maritime" style !



THE "AQUITANIA" (CUNARD LINE)

Architects note : the value of a "long gallery" or promenade—satisfying and interesting volume ; unity in materials ; a fine grouping of the constructional elements, surely exhibited and rationally assembled.



THE "LAMORICIÈRE" (CIE. TRANSATLANTIQUE)

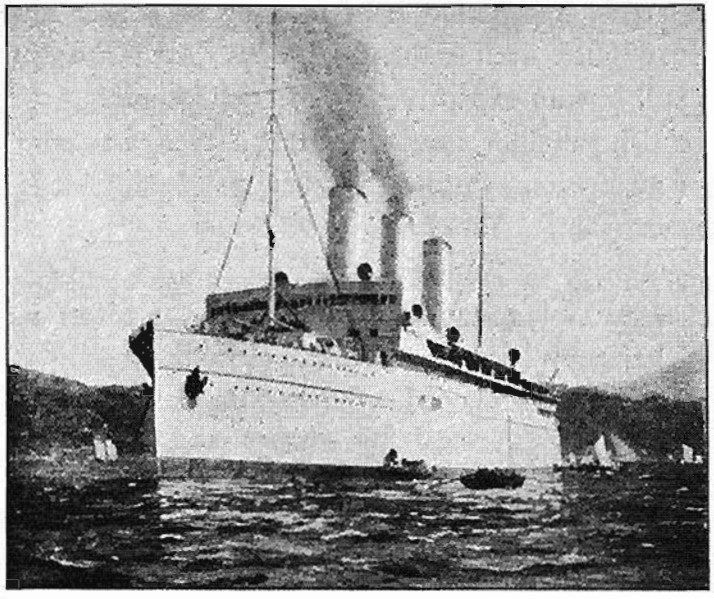
Architects note : new architectural forms ; elements both vast and intimate but on man's scale ; freedom from the "styles" that stifle us ; good contrast between the solids and voids ; powerful masses and slender elements.

THE "EMPRESS OF FRANCE" (CANADIAN PACIFIC)

An architecture pure, neat, clear, clean and healthy. Contrast with this our carpets, cushions, canopies, wall-papers, carved and gilt furniture, faded or "arty" colours : the dismalness of our Western bazaar.

everything, which merely works to the advantage of the theories and campaigns conducted by "decorators" who do not understand their own period.

Art is an austere thing which has its sacred moments. We profane them. A frivolous art leers upon a world which has need rather of organisation, of implements and of methods and which is pushing forward in travail towards the establishment of a new order. A society lives primarily by bread, by the sun and by its essential comforts. Everything remains to be done ! Immense task ! And it is so imperative, so urgent



THE "EMPRESS OF ASIA" (CANADIAN PACIFIC)

"Architecture is the masterly, correct and magnificent play of masses brought together in light."

that the entire world is absorbed in this dominating necessity. Machines will lead to a new order both of work and of leisure. Entire cities have to be constructed, or reconstructed, in order to provide a minimum of comfort, for if this is delayed too long, there may be a disturbance of the balance of society. Society is an unstable thing and is cracking under the confusion caused by fifty years of progress which have changed the face of the world more than the last six centuries have done.

The time is ripe for construction, not for foolery.

The art of our period is performing its proper functions when it addresses itself to the chosen few. Art is not a popular thing, still less an expensive toy for rich people. Art is not an essential pabulum except for the chosen few who have need of meditation in order that they may lead. Art is in its essence arrogant.

* * *

In the painful gestation of this age as it forms itself, a need of harmony becomes evident.

May our eyes be opened: this harmony already exists, the result of work governed by *economy* and conditioned by physical necessities. This harmony has its causes; it is not in any way the effect of caprice, but is of a logical construction and congruous with the world around it. In the daring transposition of human labour that has taken place, nature has still been present and with the greater rigour as the problem was difficult. The creations of mechanical technique are organisms tending to a pure functioning, and obey the same evolutionary laws as those objects in nature which excite our admiration. There is harmony in the performances which come from the workshop or the factory. It is not Art; it is not the Sistine Chapel nor the Erechtheum; these are the everyday jobs of a whole world working with perception, intelligence and precision, with imagination, daring and severity.

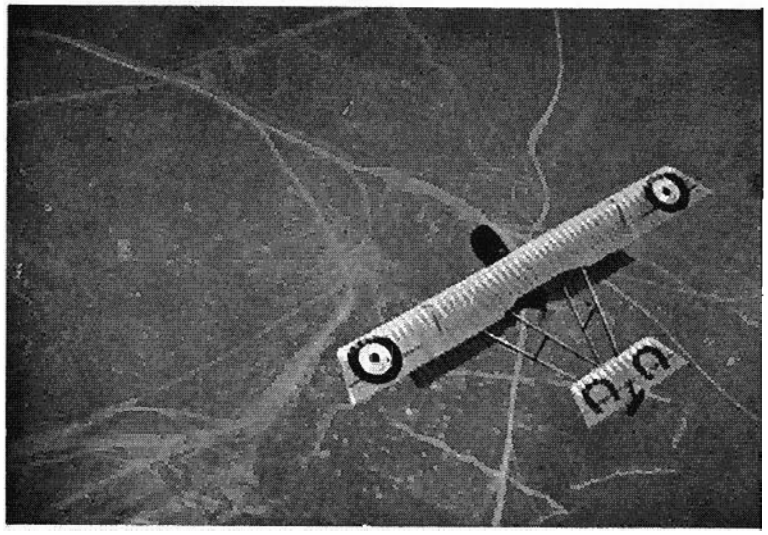
If we forget for a moment that a steamship is a machine for transport and look at it with a fresh eye, we shall feel that we are facing an important manifestation of temerity, of

discipline, of harmony, of a beauty that is calm, vital and strong.

A seriously-minded architect, looking at it as an architect (*i.e.* a creator of organisms), will find in a steamship his freedom from an age-long but contemptible enslavement to the past.

He will prefer respect for the forces of nature to a lazy respect for tradition; to the narrowness of commonplace conceptions he will prefer the majesty of solutions which spring from a problem that has been clearly stated—solutions needed by this age of mighty effort which has taken so gigantic a step forward.

The house of the earth-man is the expression of a circumscribed world. The steamship is the first stage in the realization of a world organized according to the new spirit.



EYES WHICH DO NOT SEE

II

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.

There is a new spirit: it is a spirit of construction and of synthesis guided by a clear conception.

Whatever may be thought of it, it animates to-day the greater part of human activity.

A GREAT EPOCH HAS BEGUN

Programme of *l'Esprit Nouveau*.
No. 1. October, 1920.

THERE is one profession and one only, namely architecture, in which progress is not considered necessary, where laziness is enthroned, and in which the reference is always to yesterday.

Everywhere else, taking thought for the morrow is almost a fever and brings its inevitable solution: if a man does not move forward he becomes bankrupt.

But in architecture no one ever becomes bankrupt. A privileged profession, alas!

* * *

The airplane is indubitably one of the products of the most intense selection in the range of modern industry.

The War was an insatiable "client," never satisfied, always demanding better. The orders were to succeed at all costs and death followed a mistake remorselessly. We may then affirm that the airplane mobilized invention, intelligence and daring: *imagination* and *cold reason*. It is the same spirit that built the Parthenon.

Let us look at things from the point of view of

architecture, but in the state of mind of the inventor of airplanes.

The lesson of the airplane is not primarily in the forms it has created, and above all we must learn to see in an airplane not a bird or a dragon-fly, but a machine for flying ; the lesson of the airplane lies in the logic which governed the enunciation of the problem and which led to its successful realization. When a problem is properly stated, in our epoch, it inevitably finds its solution.

The problem of the house has not yet been stated.

One commonplace among Architects (the younger ones) : *the construction must be shown.*

Another commonplace amongst them : *when a thing responds to a need, it is beautiful.*

But. . . . To show the construction is all very well for an Arts and Crafts student who is anxious to prove his ability. The Almighty has clearly shown our wrists and our ankles, but there remains all the rest !

When a thing responds to a need, it is not beautiful ; it satisfies all one part of our mind, the primary part, without which there is no possibility of richer satisfactions ; let us recover the right order of events.

Architecture has another meaning and other ends to pursue than showing construction and responding to needs (and by " needs " I mean utility, comfort and practical arrangement).

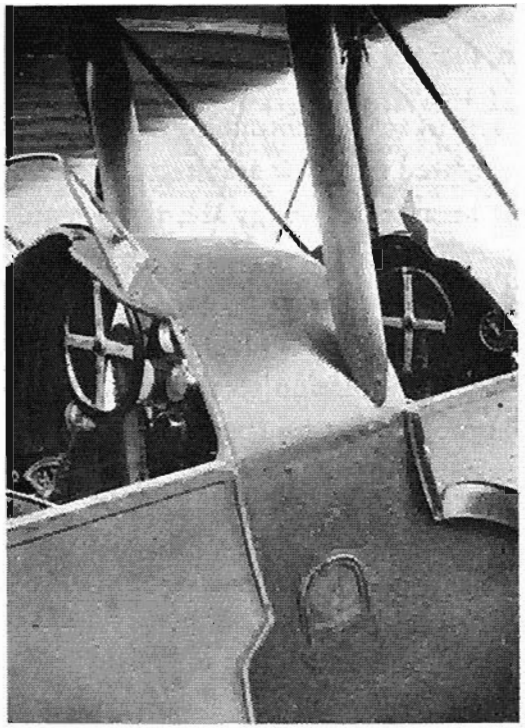
ARCHITECTURE is the art above all others which achieves a state of platonic grandeur, mathematical order, speculation,

the perception of the harmony which lies in emotional relationships. This is the AIM of architecture.

But let us return to our chronology.

If we feel the need of a new architecture, a clear and settled organism, it is because, as things are, the sensation of mathematical order cannot touch us since *things no longer respond to a need*, and because there is no longer real construction in architecture. An extreme confusion reigns. Architecture as practised provides no solution to the present-day problem of the dwelling-house and has no comprehension of the structure of things. It does not fulfil the very first conditions and so it is not possible that the higher factors of harmony and beauty should enter in.

AIR EXPRESS



FARMAN

The architecture of to-day does not fulfil the necessary and sufficient conditions of the problem.

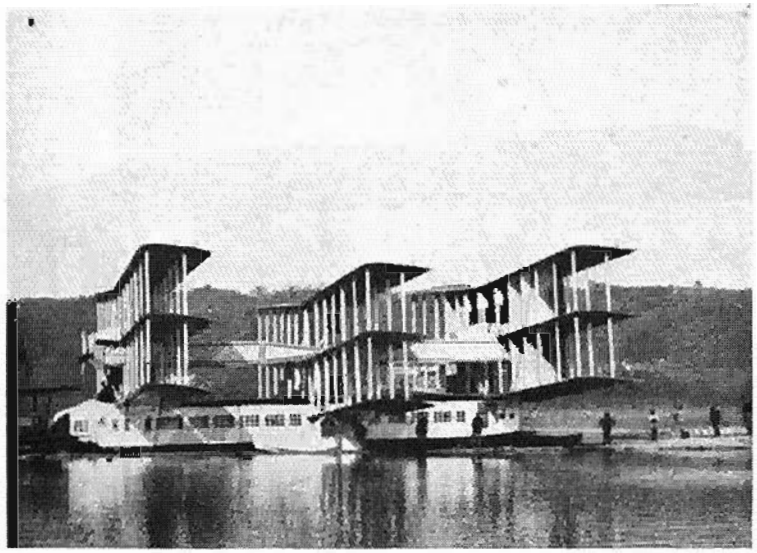
The reason is that the problem has not been stated as regards architecture. There has been no salutary war as in the case of the airplane.

But you will say, the Peace has set the problem in the reconstruction of the North of France. But then, we are totally disarmed, we do not know how to build in a modern

SPAD 33 BLERIOT. PASSENGER PLANE
(Designed by Herbemont.)

way—materials, systems of construction, THE CONCEPTION OF THE DWELLING, all are lacking. Engineers have been busy with barrages, with bridges, with Atlantic liners, with mines, with railways. Architects have been asleep.

The airplane shows us that a problem well stated finds its solution. To wish to fly like a bird is to state the problem badly, and Ader's " Bat " never left the ground. To invent a flying machine having in mind nothing alien to pure mechanics, that is to say, to search for a means of suspension in the air and a means of propulsion, was to put the problem properly : in less than ten years the whole world could fly.



TRIPLE HYDROPLANE CAPRONI

3,000 *h.p. Capable of carrying* 100 *passengers.*

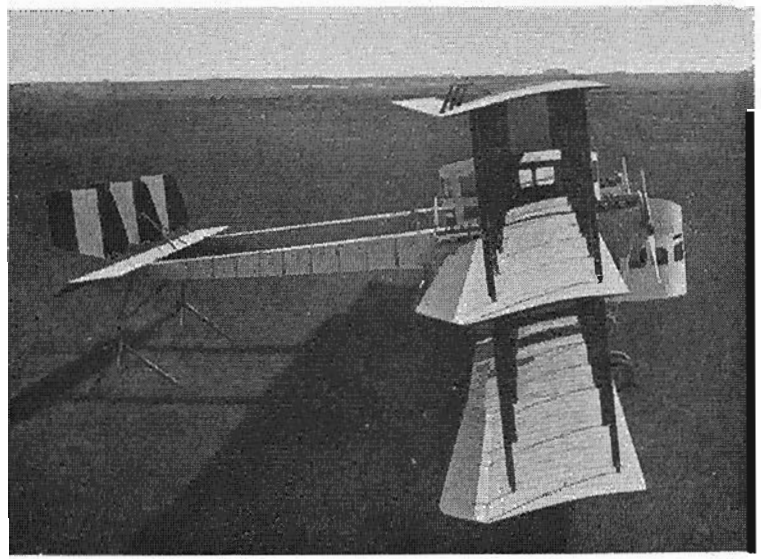
LET US STATE THE PROBLEM

Let us shut our eyes to what exists.

A house: a shelter against heat, cold, rain, thieves and the inquisitive. A receptacle for light and sun. A certain number of cells appropriated to cooking, work, and personal life.

A room: a surface over which one can walk at ease, a bed on which to stretch yourself, a chair in which to rest or work, a work-table, receptacles in which each thing can be put at once in its right place.

The number of rooms: one for cooking and one for eating. One for work, one to wash yourself in and one for sleep.



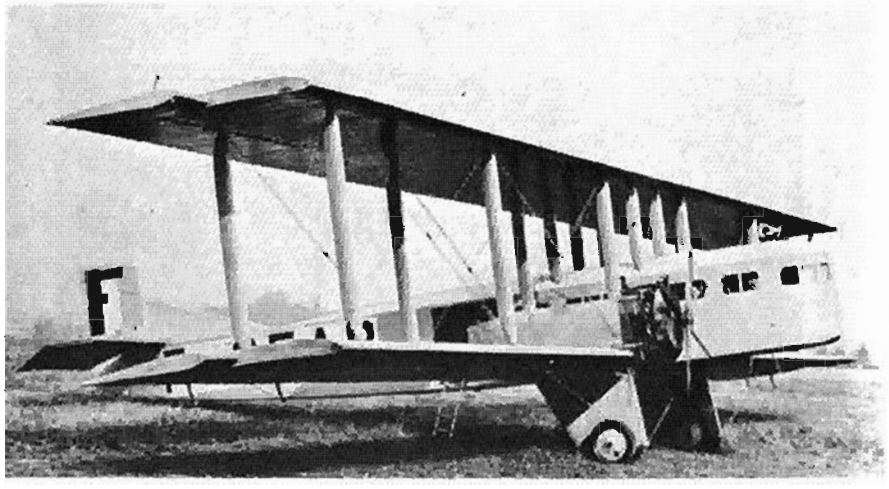
TRIPLANE CAPRONI

2,000 *h.p. Can carry* 30 *passengers.*

Such are the standards of the dwelling.

Then why do we have the enormous and useless roofs on pretty suburban villas? Why the scanty windows with their little panes; why large houses with so many rooms locked up? Why the mirrored wardrobes, the washstands, the commodes? And then, why the elaborate bookcases? the consoles, the china cabinets, the dressers, the sideboards? Why the enormous glass chandeliers? The mantelpieces? Why the draped curtains? Why the damasked wall-papers thick with colour, with their motley design?

Daylight hardly enters your homes. Your windows are difficult to open. There are no ventilators for changing the



AIR EXPRESS

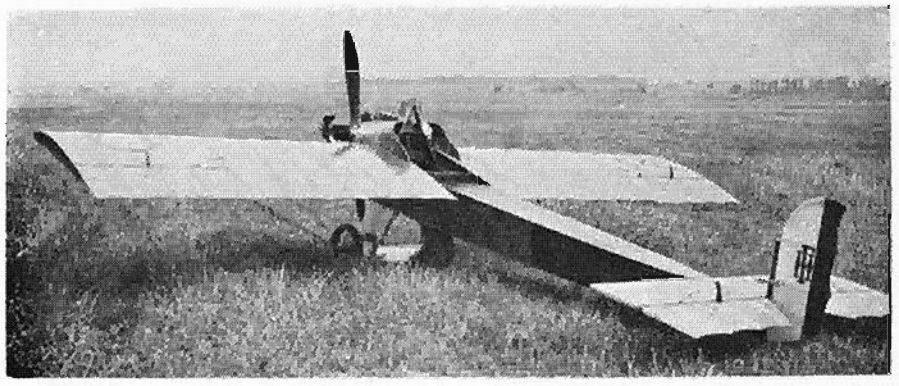
This does the journey from London to Paris in two hours.

air such as we get in any dining-car. Your chandeliers hurt the eyes. Your imitation stone stucco and your wall-papers are an impertinence, and no good modern picture could ever be hung on your walls, for it would be lost in the welter of your furnishings.

Why do you not demand from your landlord :

1. Fittings to take underclothing, suits and dresses in your bedroom, all of one depth, of a comfortable height and as practical as an " Innovation " trunk ;

2. In your dining-room fittings to take china, silver and glass, shutting tightly and with a sufficiency of drawers in order that " clearing away " can be done in an instant, and all these fittings " built in " so that round your chairs and table



FARMAN " MOSQUITO "

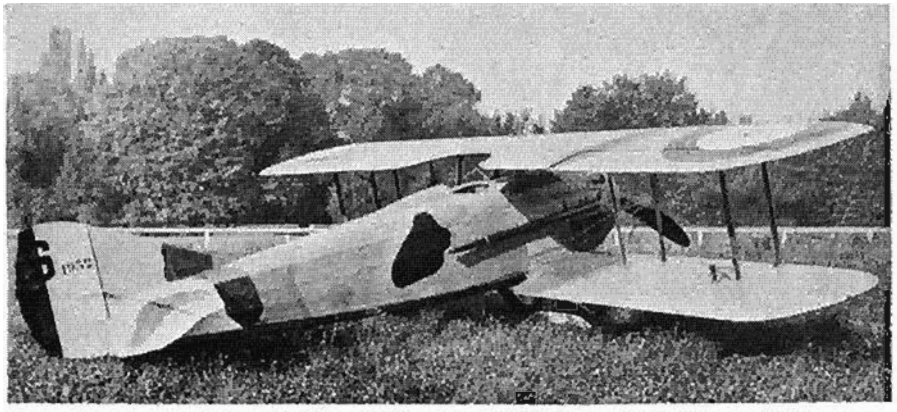
you have room enough to move and that feeling of space which will give you the calm necessary to good digestion ;

3. In your living-room *fittings to hold your books and protect them from dust and to hold your collection of paintings and works of art.* And in such a way that the walls of your room are unencumbered. You could then bring out your pictures one at a time when you want them.

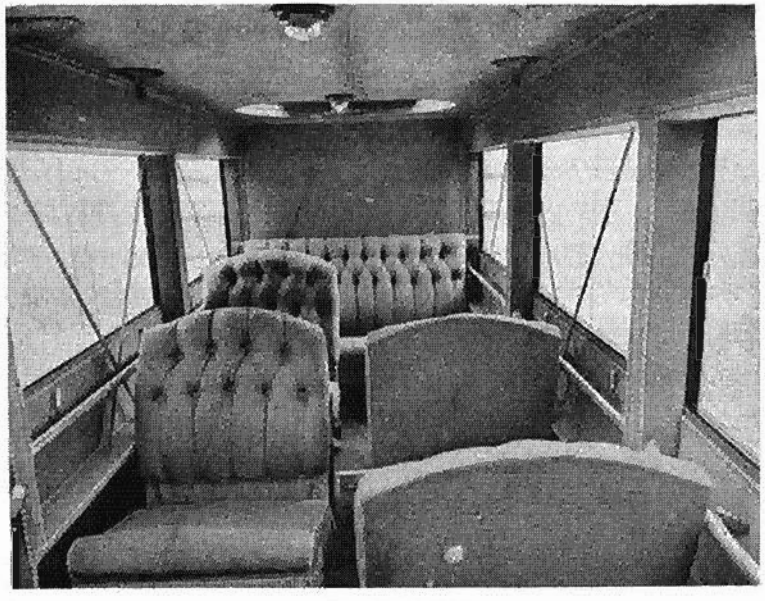
As for your dressers, and your mirrored wardrobes, you can sell all these to one of those young nations which have lately appeared on the map. There *Progress* rages, and they are dropping the traditional home (with its fittings, etc.) to live in an up-to-date house *à l'européenne* with its imitation stone stucco and its mantelpieces.

Let us repeat some fundamental axioms :

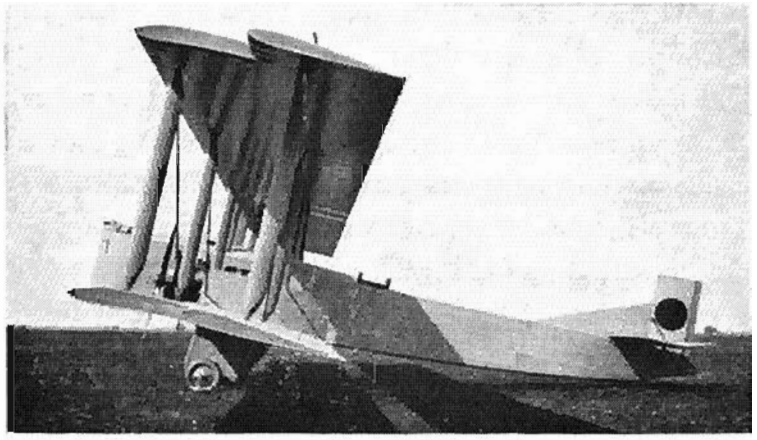
(a) *Chairs are made to sit in.* There are rush-seated church chairs at 5*s.*, luxuriously upholstered arm-chairs at £20 and



SPAD XIII BLERIOT
(*Designed by Bechnean.*)



AIR EXPRESS
Capable of 140 *m.p.h.*



FARMAN "GOLIATH." BOMBING MACHINE

adjustable chairs with a movable reading-desk, a shelf for your coffee cup, an extending foot-rest, a back that raises and lowers with a handle, and gives you the very best position either for work or a nap, in a healthy, comfortable and right way. Your *bergères*, your Louis XVI *causeuses*, bulging through their tapestry covers, are these machines for sitting in? Between ourselves, you are more comfortable at your club, your bank or in your office.

(b) *Electricity gives light.* We can have concealed lighting, or we can have diffused and projected lighting. One can see as clearly as in broad daylight without ever hurting one's eyes.

A hundred-candle-power lamp weighs less than two ounces, but there are chandeliers weighing nearly two hundredweight with elaborations in bronze or wood, and so huge that they fill up all the middle of the room; the upkeep of these horrors

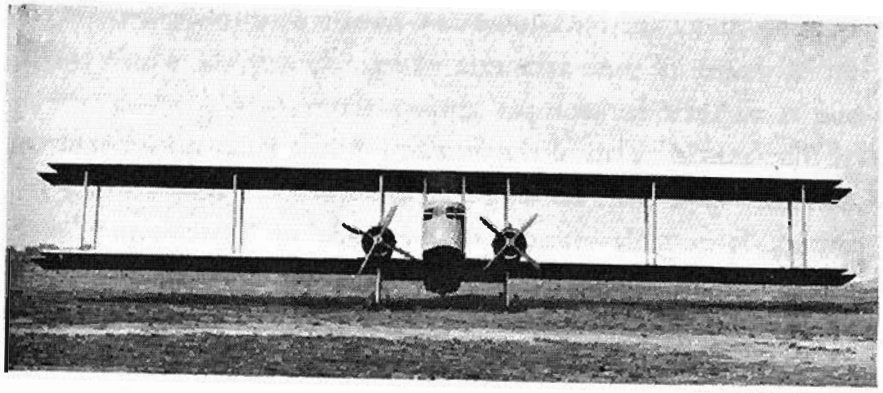
is a terrible task because of the flies. These chandeliers are also very bad for the eyes at night.

(c) *Windows serve to admit light, "a little, much, or not at all," and to see outside.* There are windows in sleeping-cars which close hermetically or can be opened at will; there are the great windows of modern cafés which close hermetically or can be entirely opened by means of a handle which causes them to disappear below ground; there are the windows in dining cars which have little louvres opening to admit air "a little, much, or not at all," there is modern plate glass which has replaced bottle-glass and small panes; there are roll shutters which can be lowered gradually and will keep out the light at will according to the spacing of their slats. But architects still use only windows like those at Versailles or Compiègne, Louis X, Y or Z which shut badly, have tiny panes, are difficult to open and have their shutters outside; if it rains in the evening one gets wet through in trying to close them.

(d) *Pictures are made to be looked at and meditated on.* In order to see a picture to advantage, it must be hung suitably and in the proper atmosphere. The true collector of pictures arranges them in a cabinet and hangs on the wall the particular painting he wants to look at; but your walls are a riot of all manner of things.

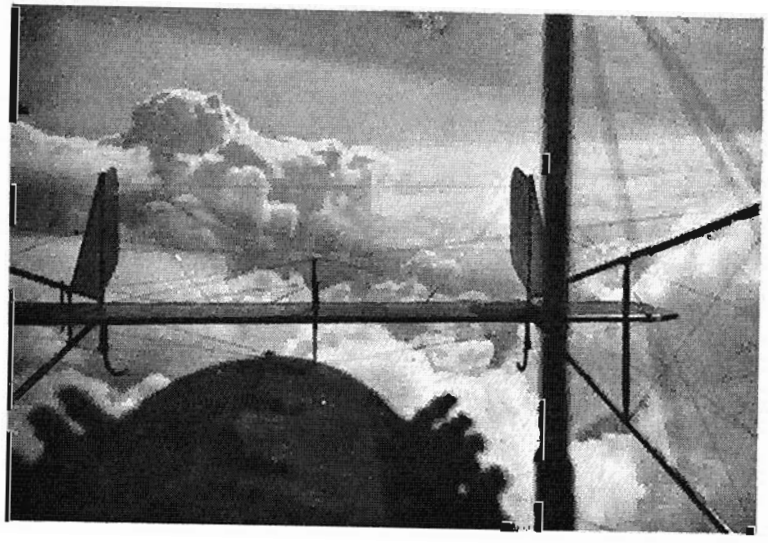
(e) *A house is made for living in.*—"No!"—"But of course!"—"Then you are a Utopian!"

Truth to tell, the modern man is bored to tears in his home; so he goes to his club. The modern woman is bored



AIR EXPRESS. A FARMAN "GOLIATH"

outside her boudoir; she goes to tea-parties. The modern man and woman are bored at home; they go to night-clubs. But lesser folk who have no clubs gather together in the



evening under the chandelier and hardly dare to walk through the labyrinth of their furniture which takes up the whole room and is all their fortune and their pride.

The existing plan of the dwelling-house takes no account of man and is conceived as a furniture store. This scheme of things, favourable enough to the trade of Tottenham Court Road, is of ill omen for society. It kills the spirit of the family, of the home ; there are no homes, no families and no children, for living is much too difficult a business.

The temperance societies and the anti-Malthusians should address an urgent appeal to architects ; they should have the MANUAL OF THE DWELLING printed and distributed to mothers of families and should demand the resignation of all the professors in the architectural schools.

THE MANUAL OF THE DWELLING

Demand a bathroom looking south, one of the largest rooms in the house or flat, the old drawing-room for instance. One wall to be entirely glazed, opening if possible on to a balcony for sun baths ; the most up-to-date fittings with a shower-bath and gymnastic appliances.

An adjoining room to be a dressing-room in which you can dress and undress. Never undress in your bedroom. It is not a clean thing to do and makes the room horribly untidy. In this room demand fitments for your linen and clothing, not more than 5 feet in height, with drawers, hangers, etc.

Demand one really large living room instead of a number of small ones.

Demand bare walls in your bedroom, your living room and your dining-room. Built-in fittings to take the place of much of the furniture, which is expensive to buy, takes up too much room and needs looking after.

If you can, put the kitchen at the top of the house to avoid smells.

Demand concealed or diffused lighting.

Demand a vacuum cleaner.

Buy only practical furniture and never buy decorative "pieces." If you want to see bad taste, go into the houses of the rich. Put only a few pictures on your walls and none but good ones.

Keep your odds and ends in drawers or cabinets.

The gramophone or the pianola or wireless will give you exact interpretations of first-rate music, and you will avoid catching cold in the concert hall, and the frenzy of the virtuoso.

Demand ventilating panes to the windows in every room.

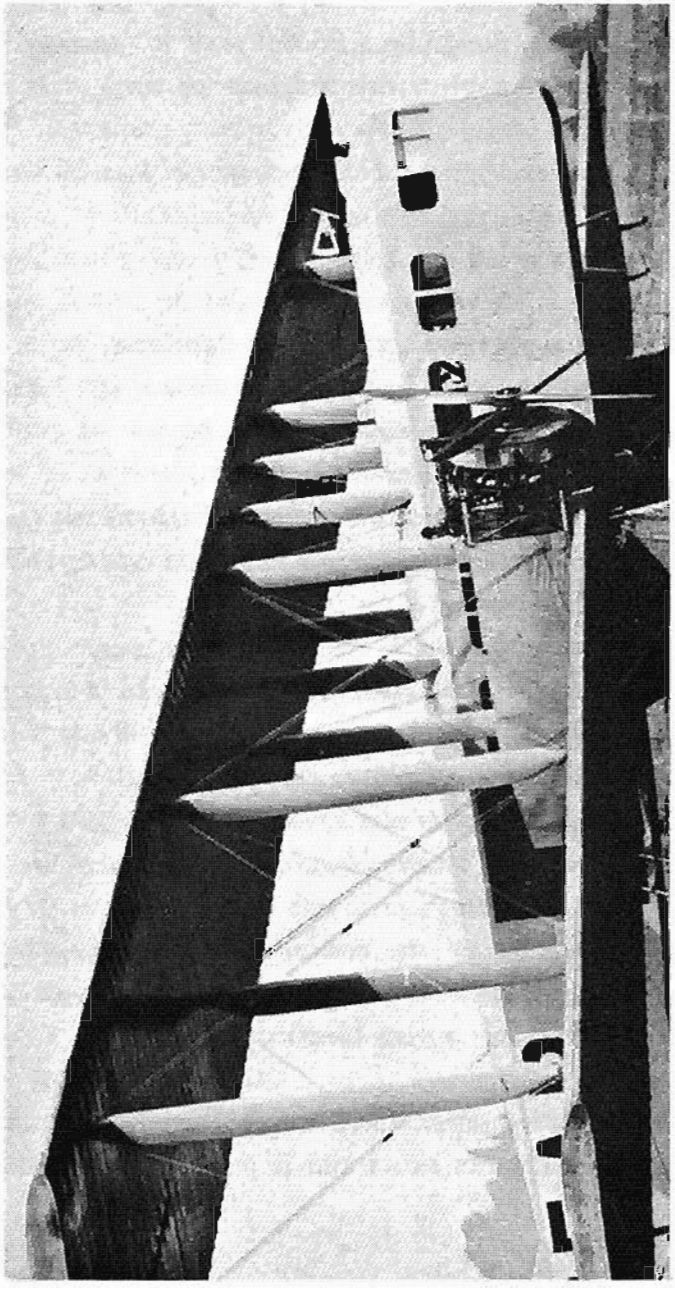
Teach your children that a house is only habitable when it is full of light and air, and when the floors and walls are clear. To keep your floors in order eliminate heavy furniture and thick carpets.

Demand a separate garage to your dwelling.

Demand that the maid's room should not be an attic. Do not park your servants under the roof.

Take a flat which is one size smaller than what your parents accustomed you to. Bear in mind economy in your actions, your household management and in your thoughts.

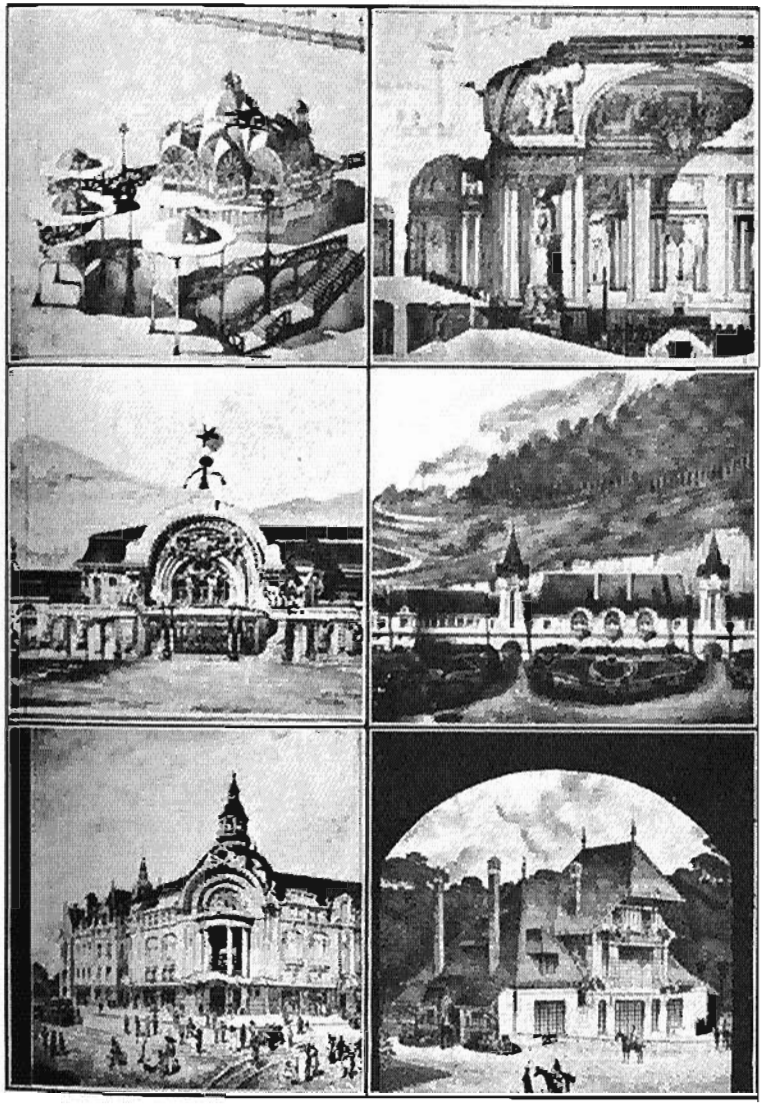
Conclusion. Every modern man has the mechanical sense. The feeling for mechanics exists and is justified by our daily



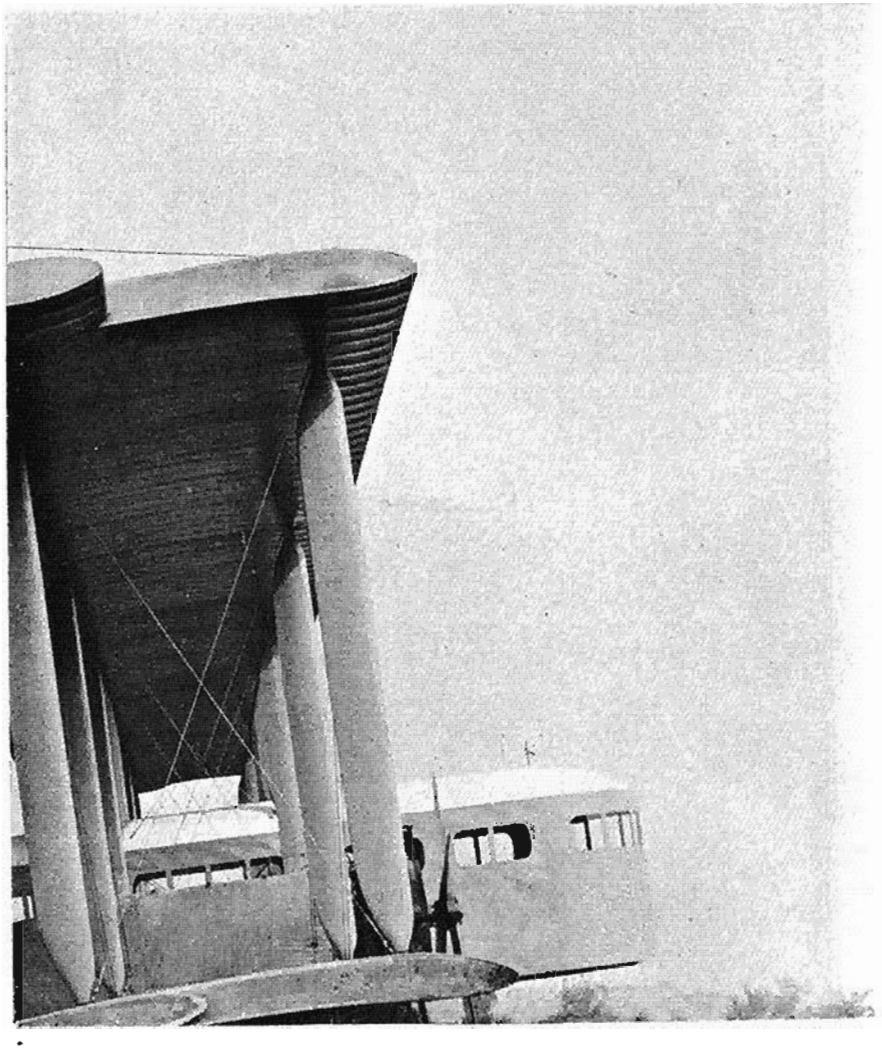
FARMAN "GOLIATH"

Paris to Prague in six hours. Paris to Warsaw in nine hours.

THE PROBLEM BADLY CONCEIVED:



EYES WHICH DO NOT SEE . .



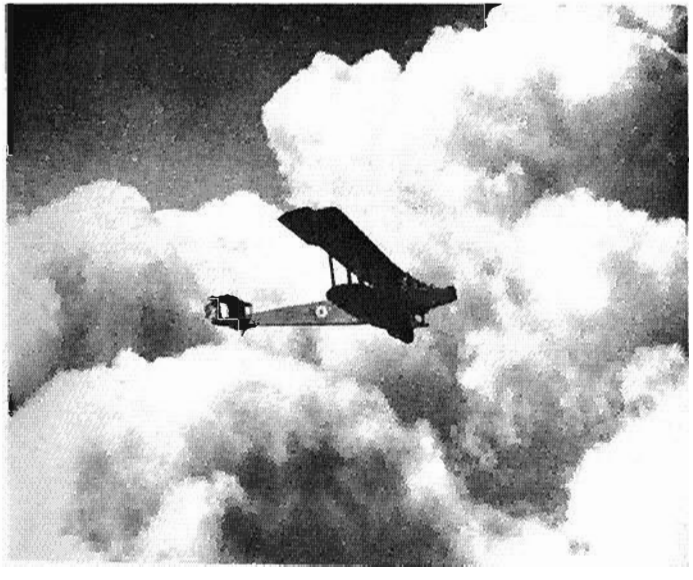
FARMAN

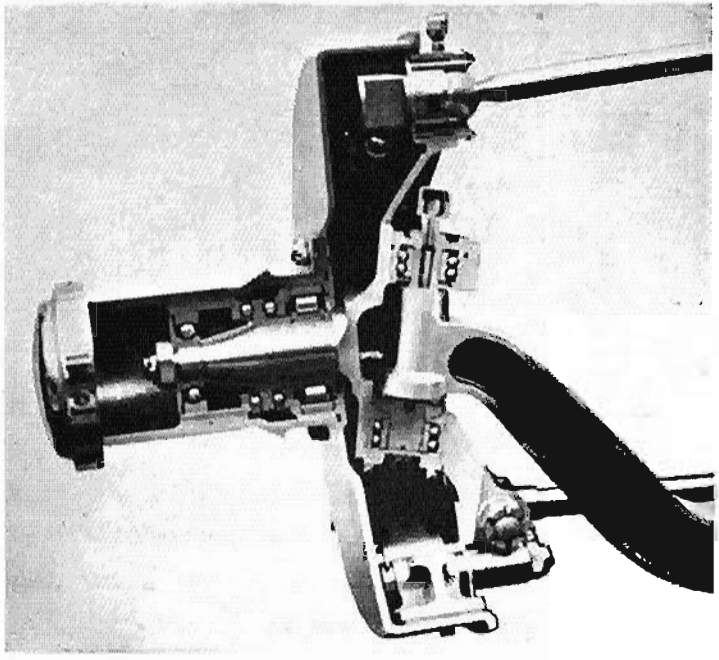
activities. This feeling in regard to machinery is one of respect, gratitude and esteem.

Machinery includes economy as an essential factor leading to minute selection. There is a moral sentiment in the feeling for mechanics.

The man who is intelligent, cold and calm has grown wings to himself.

Men—intelligent, cold and calm—are needed to build the house and to lay out the town.





DELAGE. FRONT-WHEEL BRAKE

This precision, this cleanness in execution go further back than our re-born mechanical sense. Phidias felt in this way: the entablature of the Parthenon is a witness. So did the Egyptians when they polished the Pyramids. This at a time when Euclid and Pythagoras dictated to their contemporaries.

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.

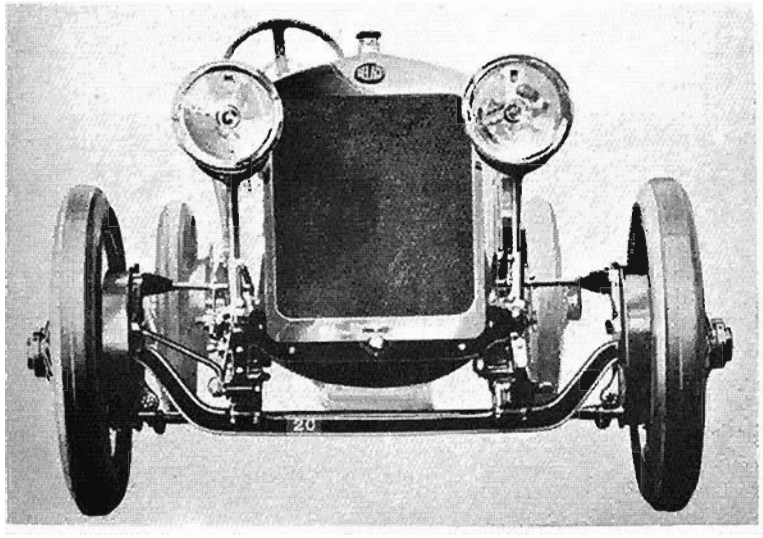
Standards are a matter of logic, analysis and minute study: they are based on a problem which has been well "stated."

A standard is definitely established by experiment.

EYES WHICH DO NOT SEE

III

AUTOMOBILES



DELAGE, 1921

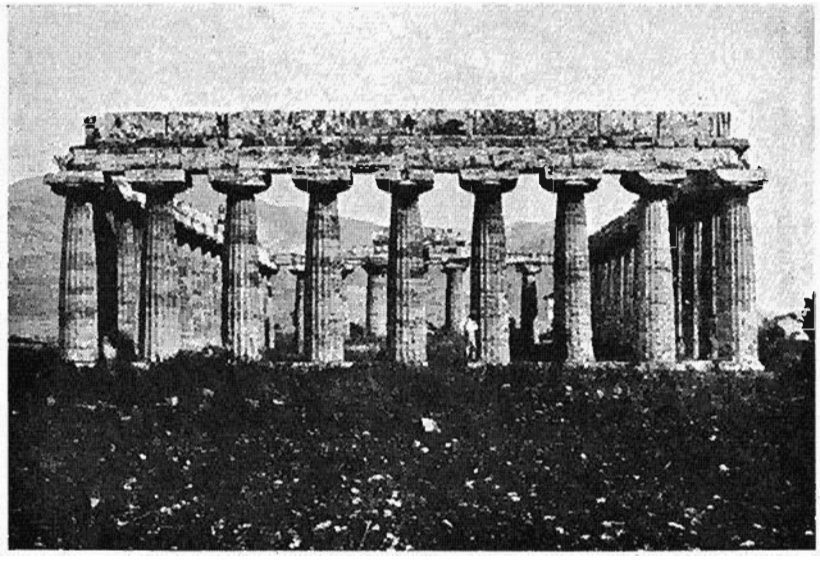
If the problem of the dwelling or the flat were studied in the same way that a chassis is, a speedy transformation and improvement would be seen in our houses. If houses were constructed by industrial mass-production, like chassis, unexpected but sane and defensible forms would soon appear, and a new aesthetic would be formulated with astonishing precision.

There is a new spirit: it is a spirit of construction and of synthesis guided by clear conception.

Programme of *l'Esprit Nouveau*.
No. 1. October 1920.

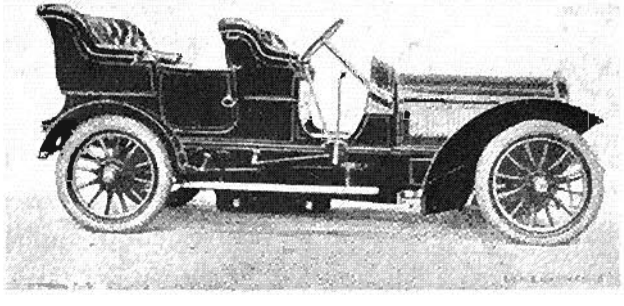
IT is necessary to press on towards the establishment of *standards* in order to face the problem of *perfection*.

The Parthenon is a product of selection applied to an established standard. Already for a century the Greek temple had been standardized in all its parts.



PAESTUM, 600–550 B.C.

When once a standard is established, competition comes at once and violently into play. It is a fight; in order to win you must do better than your rival *in every minute point*, in

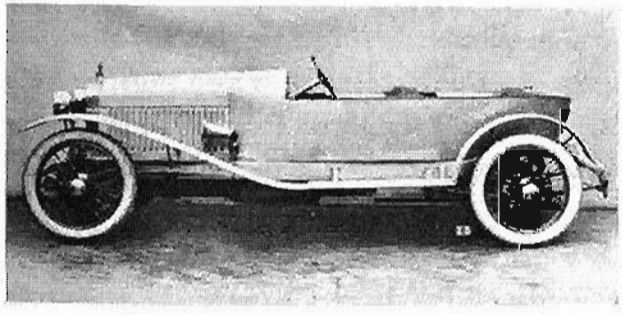


HUMBER, 1907

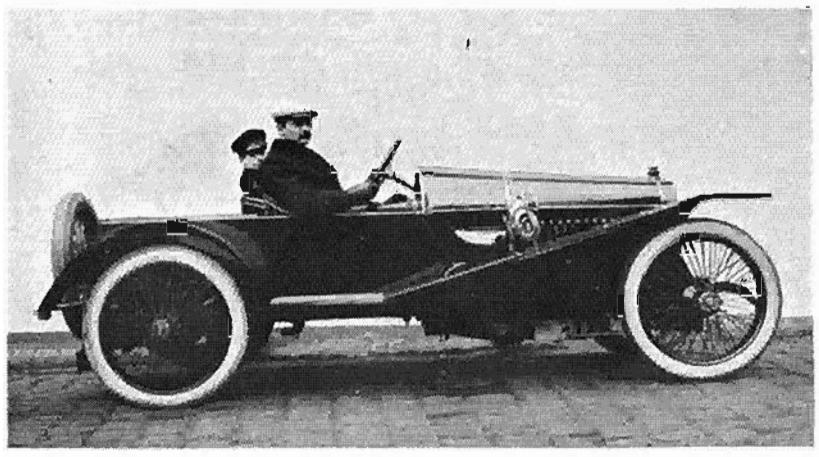
THE PARTHENON, 447–434 B.C.

the run of the whole thing and in all the details. Thus we get the study of minute points pushed to its limits. Progress.

A standard is necessary for order in human effort.



DELAGE, "GRAND-SPORT," 1921



HISPANO-SUIZA, 1911. OZENFANT COACHWORK

A standard is established on sure bases, not capriciously but with the surety of something intentional and of a logic controlled by analysis and experiment.

All men have the same organism, the same functions.

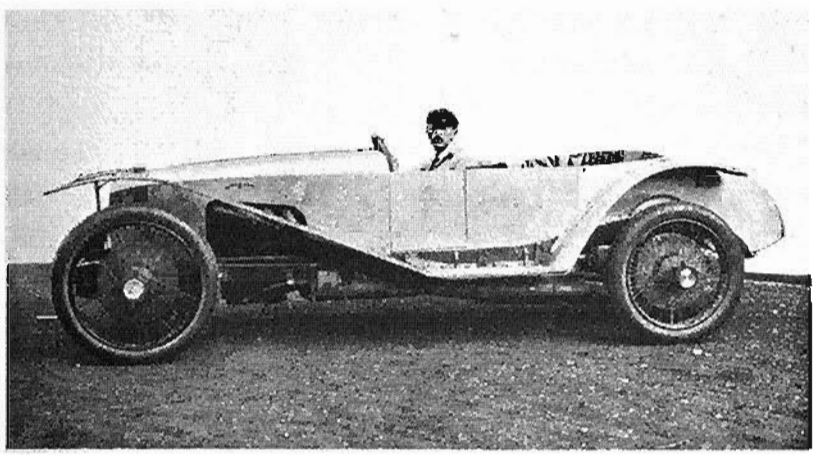
All men have the same needs.

The social contract which has evolved through the ages fixes standardized classes, functions and needs producing standardized products.

The house is a thing essential to man.

Painting is a thing essential to man since it responds to needs of a spiritual order, determined by the standards of emotion.

All great works of art are based on one or other of the great standards of the heart: *Œdipus*, *Phædra*, the *Enfant Prodigue*, the Madonnas, *Paul et Virginie*, Philemon and Baucis.



BIGNAN-SPORT 1921

the *Pauvre Pêcheur*, the *Marseillaise*, *Madelon vient nous verser à boire*. . . .

The establishment of a standard involves exhausting every practical and reasonable possibility, and extracting from them a recognized type conformable to its functions, with a maximum output and a minimum use of means, workmanship and material, words, forms, colours, sounds.

The motor-car is an object with a simple function (to travel) and complicated aims (comfort, resistance, appearance), which has forced on big industry the absolute necessity of standardization. All motor-cars have the same essential arrangements. But, by reason of the unceasing competition between the innumerable firms who make them, every maker has found himself obliged to get to the top of this competition and, over and above the standard of practical realization, to prosecute the

search for a perfection and a harmony beyond the mere practical side, a manifestation not only of perfection and harmony, but of beauty.

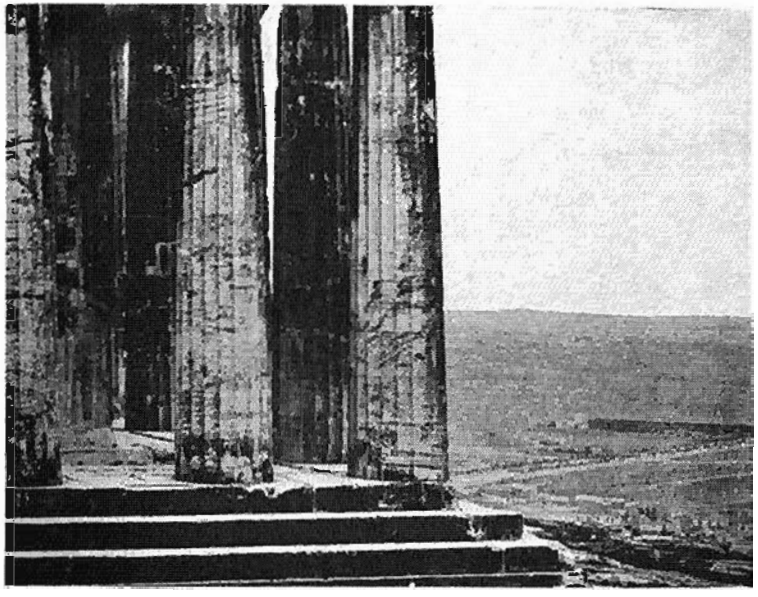
Here we have the birth of style, that is to say the attainment, universally recognized, of a state of perfection universally felt.

The establishment of a standard is developed by organizing rational elements, following a line of direction equally rational. The form and appearance are in no way preconceived, *they are a result*; they may have a strange look at first sight. Ader made a "Bat," but it did not fly; Wright and Farman set themselves the problem of sustaining solid bodies in air, the result was jarring and disconcerting, but it flew. The standard had been fixed. Practical results followed.

The first motor-cars were constructed, and their bodies built, on old lines. This was contrary to the necessities of the displacement and rapid penetration of a solid body. The study of the laws of penetration fixed the standard, a standard which has evolved in accordance with two different aims: speed, the greater mass in front (sporting bodies); comfort, the main bulk at the back (saloon). In either case there is no longer anything in common with the ancient carriage with its slow displacement.

Civilizations advance. They pass through the age of the peasant, the soldier and the priest and attain what is rightly called culture. Culture is the flowering of the effort to select. Selection means rejection, pruning, cleansing; the clear and naked emergence of the Essential.

From the primitiveness of the Early Christian chapel, we pass to *Notre Dame* of Paris, the *Invalides*, the *Place de la*



THE PARTHENON

Little by little the Greek temple was formulated, passing from construction to Architecture. One hundred years later the Parthenon marked the climax of the ascending curve.

Concorde. Feeling has been clarified and refined, mere decoration set aside and proportion and scale attained, an advance has been made; we have passed from the elementary satisfactions (decoration) to the higher satisfactions (mathematics).

If Breton cupboards still remain in Brittany, it is because the Bretons have continued there, very remote and very stable, fully occupied in their fishing and cattle breeding. It is not seemly that a gentleman of good standing should sleep on a Breton bed in his Paris mansion; it is not seemly that a gentleman who owns a saloon car should sleep in a Breton bed, and

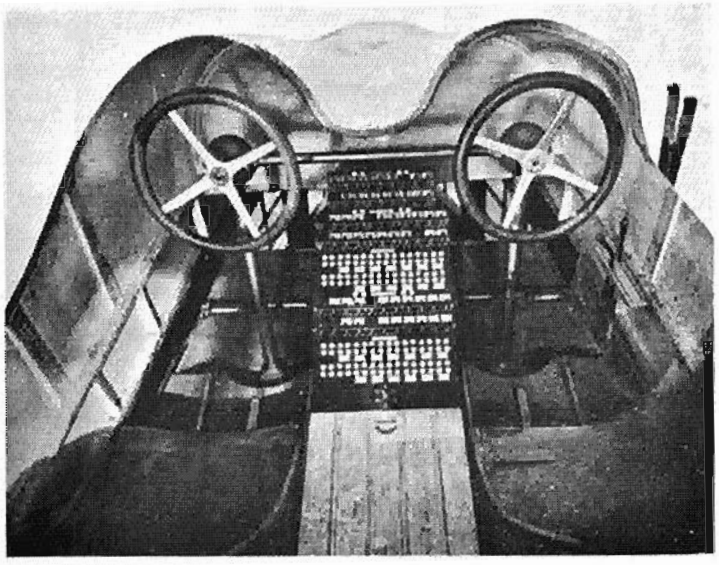
THE PARTHENON

Each part is decisive and marks the highest point in precision and execution: proportion is clearly written therein.

so on. We have only to get a clear idea of this and to draw the logical conclusion. To own together a large car and a Breton bed is quite usual, I am sorry to say.

Everybody asserts with conviction and enthusiasm: "The motor-car marks the style of our epoch!" but the Breton bed is sold and manufactured every day by the antique dealers.

Let us display, then, the Parthenon and the motor-car so that it may be clear that it is a question of two products of selection in different fields, one of which has reached its climax and the other is evolving. That ennobles the automobile. And what then? Well, then it remains to use the motor-car



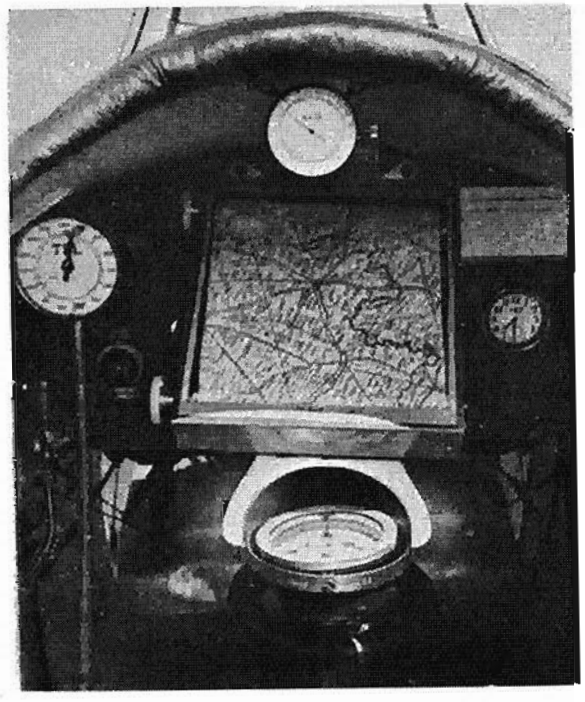
TRIPLE HYDROPLANE CAPRONI

Showing how plastic organisms are created in response to a well-stated problem.

as a challenge to our houses and our great buildings. It is here that we come to a dead stop. "Rien ne va plus." Here we have no Parthenons.

The standard of the house is a question of a practical and constructive order. I have attempted to set it forth in the preceding chapter on airplanes.

The standard of furniture is in its full flood of experiment among the makers of office furniture and trunks, clock-makers and so on. We have only to follow this path: a task for the engineer. And all the humbug talked about the unique object, the precious "piece," rings false and shows a pitiful



CAPRONI-EXPLORATION

Poetry lies not only in the spoken or written word. The poetry of facts is stronger still. Objects which signify something and which are arranged with talent and with tact create a poetic fact.

lack of understanding of the needs of the present day: a chair is in no way a work of art; a chair has no soul; it is a machine for sitting in.

Art, in a highly cultivated country, finds its means of expression in pure art, a concentrated thing free from all utilitarian motives—painting, literature, music.

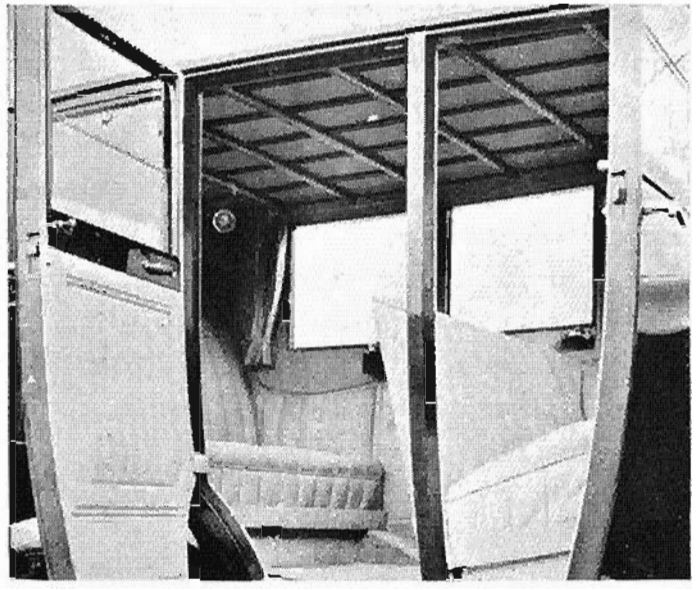
Every human manifestation involves a certain quantum of interest and particularly so in the æsthetic domain; this

interest may be of an order dealing with the senses or of an intellectual order. Decoration is of a sensorial and elementary order, as is colour, and is suited to simple races, peasants and savages. Harmony and proportion incite the intellectual faculties and arrest the man of culture. The peasant loves ornament and decorates his walls. The civilized man wears a well-cut suit and is the owner of easel pictures and books.

Decoration is the essential overplus, the quantum of the peasant; and proportion is the essential overplus, the quantum of the cultivated man.

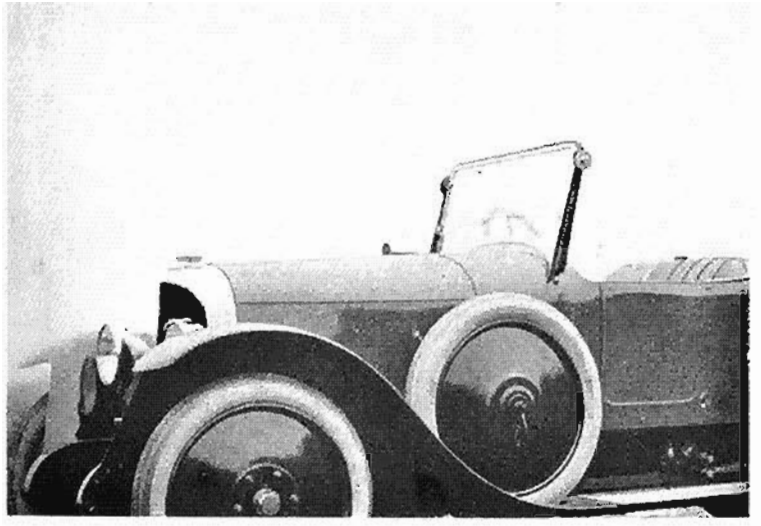
In architecture, the quantum of interest is achieved by the grouping and proportion of rooms and furniture; a task for the architect. And beauty? This is an imponderable which cannot function except in the actual presence of its primordial bases: the reasonable satisfaction of the mind (utility, economy); after that, cubes, spheres, cylinders, cones, etc. (sensorial). Then . . . the imponderable, the relationships which create the imponderable: this is genius, inventive genius, plastic genius, mathematical genius, this capacity for achieving order and unity by measurement and for organizing, in accordance with evident laws, all those things which excite and satisfy our visual senses to the fullest degree.

Then there arise those multifarious sensations, which evoke all that a highly cultivated man may have seen, felt and loved; which release, by means he cannot escape, vibrations he has already experienced in the drama of life: nature, men, the world.



BELLANGER. SALOON

In this period of science, of strife and drama in which the individual is violently tossed about at every moment, the Parthenon appears to us as a living work, full of grand harmonies. The sum of its inevitable elements gives the measure of the degree of perfection to which man can attain when he is absorbed in a problem definitely stated. The perfection in this case is so much outside the normal, that our apprehension of the Parthenon can only correspond nowadays with a very limited range of sensation, and, unexpectedly enough, with sensations of a mechanical kind; its correspondence is rather with those huge impressive machines with which we are familiar and which may be considered the most perfect results of our



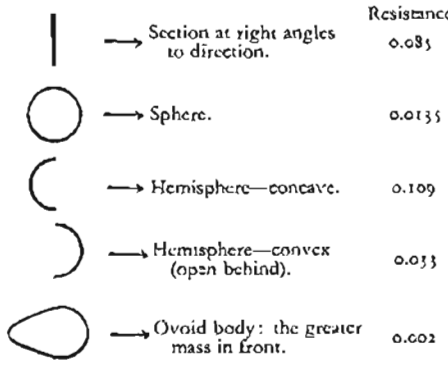
VOISIN. SPORTS TORPEDO, 1921

It is a simpler matter to form a judgment on the clothes of a well-dressed man than on those of a well-dressed woman, since masculine costume is standardized. It is certain that Phidias was at the side of Ictinos and Kallicrates in building the Parthenon, and that he dominated them, since all the temples of the time were of the same type, and the Parthenon surpasses them all beyond measure.

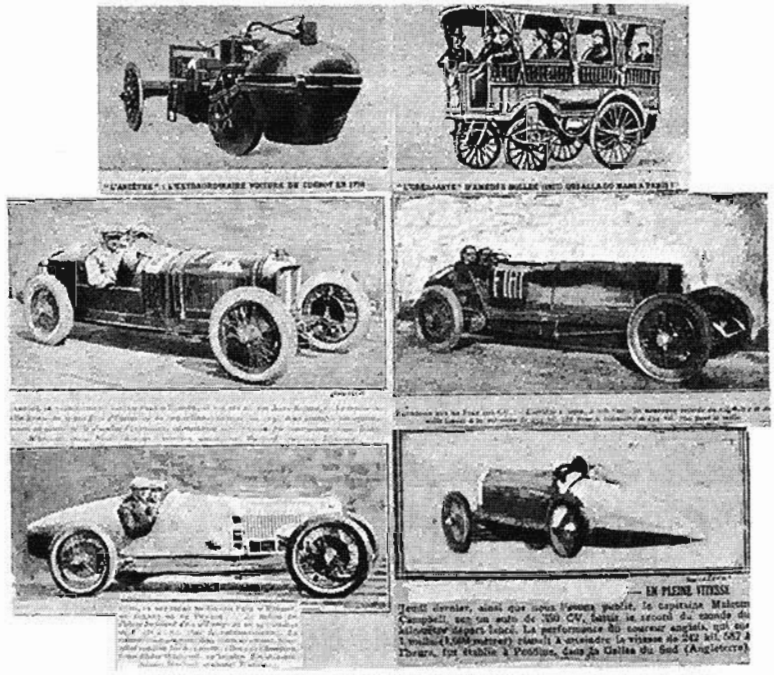
present-day activities, the only products of our civilization which have really " got there."

Phidias would have loved to have lived in this standardized age. He would have admitted the possibility, nay the certainty of success. His vision would have seen in our epoch the conclusive results of his labours. Before long he would have repeated the experience of the Parthenon.

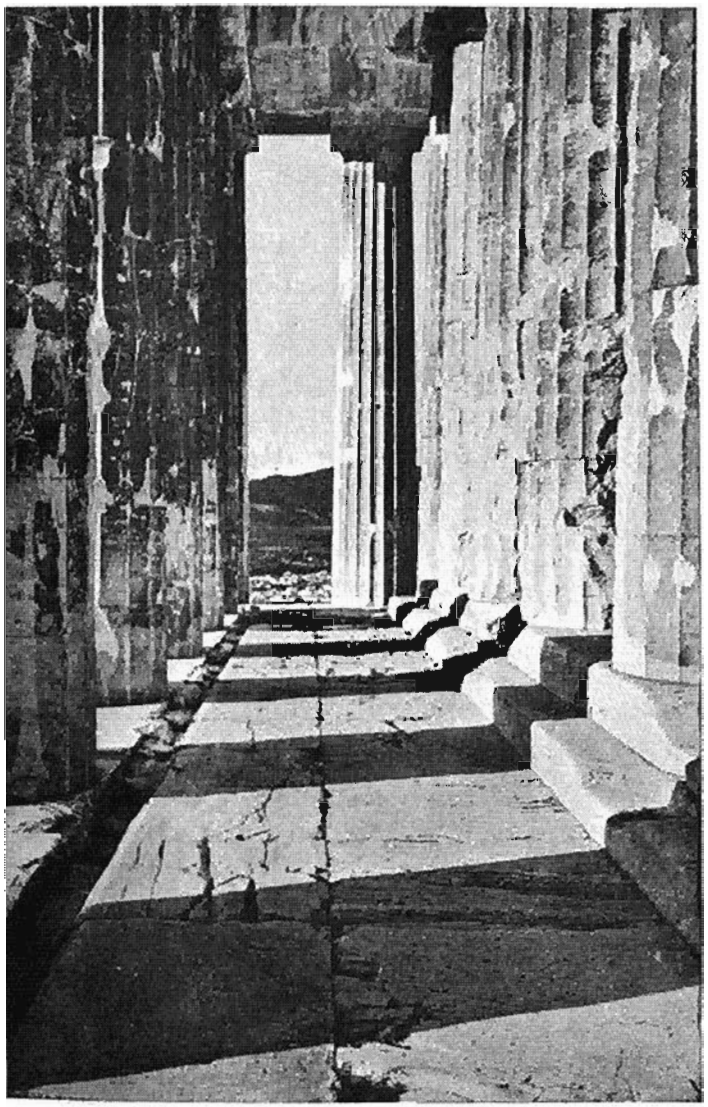
Architecture is governed by standards. Standards are a matter of logic, analysis and precise study. Standards are based



The cone which gives the best penetration is the result of experiment and calculation, and this is confirmed by natural creations such as fishes, birds, etc. Experimental application: the dirigible, racing car.



IN SEARCH OF A STANDARD



THE PARTHENON

Phidias in building the Parthenon did not work as a constructor, engineer or designer. All these elements already existed. What he did was to perfect the work and endue it with a noble spirituality.

on a problem which has been well stated. Architecture means plastic invention, intellectual speculation, higher mathematics. Architecture is a very noble art.

Standardization is imposed by the law of selection and is an economic and social necessity. Harmony is a state of agreement with the norms of our universe. Beauty governs all; she is of purely human creation; she is the overplus necessary only to men of the highest type.

But we must first of all aim at the setting up of standards in order to face the problem of perfection.