

VII

THE REALIZATION OF FORM

I. *Form a Function of Mind*

A CLASSIFICATION of form based upon the kinds of interest which form perception arouses may now be undertaken. Full vision is not sensation but mental interpretation, and the feeling of pleasantness or unpleasantness which may accompany form perception can acquire only an infinitesimal ingredient from the organ of sight. That ingredient is a matter of functional ease. It will readily be agreed that a five-pointed star spot is more interesting than a blot spot (unless of course the dispersion of liquid upon impact with a semi-absorbent surface is under consideration). This superiority of the star form to the blot shape is a matter of association, judgement, experience—not one of agreeable stimulation of retinal activity, or of optical muscular exercise. All that the retina demands is the stimulation of adequate light and contrast, while the muscular apparatus is content with health and strength.

Interest in form is inseparable from the interest in things. It is only for interpretation into things that there is any impulse to construct form in the mind. Interest in form may thus be said to originate in interest in things. From the jumbled, changing, duplex patterns on the retinae, the mind selects forms interpretable as things; and takes delight in the exercise of this function of recognizing things as such. Facility of recognizability may thus be regarded as a value. To this end stress is laid in all artistic technique on unity and individuality. Experience is involved—hence tradition in art as a basis for evolutionary progress.

2. *Categories of Form*

In a certain sense, all shape is form—the cloud, the mountain, the waterway, proclaim in their every modulation the handiwork of natural forces. The forms of such objects are generated by material and process in natural reaction. Beetling cliffs, pools breaking into rapids, vapour massing up into the firmament, crystals glittering in the cleft, all have their characteristics of line and detail and silhou-

ette for the physiographer pondering on such things. In these, however, purpose is not felt specifically. Apart from having come about and being there as part of the scheme of creation, the forms of such things may be regarded as an automatic ejaculation of the



FIG. 21. Inorganic form in Nature.

voice of nature. King David and Professor Geike alike exploit the inspiration they derive from them in psalm and in treatise.

Let us now pass from the forms of the things which crumble and flow and evaporate and melt, to those of the organic world of things which survive, develop, and evolve by slow processes of generation and adaptation.

The forms of these growing, living, breeding things are still automatically expressive, but specialized function and historical descent and a myriad of interesting accidental considerations of environment account for their infinite variations. Function, however, stands out as the master force at work. 'To live and move and have their being' by repeated regeneration of their species their shapes

have tended thus and thus, enriched with minor modulations due to cell, or shell, reacting to systems of nutrition and growth. So your pine tree, your protozoa, and your porcupine in all their parts proclaim a perfect synthesis of purpose, material, and something more which is not essentially very different from human technique.

The works of men's hands, by a similar process of invention and understanding, with respect to their uses and the stuff they are made of, and the means of reducing this material to obedient service, envisage a more or less perfect synthesis of the same elements. Henceforward, by FORM it is this that is meant, in contradistinction to mere agglomeration of shape resultant of conflicting purposes, inconsistent materials, or inept techniques.

Design may now be defined as the discovery of form. The appreciation, nay, the very perception of form, is an intellectual, or if you will, an intuitive process. At any rate it is a mental activity, not a physical reaction. It is not the eye, but the mind, that becomes trained, sensitive, and selective with experience, discarding the misbegotten in plant and animal life, and the irrelevant in church steeples, or the clumsy in table-spoons. And this is all that need be said at the moment on the philosophy of the ugly.

But the main object in devoting a chapter to the perception of form must not be forgotten. What is sought is an explanation of our hedonic reactions to form. So far it appears that no optic nerves are agreeably tickled by cubes, or spheres, far less set vibrating in the sacred presence of parallelograms with sides in the ratio of 1 to $\sqrt{2}$. An intellectual interest in form, as something simultaneously expressive of purpose, material, and technique, all inextricably interwoven in things has been asserted. The synthesis may not always be perfect, but unless it is appreciably there when looked for, the thing contemplated lacks form. Just how to describe its configuration in that case is a matter of no importance to our inquiry.

Now, both in nature and in craft there are certain forms which are generated in many materials under varied natural stresses, or artificial manipulations, and these readily become abstractions. As a thousand different things may be spherical, a sphere can be conceived as immaterial and can be imagined as very nearly so—at least as transcending in interest the stuff it is made of. And so with many other regular geometrical solids, planes, figures, and curves. They can, theoretically, be constructed in perfection, immaterial

and independent—spheres, cubes, cylinders, cones, tetrahedrons; hexagons, spirals, helices, conoids, parabolas, and the rest.

Some of these occur materialized in snow crystals, or mechanized in the paths of planets, or incidental in the interpenetrations of turret tops with roof slopes.

Of these forms it may be said in general that the geometrical basis is comparatively simple or obvious—at least when compared with an analysis of what is going on when a spike of orchid is in process of unfolding its blooms, or a mushroom getting ready to discharge its spores. Geometrical forms may have an interest all their own in virtue at once of their inherent simplicity and the variety of their material incarnations.

In the case of the patterns of the snow crystals and of the many star flowers which in rapid succession adorn the wind-swept moors of Labrador in June, it is the variety and symmetry of the figures that amaze and delight and attract an attention otherwise dissipated by the formless waste of whiteness, or the incoherent jumble of moss, rock, leaf shadows, and general debris.

Geometrical, or regular, form has an intrinsic interest, apart perhaps from its underlying mathematics and often apparently distinct from the materialization that supports it. These forms seem so easily to become—especially in architecture—their own subject-matter. The hedonist is apt

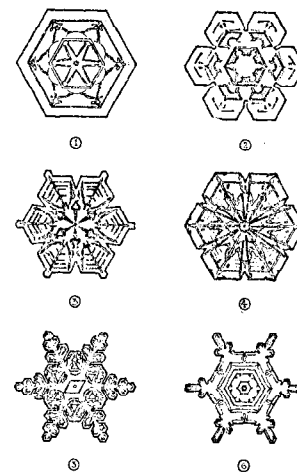


FIG. 22. Snow crystals.

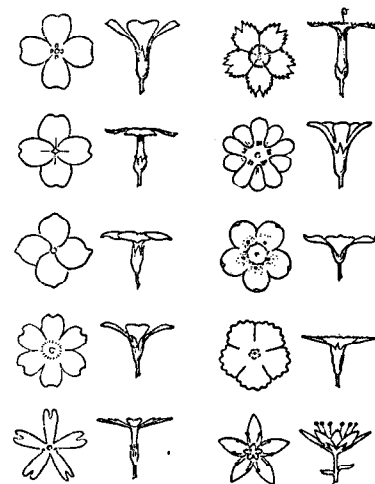


FIG. 23. Rock flowers.

to infer that they produce agreeable sensations, analogous to the taste of barley sugar, or the fumes of a Havana.

The very basis of design, as an art, is geometric form; but geometric form generated in the solution of a problem, not independent of it. When architectural precepts come to be considered later on, it will be found that pains may with advantage be taken to neutralize those defects of normal vision which the contemplation of regular figures reveals, by introducing such modifications, or 'corrections', as will enable the beholder to apprehend a more perfect regularity than a truly perfect regularity could furnish to him.

3. *Satisfaction in Forms*

Let us now further investigate the satisfactions that may accompany perception of forms belonging to the several categories mentioned above. It is far easier to recognize and evaluate than to analyse and explain the immense and varied delights most of us derive from the forms things take.

In dealing with the inchoate masses of inorganic form one may exclude the interest that derives from the realization of order of magnitude, whatever it may be—pebble, or Alp, or Milky Way; as also that from the recognition of colour—so as to concentrate attention on form only, as the natural resultant of matter and energy in mutual reaction. That form so derived may have generic characteristics will be readily admitted. Dolomites and Grampians have each their own family resemblances, the signs of the law of their being. Then again, rhythmic patterns may be imprinted on tide-washed sands, while the forms of waves in motion are in essence mathematical expressions of physical forces at work. The forms of crystals again, though less readily readable, are expressions of chemical and molecular structure. The patterns of the sky are classifiable into weather portents from the practical point of view. Aesthetically, they may be dramatic contests of floating mass and flowing line—all ultimately recognizable as graphs illustrative of changing densities, temperatures, and humidities of vaporous gases.

The interest or satisfaction of beholding such forms (granted good eyesight, which, like a good digestion, does not obtrude upon the attention) is in such knowledge, intuitive or scientific, as these forms convey. That is to say, there is here no direct element of sensory satisfaction.

Habit and association may, however, invest some mere idiosyncrasy of inorganic form constituting an element in a well-known landscape with all the magic power of a work of art to quicken a pulse. Characteristic shapes of inorganic things recurring half the world away may deal a man a nostalgic blow as arresting as a buffet in the face. But where the shape of a rock is potent to evoke the mysteries of a sad delight, there is a personal equation in the case; in this the shape of the rock figures as an infinitesimal fraction.

The use of the informalities of inorganic forms to serve as contrasts with the formalities of architecture is an old trick of those who choose sites for buildings, and an old trick too of imaginative landscape painters and architectural draughtsmen.

To the mountaineer, the forms that occur in the upper world he seeks are just the symbols of the exercise in which he delights and the atmosphere he craves; while to the yachtsman the shapes of rocks, sand dunes, and headlands will all have a generic interest similarly based. Inorganic form, independently of its colour and scale, can, however, only have a somewhat fortuitous interest. By itself it is hardly susceptible of engendering a more specific mood than the wonder of creation.

Passing now to the organic world of nature, we find form, which is the inevitable synthesis of purpose, material, and process of growth. This category embraces such diversities as the sweep of a lady's eyebrow, the shell patterns of the infinitely ingenious infusoria, and the curve of a tapering frond of fern. In inorganic form there is a riddle to be read; in organic form the riddle is there too, with an added challenge of purpose, to acknowledge which is to open the way to enlightenment and explanation. The delight in seeing organic form is in the revelation of the law we live by—a delight which may wear the mantle of logic, or ethic, or aesthetic, or a mixed and parti-coloured garment pieced from all, or any, of these, according to the make-up of one's mind.

Preference in the realm of organic form is a matter of purely personal idiosyncrasy, for there is no better, or worse, where interpretation and understanding only are necessary to invest each and all with the splendour of the order of the universe. The misshapen and the monstrous, or even the merely typical, can in this sense be the subject of an absorbing interest. The man with a heart that can beat, overwhelmed by the loveliest she his eyes ever rested on,

is of course not easily persuaded that he is just enjoying the exercise of his judgement of valetudinal values. O, the curve of her chin, and that inviting little ear!

There is this difference between organic and inorganic form, that the former is experienced far oftener with the specific characteristics of generic repetition. The mind thus acquires with respect to the organic a keener critical experience in standardization and comparison. All toads are more like each other than two Alps could be. Our experience of many individual instances of a persisting form tends to create in the mind the typical form, referable to the organism concerned. The relation of the typical to the ideal has both its aesthetic and its hedonic aspects. Organic form is naturally the object of a far closer and more acute scrutiny than is the case where inorganic form is concerned. It is more interesting.

But what of our delight in works of design—discovered form—intentional synthesis of purpose, material, and technique? The analogy between the work of nature and the work of man must be accepted as inevitable. The phenomena of the typical and the ideal and a fastidious, often exaggerated, interest in the 'good example' to the detriment of an appreciation of 'the unique' in design, rest on similar foundations to those on which our evaluation of organic form is based. Two differences may be noted, however. There is a warm human interest about man-made form, very different from the aloof respect, inquisitive wonder, or passionate adoration, accorded to the design and craftsmanship of nature. The fact that men's hearts may glow to us through the works we contrive to present to their inspection is the fundamental motive behind the arts. Then again, while nature's floral and animal monsters are but the exceptions that prove the rule (things of infinite though different interest to nature's beauties, which are expressions of health and strength), man's failures to synthesize purpose, material, and technique in design are of frequent occurrence and result negatively in the ugly. His successes cannot be appraised without experience. To the man who has never worshipped in a church, seen mineral products of larger order than the sand of the sea-shore, or acquired a knowledge of stereotomy, a visit to Hedon Church in East Yorkshire would result only in bored bewilderment.

Now, these several interests we have been considering as appertaining to the contemplation of designed objects have so far all been of a distinctly intellectual order. The sense of sight has been

engaged, attracted, stimulated by external phenomena; but nothing more.

Man's work is generally distinguishable from Nature's by an abundant use of simple geometric forms, many of them generated by mechanical process such as turning, planing, and the like, and many invented because man is a neat and geometrically minded animal.

But neither in accuracy nor in intricacy can the geometric forms evolved by man compare with those that sometimes occur in organic nature. The kind of regularity found in daisies, starfish, and sea-urchins is the exceptional; a symmetrical disposition about an axis, as in the structure of the mackerel and the maple leaf, is more usual as a basis.

Perhaps civilized man, in his education from his uncivilized infancy, learns early in life that regularity of form is the sign of the thing of use. In any case, man has an inordinate interest in 'fair work and square work', and in regular figures, plane or solid as such, whether in nature or in things of use.

Although this interest is not due to optic sensation, good sight is essential for readily testing the regularity man craves. A distorted vision may render the appraisal of verticals difficult and the recognition of horizontal planes impossible. Our passion for the vertical and horizontal in structure originates in locomotor convenience, and in experience of structural stability. Thus, though there is no optical satisfaction in regularity so long as the eye functions properly, there is optical distress (strain in the mechanism) with respect to regular forms when the vision is deranged. This distress is not apparent, under similar disadvantages, when viewing the irregular surface of a moorland hill-side, or the rambling lines of an ancient elm.

Regular forms, as already stated, are observably affected by normal optical illusion in a way that irregular forms are not; especially so when they occur at what may be called architectural orders of magnitude. Here again there is something very like negative hedonic reaction in an organ of sense—pain or unpleasantness, but the strain is instigated by the mind not by the image on the retina. In the corrected form, on the other hand, we note something very like a positive hedonic reaction. Indeed, the illusion of a pleasurable *sensation* when contemplating the orderly reiterations of a Doric colonnade, wherein the grosser optical illusions have been ameliorated, is all but complete. In fact there is an infinitely complex mental

state, in which the inculcation of an absolute faith in the virtues of Hellenic technique may not be the least potent element.

4. *Form-Vision and Feeling*

Form has been investigated with respect to its origins in matter, under stress of circumstance, and as to its entry into consciousness. What of those judgements of value in form which are arrived at so unconsciously and with such casual facility? The attention can hardly be turned to anything from a planet to a carpet tack without some appraisal of value, some degree of liking with respect to its form. If the retina is indifferent in this respect, assuredly the cerebro-optical apparatus is not.



FIG. 24

1. Virginia deer (buck).
2. Wart-hog.

At this point it is convenient to dispose of such erroneous conceptions as are often enshrined in the useful phrases 'pure form' and 'pure design'. The doctrine of aesthetic significance which, if it means anything, must mean that forms have virtue in themselves, bereft of the context that sustains them, to engender states of mind (moods), is here denied. Behind the form there is always the thing itself, or some other thing, from which it borrows an enrichment of meaning.

The words 'pure form' and 'pure design' will recur again and again before we have done, but in a very different sense. The purity will mean that there is no artistry there: that we have just what we find in nature and in engineering—solution of the problem in hand in terms of purpose, material, and technique.

For the perception of a form, one requires a healthy eye, an alert attention, and familiarity with the form; or at least with its elements, if it be a complex or novel affair. The hunter sees deer, and the scout sees enemies, because he knows what to look for—shapes and spots which the uninitiated do not fail to record on the retina, but fail to construct in consciousness. Familiarity opens the way to appreciation. The charm of things is primarily independent of their form, which comes to be a symbol of the charm, readily mistaken for the cause. Roebuck and wart-hogs are equally interesting

per se but, for Englishmen in general, the one is endowed with the romance of sport, and good fare and decorative presentation, and illustrative representation. But Robin Hood and 'his merry men all' have done nothing for the other, and so the wart-hog remains unamiable and grotesque. It is to be hoped that little black boys exist with romantic associations to glorify his slavered tushes and brindled bristles withal, for he is quite a worthy beast.

5. *The Accustomed*

Form, as on occasion the symbol of charm, may be further illustrated by the consideration of classic standards. The value of Doric forms is supported by the whole vast fabric of Greek culture and the historic accident of our inheritance therein. Optical corrections are but a minor ingredient. With equal advertisement the bulbous shafts of Egypt would have enjoyed as perennial a popularity; and that very popularity, resulting in the frequent use of Greek forms, has endowed these forms with an added lustre of standardization.

That one profile may be as good as another, provided there are enough of each kind available to establish an expectation, will not be readily assented to by a 'lovelorn swain in lady's bower'. Reflection on the races of men may, however, bring enlightenment. In so far as the accustomed form is ever the most readily apprehended, there is a basis in quantity production for the admiration we bestow on classic types. Thoroughbreds, be they young ladies, pigeons, or terriers, appear as freaks to a person with experience of an isolated specimen. But to the fanatic zeal of the fancier successive litters of terriers with noses approximating, ever more closely, to the probosces of the ant-eater may be a source of sheer delight. It is because thoroughbreds, be they princes or peasants, are strong in mutual resemblance that they stand out from the



FIG. 25. Western Red Indian types.

mob of mixed breeds and nondescripts with a generic character which facilitates admiration.

Mid-Victorian Anglicans developed a delighted enthusiasm for pointed windows under stress of a propaganda of nationalistic religiosity, which happily opened their minds to the great virtues of a home-grown architecture of long ago. This enthusiasm resulted in a vast output of vulgarized 'Church Warden' and 'Col-

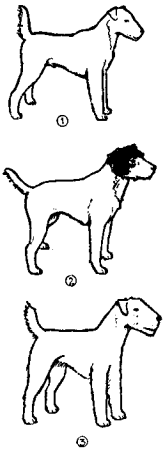


FIG. 26

1. Wire haired terrier dog in show condition (1903).
2. Wire haired bitch two weeks after weaning, in superb coat (1896).
3. Wire haired puppy overbred and much faked for show (1933).

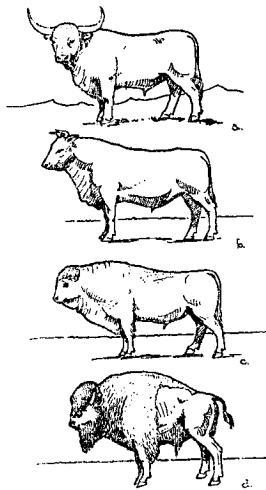


FIG. 27

FIG. 26

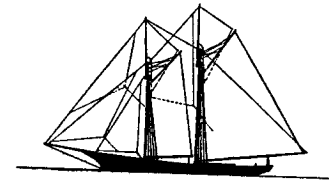
FIG. 27

- a. Highland bull. b. Shorthorn. c. Cattalo (cross). d. Buffalo.

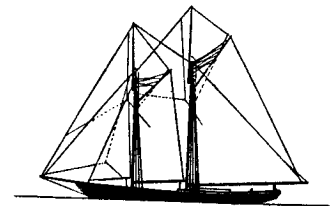
legiate' Gothic; but also in a final mastery and revitalization of the tradition at the hands of a few masters—Garner, Goodhue, Tapper, and certain of the Scotts. 'Church Warden' Gothic is, however, the significant fact from the philosophic point of view and, without the support of its apparently vain and inept repetitions, Liverpool Cathedral could not have proved the success it has. If the generic, the accustomed, the typical, the traditional, are at the root of much of the interest in form, on the one hand, we must admit the efficacy—at least so far as the stimulation of the attention is concerned—of the strange, the novel, and on occasion of the extreme and the

exaggerated in form. But these very characteristics all imply a basic type as a point of departure or comparison. A perfectly new form, one which does not relate in some way to an old one, remains in the realm of the inexplicable, and unless it be associated with some colour interest makes little appeal. Some other sense than sight may reveal it, however. The following extract from an article by G. L. Watson, the noted yacht designer, on the evolution of the modern racing yacht, written in 1894, is illuminating on these aspects of the inquiry:

'I may mention that the first design for the 90 ton "Vanduaara" was drawn with a clipper or out-reaching stem; but I had not the heart to disfigure the boat (as I then considered I should be doing) by building her in this fashion. The rising generation of yachtsmen, however, is entirely reconciled to the clipper bow on a cutter-rigged yacht, and may eventually (though this seems improbable) look with complacency on such outwaters as "Dora's" or "Britannia's".'



OSPREY 1900



BLUENOSE 1920

FIG. 28. The evolution of the Nova Scotia schooner. 'Osprey', 1900; 'Bluenose', 1920.

It is a fundamental error to suppose that the cheery barbarian does not derive acute satisfaction from his ornate and over-elaborated house, and furniture, that reveal him for what he is. The sensitive ascetic connoisseur, to whom that other's apparatus of life is an abomination of desolation, may surround himself with objects of extraordinary simplicity, yet whose every line is instinct with meanings for him that are hid from his friend's robuster fancy. A cultivated taste does not necessarily bespeak a great zest for the things one likes. The barbarian may enjoy more keenly and quite as conceitedly.

It follows from the above remarks that, on the one hand, forms sanctified by use and habit pass into the current abstractions and symbols of art, while, on the other, art is ever ready to utilize new variations of form as a stimulant. Appreciation of form, and more particularly of form as it occurs in art, is thus seen to be profoundly dependent on habit, tradition, and vogue. These establish the code

and the standards which the code enshrines. Forms, like words, wear out, and cease to hold the attention, while new ideas (which are

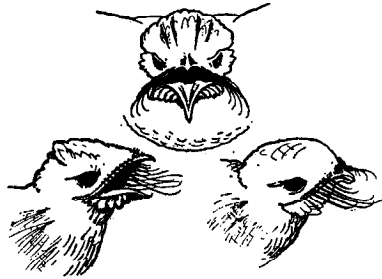


FIG. 29. The nightjar's beak grasps insects without squeezing their blood. The whiskers and mouth combine to form a trap with 'wings'.

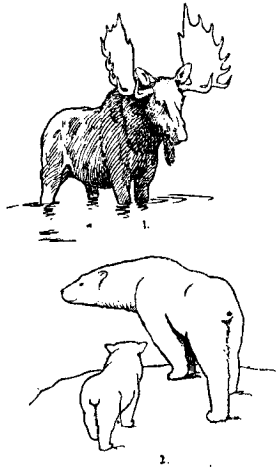


FIG. 30

1. The Moose. 2. Polar Bears.
Mode of life and environment as determinants of form.

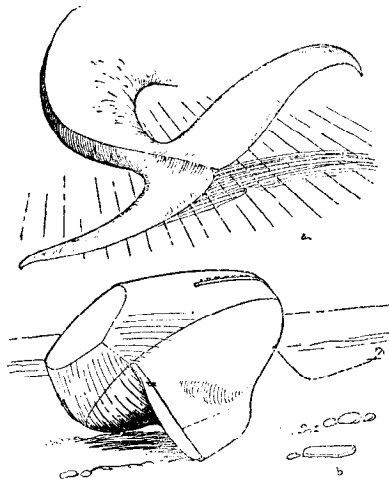


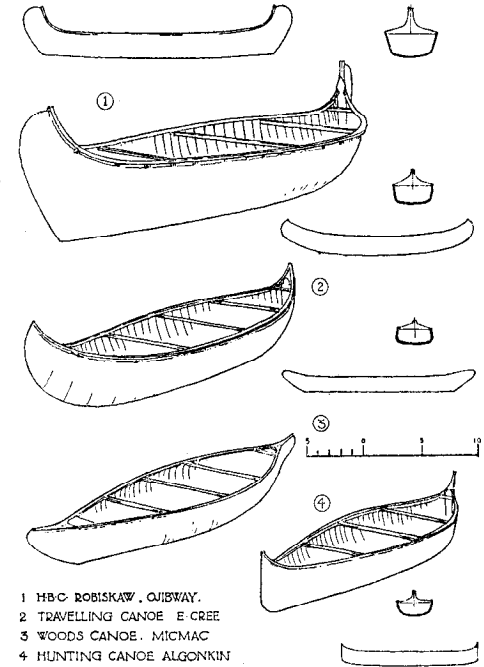
FIG. 31

FIG. 31. Stream lines.

a. The tail of a whale. b. The underbody of a ketch.

never perfectly new) instigate what are called new and compelling forms. Understanding and communion are impossible between a speaker and a hearer bereft of the common bond of a rich language, but the enrichment of a language derives very largely from foreign borrowings and the absorption of slang. So, with the arts of form.

Yet the designers of things, although with manifest inferiority to serene and assured nature, do discover actual form, potential vehicle of 'the beautiful'. When they fail in their synthesis the recognition of such failure, if it is recognizable at all by another intelligence, is the manifestation of the ugly. Such failure in the field of design may result in two or more forms—lack of unity, where one complex form is sought. In architecture, many forms carry an incrustation of thought and feeling over and above their manifestations of purpose, material, and technique; and a too radical new application of an accepted form, amounting to misuse, is a common source of aesthetic failure. All cases of the rapid and the ugly can thus be accounted for. What is ugly to the generality to-day may not necessarily be so tomorrow.



1 HBC ROBESKAW, QUIEWAY.
2 TRAVELLING CANOE, E GRE
3 WOODS CANOE, MICMAC
4 HUNTING CANOE ALGONKIN

FIG. 32. North American Indian Canoes.

Forms of craft primarily determined by the kind of water they ply in, and secondarily by the material available and the method of shaping and putting it together.

Subjectively form is a reconstruction in space, the raw material being direct visual sensation in association with other experience. Objectively form is a special modification of matter under the agency of process in the service of purpose. The shapes of birds and beasts and boats are what they are in virtue of this.

The relation between realization and appreciation of form may be simply stated. *We only see form that is in some sense interesting, and we inevitably derive satisfaction from doing so.* He who 'discovers form'—the designer—only differs in degree of initiative from the observer. One may live twenty years in a city and one may

frequent a particular street two hundred days in the year without becoming aware of a particular building till commissioned to pull it down and replace it; and this in spite of an inordinate interest in buildings, and of the fact that the building in question is good of its kind. In such a case, the unobservant enthusiast suffers from so strong a stylistic infatuation that he simply does not recognize form outside the narrow compass of an artificially stimulated traditional experience. Yet within that compass he may see and feel acutely—a Gothic revivalist, an academist, or an 'art nouveautist'—it is all one. Custom and habit have, as it happens, more to do with appreciation than any intrinsic qualities of design.

But it is here that Nature's processes affecting the survival of short-billed pigeons and unbalanced structures come to the rescue. The highest insight of the critic, the inventor, and the artist, all tend to a substitution of new lamps for old, whereby design receives illumination. It is this evolutionary progression in design that ultimately triumphs. Form appreciation may depend on the habitual, but the habitual is amenable to the law of change. Erratic and individual as form preference must be, founded as it is on the shifting sands of individual experience, there is a fundamental basis for design, quite independent of established taste or the cult of the moment.

So much, then, for the enjoyment of form and the negligible part the retina plays therein. Yet it is well to remember that we habitually ignore the indifference of the retina, regarding what our minds have created as wholly objective. Furthermore, we expect other people's minds to be affected precisely as are our own, instead of functioning like ships, loaded with different cargoes of raw material, but sailing on parallel courses. Pig-iron and cotton engender very different behaviour in the same squall of wind. Thus we prattle of 'the beautiful' as if it were a property of matter, assuming that all see what we ourselves see, and with precisely similar enthusiasms.