

## GENERALIZED ESTHETICS

### I. FORMS

Forms are produced, it seems to me, by *chance*, by *growth*, by *design* or by *imprint*. The curves of a pebble, the elusive architecture of clouds, flames, cascades, the cracks in dried-out soil are the result of a variety of causes, or if you like, a variety of interacting accidents, compromises between concurrent forces, balances, wear, or varying degrees of inertia. These, though perhaps calculable, are hardly worth calculating. For we know ahead of time that the final outcome must be arbitrary, depending as it does on thousands of successive and transitory rivalries. No significant phenomenon can result from such a series. Forms generated in this way are the outcome of an infinity of varied accidents, which are conjoined, composed or cancelled out in an unpredictable manner. They are like dream images, and sometimes, just as ravishing. No law presides at their formation, which obeys too many laws at once, and, what is more, laws unaccustomed to one another and brought together by accident. The origin of this kind of form is properly assigned to *chance*, though I am well aware that such forms owe their appearance to a welter of determining causes,

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each of them tyrannical in their separate domain. But the welter, though in the end determinant, is itself accidental.

These forms know no order, symmetry, repetition nor rhythm. If it were otherwise, this would mean that the welter of causes which seemed to produce them in an essential uniqueness was subject to law. This consequence is contrary to the hypothesis.

While two agates may resemble one another, no two of them are exactly alike. The meanderings of their veins may present comparable features, even geometrical analogies. The stones themselves have no doubt a related composition. The same salts have tinted them, and the same forces have inlaid their concentric bands. Each stone remains nevertheless unique beyond remedy. To achieve absolute identity, an inadmissible miracle would be required.

It is true that I can cut a homogeneous stone into interchangeable cubes or slabs. But in doing this I add design and execution to the material, and the object is thus transferred from one classification into another.

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Each living thing develops according to its own internal law, its own principle of organization. From the moment of generation, its future appearance is already determined. A tiny kernel determines the future tree. A predetermined flower waits in each seed for its time to blossom. Every chromosome encloses an immutable destiny. The plumage of every species of bird, the skin of every variety of fish or reptile, the shape, pattern and coloring of butterfly wings, the whorls or valves of sea-shells, all arise from an invisible cell. Here we find an endless duplication of a single archetype, perpetuated and propagated by time itself. Every generation of tigers comes into the world with the same black and yellow stripes. But we find more than repetition, more than unlimited multiplication of a given model. For a new quality emerges in the model: symmetry. A higher order imposes a pentagonal structure on the clematis, and makes the sides of vertebrates duplicates of each other. Matter finds itself divided along one or more axes, whose number is always prime, for life requires not only a right and a left, but also a fore and an aft

and an up and a down. Life does not tolerate duality, but combines symmetry with direction.

This second kind of form is defined, not so much by this combination, as by the phenomenon of *growth*. By "growth" is meant a development which respects the original outline. In most cases, an organism grows without perceptible change in its appearance. It is true that the insect emerges from the chrysalis in its fully developed form. But the larva had developed gradually. Thus the capacity for a continuous change in scale, with the form remaining constant, appears to be one of the characteristics of life. Mineral though it be, the protective shell of the mollusc is subject to the same law as the rings of the sap-wood or the soft floating substance that fills the caterpillar. Starting from a hardened center, the calcareous secretions push outward in a logarithmic spiral, the simplest of all modular progressions, and the most economical. This is the origin of dynamic symmetry.

The *Tatcheria Mirabilis* is as neat and geometrical as a screw. But it has a different origin, being the offspring of incompatible proceedings. The identity of the end product is significant, but at present I am more concerned with the means.

When a living form is mutilated, we can supply the missing parts in our imagination or by mental calculation, something that is never possible in the case of a form produced by chance. What makes this possible in the case of a living form is the law visible in its design. It even happens, moreover, that the living form itself regenerates the wounded or missing part; and unless the damage involves an essential organ, at the very seat of life, the form is soon restored in its entirety.

The same is, of course, true of crystals. But crystals are also the only inert bodies endowed with a symmetrical structure. The number of their lines or planes of symmetry, however, is never prime. Prime numbers appear to be beyond their reach, the exclusive privilege of another level of organization. Nevertheless, crystals know a right and a left; they are born, they grow and they become scarred. I do not, of course, suggest that they are alive. They lack the essential: flexibility, fragility, a foothold for death. They are even at the opposite extreme from certain jellies, shivering and perishable, which chemists study in order to discern the first flutterings of life. This contrast shows at least that there

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is an autonomous realm governed by a law sufficiently powerful and stable to be able to organize matter. Because of this law, these prisms, hexagons or tetrahedrons cannot be put off as accidental, like the first kind of form, those due merely to the blind and indifferent play of external pressures.

Looked at from another perspective, living forms are not created by anyone. They seem to be their own sculptors. But they also seem to be chained by a hidden necessity; they are not free to throw off the yoke of their laws. The author is thus intermingled with his work, and both of them, invariably and indistinguishably, obey without either choosing or demurring.

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As soon as there is design, conscious intention, the work is distinct from its maker and outside him. It is matter which has been worked, or at least deliberately transformed with a view to an expected effect, even if the effect could not be foreseen and most of the work had to be left to chance. The web of a spider, the nest of an ovenbird, of a red spider or of a stickleback, the simplest utensil and the most complicated machine, a toy no less than a monument, all the things that living beings invent and create outside themselves for their subsistence, comfort or pleasure, provide a third kind of form. Works of the fine and useful arts belong by right in this category; but so also do the works of animals: the fragile or enduring structures which a powerful instinct pushes them to set up. Such forms are not the forms of living things, but forms produced by the actions of living things. The more accomplished ones were conceived before they were executed, and were thus produced by *design*. Inert matter had to be worked by hand, perhaps with the help of tools, or by an even less specialized organ, like the beak of a bird or the tail of a beaver; it had to be bent to the artisan's will, made to yield to his need to modify it for a definite end, no matter how obscure the end, or how poorly (if at all) the end was represented in the mind of the artisan. Work is here the important thing, and work implies effort and error, forethought and hindsight, good luck and ill fortune. In general, work presupposes a prior resolution, be it only to refrain from all reflective interference or intelligent

guidance, to renounce in advance the advantages accruing from ingenuity, method, perseverance and skill.

The choice of material precedes, in any case, its transportation and manipulation. Even if the author has merely followed an instinct or has let the forces of creation run their course without control (though not without consent) and without let or hindrance (though not without help), the work will bear the imprint of his choice; and even though it may be formless, it will have the form he wanted it to have. Herein lies his preference; herein his deed and perhaps his misdeed, and certainly his responsibility.

Among the works exemplifying this kind of form are mere exercises in technique, as well as products serving purely useful ends. In addition, there are works created for the sheer beauty of their appearance. These may have been born of inspiration or, in the extreme case, of a kind of somnambulism. They may be the end result of a long series of trials and successive approximations which reveal, at times, the history of the work and even the biography of the author. These forms do not come from nothing, but are announced, anticipated and prefigured by others of their kind. When, in the domain of art, the process of creation reaches the point where it looks as if it were suspended in a void, and even where no reminiscence seems to have influenced the artist's arbitrary powers, the forms prefigured in this way invariably present themselves as tentative, or better, as venturesome solutions even when they arouse boundless admiration. A work of art gives rise to the feeling of perfection when the spectator, fascinated, cannot imagine it to be otherwise than it is; in other words, when it leaves him nothing to desire. But how can one be sure that it will cast its spell over all or even over most spectators, and forever or even for long? In beauty there is something accidental, variable. Beauty needs the acclaim of a variously constituted panel of judges; and though we know such verdicts to be fallible, we listen to them nevertheless.

Forms produced by chance or growth have one kind of beauty, those produced by design another. Beauty of the latter kind seduces in more devious ways, and I suspect it of being less directly appreciated and, thereby, with a wider margin of uncertainty. For its charms depend not so much on nature as on civilization, though it is ultimately from nature that they are derived.

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A set of conventions or, if you prefer, of prejudices and, in any case, of tacit preferences, defines every new way of viewing the world, and thus every new way of appreciating the various arts. They give direction to our naive perceptions and familiarize us with an implicit or formulated style as it appears at a given point in space and time. Different styles, no matter how irreconcilable, are nevertheless related by their common origin: by the attempt to introduce regularity into natural forms, and by an ambition, which is the search for a certain excellence. The fact that different styles have common roots is very instructive: it brings up the question of the relationship of art to beauty.

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Once the external object is created, the manufacturers can take over: to reproduce the work is only a matter of technique. A single matrix can multiply a statue, medal or motif an indefinite number of times. Lines and reliefs, even colors and sounds and images of movement, are thus capable of reproduction. When the *imprint* is taken and the *mold* is made, imagination and skill cease to be required. From then on, it is a simple automatic process, the mechanical duplication of an original which did not itself come into existence with such supreme ease. This manner of reproduction is characteristic of inanimate objects: of objects produced by *design* or, even possibly, by *chance*, and thus without the power to propagate themselves on their own. When the original is produced by chance, the copy runs the risk of remaining superficial; for more often than not, it must be reproduced in a different material, because the original material proves to be too inflexible. In any case, this manner of reproduction is mechanical and derivative; it yields second-hand objects, similar in form to preexisting models, if not perfectly identical with them in form. The more numerous, spontaneous and impeccable the copies, the less they owe to the skills of a workman, and the more to the operations of a machine. It is usually the first or the third kind of form which is duplicated in this way. The reason is that artifacts can only capture the inert. The substance and germ of life are beyond them. A machine can achieve only an illusion or a facsimile. Nobody imagines that industry could ever reproduce, in the exact sense

of the term, and not just imitate, a flower, a wing or even a shell. Such an enterprise would be at once absurd, useless and impossible.

By definition, the forms of the fourth kind can provide no innovations. They repeat without adding anything to the universal repertory of forms. There would be no need to mention them if I were not here concerned with classifying forms according to their origin, it is precisely the way in which they come into existence, and that alone, which makes me place them in a new category, side by side with forms due to chance, organic growth and intention. Apart from this, they are derivative: manufactured replicas of prior phenomena. It is true that the manner of reproduction characteristic of living beings also preserves identity of form. But the egg or the seed appears by comparison as the matrix of a very specific species, and it does more than one job at a time, serving both as matrix and germ. The mold is in this case indistinguishable from the clay, and the seal is thoroughly confounded with the wax. The imprint comes from the inside, and the organism acquires the form it had possessed from the beginning. The process of acquisition is that of a slow intimate unfolding; no vagrant, exterior form intervenes to imprint its own form at a single stroke.

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No matter what their origin may be, whether accident, growth, project or imprint, some appearances are judged beautiful, others ugly or hideous, while most of them remain neutral, at least as long as they have not been singled out capriciously for human contemplation. They are then seen in a new light, if not for the first time, and question of their *beauty* must be discussed. There are occasions when the works of nature, whether inert or animate, show a spontaneous beauty which rivals, on its own terms, the beauty of works expressly conceived by a deliberate technique for utility or to give pleasure.

## II. BEAUTY

There are two kinds of beauty: the beauty which man discovers in nature, and that which he creates on his own initiative. The same words express our admiration for either, and there would be

no problem if man always and everywhere admired the same things, whether landscapes or paintings, trees or temples. But this is not so: the ideal of beauty seems to vary with taste, which is to say, with the region, the period and even the individual. The various ideals are due to custom and education, and diverge to the point where they could be called contradictory. Every civilization insidiously persuades the individual to accept certain unavowed tendencies which he accepts as natural, but whose real origin is history or the school. The perceptible world is only seen through a screen which influences the way of looking at it and suggests hidden preferences which are in principle mutually exclusive. But how is it possible for the eye to respond to the art of the antipodes or of another age, if this art is evidently based on an opposite choice? A consensus which is almost unanimous must have a common basis. Without such a basis, it would be inexplicable why certain spatial relations and certain gradations of color appear so generally harmonious and strike a sympathetic chord, whereas others are no less generally displeasing and betray an obscure and inescapable discord.

This common universal basis which is live and strong enough—though indecipherable—to be felt through all the contrasting layers of every successive tradition, can only be nature itself. If we start with nature, even the most divergent ideals of beauty fall together like the pieces of a puzzle. We can see the same attention, if not the same design, and a common effort, previously disguised by so many disparate and antagonistic means. Natural forms constitute the only conceivable origin of beauty. Everything natural is judged and felt to be beautiful, as well as everything that resembles nature by either reproducing or adapting natural forms, proportions, symmetries and rhythms. The impression of beauty could have no other source. Man is not really opposed to nature; he himself *is* nature, for he, too, is matter and life, subject to the physical and biological laws governing the universe. Man coincides with the laws that penetrate, traverse and organize him, or at least, he is inseparable from these laws. To say that these laws create beauty is to say little. They secrete beauty, and beauty is nothing but their visible appearance. Their effects are not, if you like, beautiful in themselves. In most cases, they pass unnoticed, and if they do fall into the category of esthetics, it is by



way of human appreciation. But these effects are, necessarily, what man must call beautiful, and on the basis of which he deduces an idea of beauty. The term itself is only a way of naming something common to all of them, and which distinguishes them, if need be, from the effects of contrary procedures.

Let me try to restate this. What appears harmonious to us can only be what manifests the laws which govern at the same time both the world and ourselves, what we see and what we are, and thus, what suits and satisfies us by *nature*. There is no escape from the net in which we are entangled. When we take something to be beautiful, whether creature, object or event, we are convinced that we do so after careful judgment. But the alleged decision is nothing but a tacit acceptance of the universal game and a confession that we are taking part in it. Nature appears to be a set of infinitely different appearances. They spring, nevertheless, from a single system which includes the eye and its vision as integral parts. This profound complicity explains an inevitable consent, and is well expressed by Plotinus, though with some exaggeration: "If the eye did not have the form of the sun, it could not perceive it." The organ belongs to the world it reflects; hence its connivance.

Man remains an animal, a body and a piece of matter, when he extends nature or adds to it; when, as a painter or sculptor, he traces a line or shapes a volume. He is neither judge nor creator; he is a slave, consubstantial with nature, imagining himself docile or, more rarely, rebellious, he is not even autonomous nor, insofar as his basis is concerned, differentiated. Beauty is not an invention, but a gradual discovery. From the very beginning, ever since we were born, our eyes have adjusted. In the blind and infallible surroundings out of which independent beings occasionally emerge, dissonances come about only as a result of awkward experiments. Apart from the intellectual pride of opposition, the only plastic pleasure comes from acquiescence. That which produces the décor, produces also the ability to appreciate it. After countless meanders, the impression of beauty arises from this correlation; it is in fact the pleasure arising from the recognition of this discovery. It would be exaggerating to speak of a preestablished harmony: everything is an expression or manifestation of a single indivisible nature, even that which was intended to oppose it. I am

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not far from believing that even the term "beauty" is superfluous: there are only signs of comprehension among members of the same family, emblazoned on the same heraldic shield, like a photograph of waves superimposed in sinuous and somber garlands on so many sea-shells.

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Nature alone provides man with his criteria of beauty. Nature is his only register, his only catalogue, his overt or covert inspiration, the whole of his rights and privileges, a surreptitious norm, a concealed table of reference—his only one. I am well aware that every artist claims to be doing something *else* or something *better* and not merely imitating or reproducing. He claims to be going back to the essence of things, to rediscover, underneath the dross, the elementary and basic relationships. But no matter how disconcerting these may prove to be, the artist hopes, nevertheless, that they will reveal the ultimate organization of nature and its abyssal constants, for otherwise he would have to admit that his productions are arbitrary contrivances and works of fancy without significance.

Such a conclusion, based on irrefutable evidence, would not be open to discussion, were it not that it appears to be contradicted by several truisms suggested by common experience. Because of their very obviousness, these truisms tend unwittingly to gain the upper hand over an abstract truth whose very transparency contributes to its neglect because it makes us write it off as an empty tautology.

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Nevertheless, if nature is indeed the secret criterion of beauty, why do so few things in nature arouse our admiration? Why do we seem to recognize the beauty of nature only through works of art, and only if they provide a resemblance to nature, or make us think of it? It is true that we are so used to art that we often come through works of art to the appreciation of natural beauty. The reason is that art is of our own making. I do not actually assert that everything in nature is beautiful, but rather that nothing

in it is ugly. If everything in nature were beautiful, we could not distinguish beauty, and it would be inconceivable for us to search for it in rare examples, as if it were a kind of miracle; nor could we, after finding it, experience a mixture of stupor and satisfaction. In nature, the marvelous is so infrequent that we almost feel that it invades the privileges of our art and takes such liberties with it as to engage in some kind of unfair and unacceptable competition.

Most minerals, leaves, flowers, insects or shells do not attract our attention. Only certain crystals, corollas or butterflies fill us with delight by their harmony or magnificence. The same is true of landscapes. Certain animals, of course, appear hideous or repugnant, like the bat, the spider, the polyp or the snake. But they are not ugly; they only arouse fear or horror, sometimes for good reason, but more often because of some superstition. Myth counts for more than their appearance: it is not through disproportion that they appear frightening; they are, rather, the victims of mysterious associations of ideas, of prejudices entirely without foundation. If they can now be seen to arouse panic, to provoke disgust or to elicit a kind of visceral reaction, the explanation is to be found outside esthetics: in our animal depths, an altogether different region of sensibility.

Nature may appear horrible or monstrous: a teratological deformity, produced by chance, is disconcerting and aggressively violates the established order. If we are displeased, upset or scandalized, it is in order to alert a hidden defense mechanism. We are alarmed by an anomaly which suddenly reveals the precarious condition, not only of man, but of every living thing.

Ugliness properly so-called appears in nature only when an organism capable of doing work undertakes to alter nature on his own initiative, tries and fails. The spirals of the *Xenophora* are perfectly formed, but molluscs of this species have the unfortunate habit of decorating their shells with debris and other calcareous fragments. *Oxyrincha* crabs attach algae to their carapace, as well as the remains of dead animals, gravel and bits of glass, with results which are hardly satisfactory. The spotted bowerbird of Australia, the paradise gardener, the golden bowerbird of Queensland, still other birds whose bills are sometimes equipped with teeth, like the satin-bird and the Australian catbird,

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build nests complete with vaults, corridors and terraces, and decorate them with brightly colored objects like hyacinths, berries, small bones, snail shells, bottle caps, kitchen utensils, etc., depending on their habitat and what they are able to pilfer. They line the inner walls of these constructions with herbs and chopped-up bark, using saliva as glue. Every species has its favorite color. At mating time, between dance and mimicry with their very elaborate ritual, the male presents the female with the assorted treasures which he has collected and "artistically" arranged with a view to pleasing his mate. Observers have not been struck by the beauty of the result, which they find deplorable and in painful contrast to the tasteful coloring of the workers' plumage.

Man is similarly fallible in his creations, for the possibility of success entails the possibility of failure. There are no ugly flowers, with the exception of the parrot tulip, which is precisely one of the flowers which man thought it necessary to add to nature's repertory. Landscapes may inspire indifference or boredom; they are not in themselves ugly. But if man knows how to create admirable gardens, vistas and parks, and to make them restful and charming, he is also capable of turning the most beautiful spots into ugly ones, by setting up billboards, factories, stations, bizarre or graceless buildings.

By an inevitable hypothesis, everything in nature is *naturally* beautiful. But this does not prevent it from being almost always neutral and, in the extreme case, invisible. It is therefore tempting to improve, to perfect, to make explicit, what too many things in nature conceal. We enjoy rearranging spatial proportions, combining colors, choosing, composing and acting as masters. Hence our initiative, and the initiative of those birds who, not content with the brightness of their feathers, try to win the favor of their mates by other means. Here every addition is dangerous, and can be made only at the risk and peril of the author, for he is no longer sustained by the infallibility of nature. Art begins at this point, with its odds, for and against it.

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In the second place, if natural appearances are practically innumerable, it does not follow that this is also true of their underlying structures. On the least differentiated level, that of inert

matter, we find relatively stable configurations of molecules, and a limited number of theoretically possible concatenations, not exceeding a few hundred. There is no pentagonal nor pentagon-derived symmetry. Neither the isocahedron nor the dodecahedron appears on this level, but is found only with the *Radiolaria*, and thus, with living organisms. And the pentagon to compensate for its exclusion from the world of inert matter, comes to dominate the world of plants and sea animals.

Shells, those external skeletons which develop at only one of their extremities, are subject only to a single law of growth: the spiral.

The various arrangements of leaves along the stem do not differ essentially from the various configurations of crystals. Thus there are far fewer constants in nature than the variety of individuals and species would lead us to believe. I therefore assume that nature is governed by a small number of rules; the same rhythms recur without variation, and the dominating part played in nature by the golden section and the series derived from it, is enough to suggest such hidden regularities. This dominance has suggested to many artists more than one supposedly infallible formula. There is nothing strange about such repetitions in the universal interplay of things: every structure has to conform to many conditions of balance by which it can achieve coherence. These conditions could not, therefore, be innumerable. As the atomic structure becomes more complex, or the living cells become more highly organized, an ever-increasing severity is called for. More demands must be fulfilled, with the result that the range of viable forms becomes more and more sporadic, rather as prime numbers become more and more widely spaced as the number series progresses.

Orthogonal symmetry disappears, along with hexagonal symmetry, as soon as life comes into play—as soon as belly is opposed to back, roots to branches, mouth to anus. Of the three perpendicular planes of symmetry found in cube-shaped crystals, only a single one remains. The loss of the other two constitutes the price exacted by life.

I am well aware how daring these conjectures are, but I am convinced nevertheless that patient research would bear them out and even continue their ramifications indefinitely. Thus it might

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explain the still mysterious restrictions which prevent a flower from being green or a butterfly from being scarlet. This prohibition is not, incidentally, absolute, but fluid like life itself. The flowers of the tulip tree *Liliodendron tulipifera* are greenish, and the wings of the *Appias Nero* orange red. These are surprising exceptions which cannot be turned into rules or precedents, but serve to bring out the uniqueness of each case.

The details of this secret legislation and of its occasional exceptions are of little account. They seem to me important only insofar as they suggest that we are the victims of an illusion when we think that nature produces impartially all logically possible combinations of lines and colors. Relatively few combinations pass her severe tests. We are impressed by the boundless variety of forms we find in nature, but their boundlessness is only a mirage: Constant rules underlie the most varied applications. These forms, these structures, these balances, which necessarily provide the model and likeness of beauty, are neither free nor abundant, but so rare that it takes much knowledge and much patience indeed to unveil and seize them in all their basic purity, with nothing to vitiate or to cover up their perfection.

Such a pursuit may well be the defining ambition of *art*, whether it sets out to imitate natural phenomena or, on the contrary, rejects appearances and seeks to reinstate their underlying laws.

Once again, we are led back to the challenge and the risks involved in the artistic enterprise, and to a consideration of its claims and its procedures.

### III. ART

Art is beauty which is *expressly* produced: the kind of beauty which represents the external embodiment of an inner design, man's contribution to the universe, his deliberate creation by means peculiarly his own. To make his contribution, man may choose between several alternatives. In fact, he has to choose if he is no longer content to contemplate the beauty around him that spontaneously arouses his admiration, or which he learns gradually to recognize. He has to strike out on his own, for his own pleasure, and must compete with the universe of which he himself is a

part. Art exists as soon as an idol or some other devotional object, a weapon or a tool, also awakens the feeling of beauty (no matter how confused and indistinct), even if the object was not originally intended by its maker, for any purpose beyond itself. For even if its beauty was but an accidental by-product, it is henceforth conceivable that a sensitive being should attempt to experience beauty or cause it to be felt, by others, for its own sake.

Man is as capable of imitation as of invention, of reproduction as of innovation. To oversimplify somewhat, it seems as if artists have always had to choose between two principal, and opposed, ways of providing a surface with lines and colors in such a way as to render the result pleasing to the eye—and it is in this that painting, strictly speaking, consists. Some have chosen to reproduce the natural forms of the universe, those under their very eyes; others, to construct forms which have no direct models in nature, but appear to be the result of abstract speculation. Imitative art is thus opposed to constructive art. At the one extreme, we find the *trompe-l'œil* tradition; at the other, the kind of art which relies, basically, either openly or secretly, on geometry.

One style of painting is thus representative and the other constructive. But there are many different ways of representing or constructing, as there are many different degrees of accuracy of representation or strength of construction. As to the choice of an object to be represented, or a figure to be constructed, there is room here for infinite variation. A given choice shows certainly a great deal about the personality of the painter. But it affects his painting only indirectly and incidentally. If his artistic success or failure were a function of this choice, it would also be a function of his use of new materials or techniques. As it is, there is no direct connection between choice of subject and the art of painting, and in most cases, no connection at all. The art of painting is defined by other factors: as I pointed out, it is initially determined by the artist's intention to represent or to construct, depending on his preference for either perception or abstraction.

Figurative art reproduces the characteristics of nature, without aiming exclusively at resemblance. For it tries to temper accuracy with sensuality, and to transfigure reality rather as poetry exalts that which prose is constrained merely to state. It captures a fleeting moment, a shade, an image, the radiance of a smile or of

a landscape, the solemnity of a ceremony, and every passing shadow which man would rescue from the passage of time. This kind of art may even distort what it reproduces, for the sake of greater expressive power, or treat it as a symbol, for the sake of added significance. But its distortions are dislocations of identifiable elements: the composite beasts of mythology are composed of parts of living creatures. The steps may be more or less numerous, the tricks more or less dilatory, but even the most fabulous scenes and the most allegorical imagery will always refer in the end to the real world.

Constructive art, on the contrary, assembles abstract figures; it seeks to please by some regularity, by the order it displays in obedience to some law, whether simple or complex. It deduces the forms it employs. If it borrows them from the visible world, it purifies them, distils them, so that they no longer express any but disembodied relations. Angles, dimensions, curves and volumes reflect determinate and unambiguous properties which are independent of any representational basis and characterize purely ideal dimensions. Figures with manifest virtues, skilfully arranged, are placed in infallible patterns in comparison with which any resemblance to nature or history is never more than sheer coincidence.

It is nevertheless such furtive accidents—these countless reflections which we cannot look at twice—where nothing about them is or remains the same, which figurative art tries to preserve. No appearance or anecdote is beyond the reach of this art: it represents faces, bathers, crows flying over a cornfield, water lilies, apples, the carcass of an ox, crucifixions of gods, coronations of kings, as well as dreams and hallucinations, not to mention the inventions of myth. The freedom enjoyed by this art seems subject only to a single restriction: the avoidance of exaggerated and obvious repetition and symmetry. Representative art must either paint the unique or render unique that which it paints.

Speculative art, on the contrary, produces the arabesque and the Greek key-pattern, the rose-window and the punctate design, volutes and tracery, ceramic motifs, wickerwork, lacework and tapestry. These two roads appear to be absolutely distinct, both along the way and at their destination. But there are, nevertheless, frequent exchanges between them. A painter faced with the



problem of balancing masses, and perplexed by the various relationships between colors or lines, does not reject the golden proportion which can assure in advance the harmony of the finished work. Geometry is thus introduced into the confusion of sensation. An artisan, on the other hand (and I mean an artisan, for an artist who relies on symmetry and repetition is naturally close to the artisan and never succeeds in differentiating himself completely), may deliberately fill his canvas with motifs taken from the external world: from leaves or flowers, fish or bird. But he does not take as he sees them and as they exist in their picturesque uniqueness. He simplifies and places them in a regular pattern. By thus forcing them into geometry, he makes good his original premise and remains faithful to the principle of his art.

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Both styles of painting have a long history, and their vicissitudes have often been described and commented on. It seems to me interesting, and timely, to pursue the principle of each style to its logical conclusion, to the point of disintegration, a point which in all likelihood has now been reached. Let me begin with representative art which, incidentally, I prefer to call *discursive* art, for it expresses in images, which are necessarily signs, what language expresses in words. Words no less than images stand for living things, objects and events, and images cannot be prevented from signifying any more than words can. However, discursive art frequently seeks its expression through distortion, which often reflects the personality of the artist more clearly than any effort to obtain resemblance ever could, and comes to be valued as his very signature. Little by little, distortion comes to be looked for, studied and praised. The margin of distortion never ceases to grow until, fed on praise and greedy for more, it devours everything else. Nothing remains untouched by an almost obligatory daring, as the audience expects the artist's audacity to eclipse all such previous feats. This law is as imperious as the law of gravity, and just as irreversible. It is the expression of an inner necessity in discursive art. Given the premises, the conclusion necessarily follows. In the end, this kind of art ceases to be intelligible, having cut itself loose from its original. Sight can no longer

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recognize the ensemble of lines; memory can no longer recall its origin, and imagination seeks in vain to go back to a model if only to appreciate the metamorphosis it has undergone.

A parallel destiny awaits geometric art. This kind of art is closer to music than to discourse, in the sense that the artisan juggles colors and balances in something like the way in which the composer plays with sounds and the resources of counterpoint. Reduced to nothing but linear or radial symmetry, to the repetition of analogous elements along a frieze, a centrifugal arrangement around one or more focal points, or distribution in a regular pattern marked on a surface, this kind of art would soon become mechanical and monotonous, devoid of vitality and surprise. But the artist soon learns to introduce a calculated negligence which, though barely perceptible, saves the spectator from being fatigued to the point of hypnosis by an inexorable series of echoes. In order that the attentive observer can recognize that it is calculated, this false irregularity calls for a response, a reply, in such a way that the dissonance introduces a new and more subtle kind of symmetry which tempers the other and gives it a kind of vibration. We thus may be struck by an inexplicable detail in the design of a rug, by a line or color which, after careful scrutiny, turns up at calculated intervals, but often calculated without too much precision, apparently for the purpose of restoring some flexibility into a lifeless universe. The fact remains that this minute disorder troubles only lightly the continuing impression of order. But an initial impression of order may also be blurred to the point of being effaced, for no weightier a reason than that the formula is too complex: The repeated elements may be too widely spaced, or they may vary along too many dimensions interrelated in too many different ways.

From such relationships—rare, remote, unaccustomed, difficult to analyze—it is but a short step to a labyrinth of lines which looks as if it had been traced at random, and appears at first to have no organizing principle behind it. To the uninitiated, the models which mathematicians make out of brass wire or some plastic material to represent the curvatures of multi-dimensional spaces look almost exactly like contemporary sculptures, although the artist, in his pursuit of pure spatial harmony, has not taken the trouble to exemplify a single equation. This is not to say that the

resemblance is surprising. On the contrary, it seems to me significant in that it reveals the relationship between the actual or possible structure of the universe and the idea of beauty, which makes the one the criterion of the other. But I must emphasize the fact that it also illustrates how the strictest calculation and the most unrestricted pursuit lead in their separate ways to the same conclusion. Where the contours of a work are in a fluid state, and depend mostly on the competence of the spectator, or on his ability to arrive by conjecture at a formula which would explain what is virtually inexplicable, that part of the work which does not obey explicit rules often coincides with the result of rigorous speculation.

From that point, it is no longer necessarily a question of forms which seem destined by their very abstraction to remain clear cut and distinct. The painter is led to dissolve and destroy them, to attack their shapes and the laws which would continue to give them a vestige of regularity. Like the forms of the world, mentioned above, the forms of calculation cease to be legible. Even the trained eye finds itself incapable of discerning, in the final composition, any traces of perception or of geometry.

It may well be that some traces of perception or geometry will always remain; that the artist committed to progress can never achieve a systematic destruction of his starting-point, a complete annihilation of everything that would recall the original appearance or the initial rule. But any traces of this kind are always bound to appear as failings, as gaps, empty spaces, and hence, to be obliterated. Thus there arises a strong temptation, which soon becomes irresistible, to leave out the intermediate step, the process of decomposition altogether, and to proceed at once to the final stage, though not without making sure that no fragment capable of interpretation has by some unfortunate accident found its way into the final medley. It is at this point where knowledge and invention cease to be used for the purpose of constructing a work and perfecting it, but come to be used instead for the purpose of developing ever more reliable techniques for preventing the work from revealing anything recognizable, either by accident or by force.

This itinerary is so fixed, the mechanism so well regulated, the logic so inescapable, that literature has taken the same road as

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painting. The story of writing can be told in the same words, and at the same time, as the story of the image. At the outset, discourse, like painting, is expected to be exact, that is, to correspond precisely to what it claims to express or to represent. Then it appears that art consists not in *what* is said or represented, but in *how* this is done. As a result, direct resemblance ceases to be considered the principal virtue of art. The virtues of suggestion, reticence, detour, are at first suspected, then discovered; in short, all the resources of art come into their own, their rightful inheritance. Afterwards, art is allowed to be daring, and its audacity, tolerated at first, is soon encouraged until it becomes obligatory. The value of text or canvas begins to be partly measured by the difficulty of understanding it, and the painter or poet is thus led to disguise its sense. To prove that he is a serious artist, not content to pursue the accepted route, he introduces refinements and undertakes research which keep the reader or spectator from being let in on his secrets at once. Since the pleasure of discovery is all the more vivid when it has been postponed, in proportion to the length of time needed for the initiation, the artist is led to set up more and more obstacles, to go further and further away from direct expression or faithful representation. In the end, the gap becomes so wide that it looks to the layman as if nothing intelligible had been expressed by the words, and nothing identifiable represented by the colors and lines on the canvas.

At this point, the artist takes the decisive step: He cuts short his arduous labors and arrives at once at the result, or rather, at the brilliant improvisation which takes its place. He leaves the spectator free to interpret it as he likes, or to refuse to search for an absent meaning, for the key to a non-existent enigma. The canvas or page is at best provided by the author with a title which suggests some connivance with perceptible reality or some accredited system. Thus the label may refer tentatively, in an experimental manner, to metaphysics, music or mathematics, or to any other distantly related field.

Thus the evolution of poetry seems to run parallel to the development of painting, from the moment when it was recognized that excessive clarity limits the force of poetry, to the moment when the poet decided—not without difficulty—to prevent it from offering any meaning. In both cases, we witness the same

reversal, with this difference: since colors and lines are not as closely tied to definite meanings as words, the orgy of abdication could be pushed further in painting than in literature.

This is the road which painting had to take to arrive at its present stage where it dilutes and muddles all forms. It is very remarkable that the opposite style of painting, that which is closest to discourse, ventures into symmetry, apparently in response to some general urge. At the outset, however, this kind of painting is hardly differentiated from the pictograms which replace writing among people unfamiliar with the alphabet. Its only reason for being is to transmit information. Good examples are the emblems which were fashionable in Europe in the sixteenth century, or the occult engraving which translated the secrets of alchemy into images. These highly allusive compositions remain totally mysterious to anyone who lacks the key to their language. To the uninitiated, the symbols seem to lack sense, and their groupings entirely arbitrary. The forms are intact, but their sense escapes them. An undecipherable picture, where every detail is represented with extreme care, is as disconcerting as if it represented nothing. Its various elements seem as foreign to one another as words drawn by lot and put together at random. But some spectators seem delighted not to know the code, for this enables them to let their fancy take off from the given images and wander endlessly, starting from an accommodating point of departure. Given such an audience, the author will soon tire of encoding his messages when the pleasure he expects to give is no longer that of discovering a secret, but of imagining as many foolish or capricious explanations as one pleases. By juxtaposing as many disparate elements as he can borrow from their innocent surroundings, and by using the technique especially of collage, the imagemonger will henceforth tax his ingenuity to invent absurd encounters of strange objects; he will make his characters assume gestures and positions calculated to mislead, bring them together in scenes devoid of sense, and manipulate incoherence and absurdity in the hope of alienating the mind. Going in the opposite direction from the emblazoner or occult draughtsman, he will eliminate from his compositions anything which might give them the least articulation. He will devote much ingenuity, perseverance and detailed attention to outlawing and then persecuting all possible connections,

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however tenuous, improbable or extravagant. It is as if the painter's task was to defy, if not to discourage, the imagination. Let me call such images *infinite*. This is not to attribute to them some excellence in principle, but to suggest that the empty reveries which their deliberate lack of meaning is bound to inspire are either null or unlimited.

This kind of art still presents us with images which supply our imagination with a background of speech. But while these images are perhaps talkative rather than taciturn, they are no less embarrassing to interpret; for sheer logorrhea expresses no more than silence. When painting makes use of its proper means but possesses no rules which would prevent its forms from being dissolved, it soon reaches a stage where the artist is afraid that his works will accidentally break their silence. It is not enough that they do not appear to represent anything. He wants to be assured that they do not and to exclude the possibility that some day someone might reasonably suppose them to represent something.

This kind of painting, which seeks to represent nothing identifiable, should be distinguished from discursive and geometrizing art. I should like it to be commonly called *silent* art. We speak similarly of a *silent* language, not because it expresses nothing, but because it dispenses with words in expressing something. The same is true of the kind of painting which, at first sight, renounces images, conventional signs, and in short, any decipherable form.

It is not easy to avoid images, signs or recognizable forms. To do so is to return to chance or imprint. The link with natural beauty is then reestablished. When a painter catches himself in the act of contemplating, of envying, accidents and molds, he quickly decides to renounce all active influence on his future canvas, so as to be in a better position to compete with them. He confines his initiative to trying to produce shapes like theirs by interfering as little as possible. He does not therefore yield to mere caprice, but to the ancient fascination for infinite images, for the surprising or beautiful phenomena which we sometimes encounter in nature and which look so out of place there that they seem premeditated. It is probably for this reason that they seem to belong among works of art, and to enter with them into an impossible competition, a contest of incommensurables. The

source of their attraction is deep and obscure. It is perhaps helpful to go back to it in thought if we wish to understand why silent painting is so attractive, and why so many painters are suddenly anxious to have their paintings paint themselves and without representing anything.

The kind of beauty accredited by tradition and aimed at by painters of the old school required the use of the highest human faculties. It was born of apprenticeship and practice, and refused to enter into works which showed no knowledge in their conception, no mastery in their execution. The new painter has taken what I called a little while ago the decisive step. When merits and demerits found themselves inverted, by the operation of the laws that govern the evolution of painting, the painter drew the consequences whether or not he agreed with the premises. He learned how to replace the finished beauty, of which he had grown tired, by the raw primitive beauty we find at our feet, ready-made but owing nothing to design or effort.

The artist then decides to include various kinds of debris, rubbish and foreign bodies in his works. He mounts perforated stones and stumps of branches on pedestals. He places his confidence in the primitive forces of nature, and pays homage to its obscure genius. These artists, who could be considered discouraged at trying to rival nature, acknowledge it as the creator, not just of beauty, but of art. In this almost infinitesimal difference undoubtedly lies their radical innovation. By borrowing from the world around them, by amassing dead wood, soiled pieces of awning, gnawed bones, these painters and sculptors act somewhat like the *Oxyrhincha* crabs which, as we have seen, dress themselves with algae, gravel and the remains of tiny animals; like the *Xenophora* who attach all sorts of calcareous fragments to their shells and arrange them in an uncertain but perceptible order; like the birds who decorate their nests and terraces with almost anything they find provided it is of a certain color; in short, like the rare living creatures who are apparently motivated by the ambition to add to the beauty of nature. If this is only a chance encounter, it is at least a strangely misleading coincidence. No matter; a better proof is that the artist is himself aware, as he takes for his own purposes these hitherto neglected windfalls, of worshipping a kind of impregnable anonymity which has existed since time immemorial,

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and which provides a rest from the kind of beauty which exacts the tribute of labor and skill.

Above all the artist, attempting to be more and more like nature, or perhaps to outdo it in its own domain, thinks of himself as being the agent of chance. He rejects in principle any conscious intervention, any hesitation or choice; he refuses to have recourse to skill or to assume control. He intends the outcome of his action to be entirely fortuitous (but is it clear that he still wishes to give evidence of *action?*), and therefore tries to remove any signs of outside interference, anything which might allow one to conjecture that a shadow of intelligent and concerted initiative had after all taken a part in it. He takes care to dissociate himself so completely from the genesis of his work that even the most hostile critic could never suspect him of being responsible, however remotely, for its creation. He paints blindfolded or in the dark, squirts the paint with great force from a tube chosen at random. Sometimes he goes as far as to deny himself the choice of the means by which to carry out his action. Passing an automobile in the process of being scrapped, he pulls out a mass of metal and exhibits it as a sculpture. Or else he invites some well-disposed assistants to crack some boxes of paint at a distance and in the dark, making sure that the liquid splashes onto a canvas. In other cases, the painting is the effect of splashing or some other blind method of projection which depends only on the laws of inertia and the sudden energies needed to displace matter, and leaves no room for the direction or correction of the desired discharge.

The more brutal the procedure, the more it is valued; for it provides less room and less time for all that is suspect: manipulation, design, correction. Hence the preference given to instantaneous and violent creation. Nature is slow by comparison. Since its life is measured by geologic periods, it can afford to deposit its sediments with majestic indolence. But nature is also capable of violent action. In extreme heat and under enormous pressure, it can pulverize, liquefy or volatilize; it can bring to incandescence and fuse the most obstinate substance. Man, whose days are numbered, is reduced to sudden action. He must move fast, and all the more so if he wishes to avoid the suspicion of having surreptitiously tampered with the exterior alchemy on whose wonders he depends. He finds it necessary to eliminate the time allowed