There is no one on earth like savages, peasants, and provincials for examining their affairs from every angle; what's more, when they move from thought to action, you can see they have worked things out completely.

H. de Balzac, *Le Cabinet des Antiques*
(Bibl. de la Pléiade, vol. IV, pp. 400–401).

THE SAVAGE MIND

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THE UNIVERSITY OF CHICAGO PRESS

PREFACE

This book is complete in itself, but the problems it discusses are closely linked to those which I surveyed more hastily in a recent work entitled *Totemism* (trans. Rodney Needham, London, 1964). Without wishing to oblige the reader to refer to it, it is proper to draw his attention to the connection between the two: the first forms a kind of historical and critical introduction to the second. I have not, therefore, deemed it necessary to return, here, to the theories, definitions and facts which have already been dealt with at sufficient length.

Nevertheless the reader should know what is expected of him on opening these pages: that he acquiesce in the negative conclusion which the first volume reached in regard to totemism; for, once it is clear why I believe that the anthropologists of former times were the prey to an illusion, it is time for me to explore totemism's positive side.

No one will suppose that, by placing the name of Maurice Merleau-Ponty on the first page of a book whose final chapter is devoted to a work of Sartre, I have intended to oppose them to one another. Those who were close to Merleau-Ponty and myself during recent years know some of the reasons why it was natural that this book which develops freely certain themes of my lectures at the *Collège de France* should be dedicated to him. It would have been, in any case, had he lived, as the continuation of a dialogue whose opening goes back to 1930 when, in company with Simone de Beauvoir, we were brought together by our teaching activities, on the eve of receiving our final degrees. And, since death has torn him from us, may this book at least remain devoted to his memory as a token of good faith, gratitude and affection.

If I have felt obliged to give expression to my disagreement with Sartre regarding the points which bear on the philosophical fundaments of anthropology, I have only determined to do so after several readings of the work in question which occupied my pupils at the *Ecole des Hautes Etudes* and myself during many sessions of the year 1960–1. Over and above our inevitable divergences I hope that Sartre will recognize above all that a discussion to which so much care has been given constitutes on behalf of all of us a homage of admiration and respect.

I would like to express my warm thanks to my colleague, Jacques Bertin, professor at the *Ecole des Hautes Etudes* who was kind enough to make some of the diagrams for me in his laboratory; I. Chiva and J. Pouillon whose notes recalled to me some improvised points which were otherwise lost; Mme Edna H. Lemay who typed the manuscript; Mlle Nicole Belmont who helped me with the tasks of assembling the documentation and making the bibliography and the index; and my wife who aided me in rereading the text and correcting the proofs.

CHAPTER ONE

THE SCIENCE OF THE CONCRETE

It has long been the fashion to invoke languages which lack the terms for expressing such a concept as 'tree' or 'animal', even though they contain all the words necessary for a detailed inventory of species and varieties. But, to begin with, while these cases are cited as evidence of the supposed ineptitude of 'primitive people' for abstract thought, other cases are at the same time ignored which make it plain that richness of abstract words is not a monopoly of civilized languages. In Chinook, a language widely spoken in the north-west of North America, to take one example, many properties and qualities are referred to by means of abstract words: 'This method', Boas says, 'is applied to a greater extent than in any other language I know.' The proposition 'The bad man killed the poor child' is rendered in Chinook: 'The man's badness killed the child's poverty'; and for 'The woman used too small a basket' they say: 'She put the potentilla-roots into the smallness of a clam basket' (Boas 2, pp. 657–8).

In every language, moreover, discourse and syntax supply indispensable means of supplementing deficiencies of vocabulary. And the tendentious character of the argument referred to in the last paragraph becomes very apparent when one observes that the opposite state of affairs, that is, where very general terms outweigh specific names, has also been exploited to prove the intellectual poverty of Savages:

> Among plants and animals he [the Indian] designates by name only those which are useful or harmful, all others are included under the classification of bird, weed, etc. (Krause, p. 104).

A more recent observer seems in the same way to believe that the

native gives names and forms concepts solely in accordance with his needs:

> I well remember the hilarity of Marquesian friends . . . over the (to them) fatuous interest of the botanist of our expedition in 1921, who was collecting nameless ('useless') 'weeds' and asking their names (Handy and Pukui, Part VI, p. 127n).

However, Handy compares this indifference to that which specialists in our civilization show towards phenomena which have no immediate bearing on their own field. When his native collaborator stressed the fact that in Hawaii 'every botanical, zoological or inorganic form that is known to have been named (and personalized), was *some thing* . . . used', she is careful to add 'in some way'. She goes on to say that the reason why 'there was an infinite variety of living things in forest and sea, of meteorological or marine phenomena, which were unnamed' was that they were regarded as being of no 'use or interest' – terms which are not equivalent, as 'use' concerns practical, and 'interest' theoretical, matters. What follows confirms this by concentrating on the latter aspect at the expense of the former: 'Living was experience fraught with exact and definite significance' (id., p. 126–7).

In fact, the delimitation of concepts is different in every language, and, as the author of the article 'nom' in the *Encyclopédie* correctly observed in the eighteenth century, the use of more or less abstract terms is a function not of greater or lesser intellectual capacity, but of differences in the interests – in their intensity and attention to detail – of particular social groups within the national society: 'In an observatory a *star* is not simply a star but β of Capricorn or γ of Centaur or ζ of the Great Bear, etc. In stables every *horse* has a proper *name* – *Diamond*, *Sprite*, *Fiery*, etc.' Further, even if the observation about so-called primitive languages referred to at the beginning of the chapter could be accepted as it stands, one would not be able to conclude from this that such languages are deficient in general ideas. Words like 'oak', 'beech', 'birch', etc., are no less entitled to be considered as abstract words than the word 'tree'; and a language possessing only the word 'tree' would be, from this point of view less rich in concepts than one which lacked this term but contained dozens or hundreds for the individual species and varieties.

The proliferation of concepts, as in the case of technical languages, goes with more constant attention to properties of the world,

with an interest that is more alert to possible distinctions which can be introduced between them. This thirst for objective knowledge is one of the most neglected aspects of the thought of people we call 'primitive'. Even if it is rarely directed towards facts of the same level as those with which modern science is concerned, it implies comparable intellectual application and methods of observation. In both cases the universe is an object of thought at least as much as it is a means of satisfying needs.

Every civilization tends to overestimate the objective orientation of its thought and this tendency is never absent. When we make the mistake of thinking that the Savage is governed solely by organic or economic needs, we forget that he levels the same reproach at us, and that to him his own desires for knowledge seems more balanced than ours:

> These native Hawaiians' utilization of their available natural assets was well-nigh complete – infinitely more so than that of the present commercial era which ruthlessly exploits the few things that are financially profitable for the time being, neglecting and often obliterating the rest (Handy and Pukui, Part VIII, p. 62).

Cash-crop agriculture is hardly to be confused with the science of the botanist. But, in ignoring the latter and taking only the former into account, the old Hawaiian aristocrat is simply repeating, and turning to the advantage of a native culture, a mistake of the same kind that Malinowski made when he claimed that primitive peoples' interest in totemic plants and animals was inspired by nothing but the rumbling of their stomachs.

Tessman (Vol. 2, p. 192) mentions 'the accuracy with which (the Fang of the Gabon) identify the slightest differences between species of the same genus'. The two authors quoted above make a similar observation about Oceania:

> The acute faculties of this native folk noted with exactitude the generic characteristics of all species of terrestial and marine life, and the subtlest variations of natural phenomena such as winds, light and colour, ruffling of water and variation in surf, and the currents of water and air (Handy and Pukui, Part VI, p. 126).

Among the Hanunóo of the Philippines a custom as simple as that of betel chewing demands a knowledge of four varieties of areca nut and eight substitutes for them, and of five varieties of betel and five substitutes (Conklin, 3):

Almost all Hanunóo activities require an intimate familiarity with local plants and a precise knowledge of plant classification. Contrary to the assumption that subsistence level groups never use but a small segment of the local flora, ninety-three per cent of the total number of native plant types are recognized by the Hanunóo as culturally significant (Conklin I, p. 249).

This is equally true of fauna:

The Hanunóo classify all forms of the local avifauna into seventy-five categories . . . (they) distinguish about a dozen kinds of snakes . . . sixty-odd types of fish . . . more than a dozen . . . types of fresh and salt water crustaceans . . . a similar number of . . . types of arachnids and myriapods . . . The thousands of insect forms present are grouped by the Hanunóo into a hundred and eight named categories, including thirteen for ants and termites . . . Salt water molluscs . . . of more than sixty classes are recognized by the Hanunóo, while terrestrial and fresh water types number more than twenty-five . . . Four distinct types of bloodsucking leeches are distinguished . . .: altogether 461 animal types are recorded (id., pp. 67–70).

A biologist writes the following about pygmies of the Philippines:

Another characteristic of Negrito life, a characteristic which strikingly demarcates them from the surrounding Christian lowlanders, is their inexhaustible knowledge of the plant and animal kingdoms. This lore includes not only a specific recognition of a phenomenal number of plants, birds, animals, and insects, but also includes a knowledge of the habits and behaviour of each. . . .

The Negrito is an intrinsic part of his environment, and what is still more important, continually studies his surroundings. Many times I have seen a Negrito, who, when not being certain of the identification of a particular plant, will taste the fruit, smell the leaves, break and examine the stem, comment upon its habitat, and only after all of this, pronounce whether he did or did not know the plant.

The natives are also interested in plants which are of no direct use to them, because of their significant links with the animal and insect world, and having shown this, the same author continues:

The acute observation of the pygmies and their awareness of the interrelationships between the plant and animal life . . . is strikingly pointed out by their discussions of the living habits of bats. The *tididin* lives on the dry leaves of palms, the *dikidik* on the underside of the leaves of the wild banana, the *litlit* in bamboo clumps, the *kolumboy* in holes in trees, the *konanaba* in dark thickets, and so forth. In this manner, the Pinatubo Negritos can distinguish the habits of more than fifteen species of bats. Of course, the classification of bats, as well as of insects, birds, animals, fish and plants, is determined primarily by their actual physical differences and/or similarities.

Most Negrito men can with ease enumerate the specific or descriptive

names of at least four hundred and fifty plants, seventy-five birds, most of the snakes, fish, insects, and animals, and of even twenty species of ants . . .* and the botanical knowledge of the *mananambal*, the 'medicine men and women, who use plants constantly in their practice, is truly astounding (R. B. Fox, pp. 187–8).

Of a backward people of the Tyukyu archipelago, we read:

Even a child can frequently identify the kind of tree from which a tiny wood fragment has come and, furthermore, the sex of that tree, as defined by Kabiran notions of plant sex, by observing the appearance of its wood and bark, its smell, its hardness, and similar characteristics. Fish and shellfish by the dozen are known by individually distinctive terms, and their separate features and habits, as well as the sexual differences within each type, are well recognized (Smith, p. 150).

Several thousand Coahuila Indians never exhausted the natural resources of a desert region in South California, in which today only a handful of white families manage to subsist. They lived in a land of plenty, for in this apparently completely barren territory, they were familiar with no less than sixty kinds of edible plants and twenty-eight others of narcotic, stimulant or medicinal properties (Barrows). A single Seminol informant could identify two hundred and fifty species and varieties of plants (Sturtevant). Three hundred and fifty plants known to the Hopi Indians and more than five hundred to the Navaho have been recorded. The botanical vocabulary of the Subanun of the Southern Philippines greatly exceeds a hundred terms (Frake) and that of the Hanunóo approaches two thousand.† Sillans, working with a single informant in the Gabon, recently published an ethno-botanical list of about eight thousand terms, distributed between the languages or dialects of twelve or thirteen neighbouring tribes (Walker and Sillans). The, for the most part unpublished, results of Marcel Griaule and his co-workers in the Sudan promise to be equally impressive.

Their extreme familiarity with their biological environment, the passionate attention which they pay to it and their precise knowledge of it has often struck inquirers as an indication of attitudes and preoccupations which distinguish the natives from their white visitors. Among the Tewa Indians of New Mexico:

* Also at least forty-five types of edible ground-mushrooms and ear-fungi (l.c., p. 231) and on the technological plane, more than fifty types of arrows (id., pp. 265–8).

† See below, pp. 138, 153.

> Small differences are noted . . . they have a name for every one of the coniferous trees of the region; in these cases differences are not conspicuous. The ordinary individual among the whites does not distinguish (them) . . . Indeed, it would be possible to translate a treatise on botany into Tewa . . . (Robbins, Harrington and Freire-Marreco, pp. 9, 12).

E. Smith Bowen scarcely exaggerates in the amusing description she gives of her confusion when, on her arrival in an African tribe, she wanted to begin by learning the language. Her informants found it quite natural, at an elementary stage of their instruction, to collect a large number of botanical specimens, the names of which they told her as they showed them to her. She was unable to identify them, not because of their exotic nature but because she had never taken an interest in the riches and diversities of the plant world. The natives on the other hand took such an interest for granted.

> These people are farmers: to them plants are as important and familiar as people. I'd never been on a farm and am not even sure which are begonias, dahlias, or petunias. Plants, like algebra, have a habit of looking alike and being different, or looking different and being alike; consequently mathematics and botany confuse me. For the first time in my life I found myself in a community where ten-year-old children weren't my mathematical superiors. I also found myself in a place where every plant, wild or cultivated, had a name and a use, and where every man, woman and child knew literally hundreds of plants . . . (my instructor) simply could not realize that it was not the words but the plants which baffled me (Smith Bowen, p. 19).

The reaction of a specialist is quite different. In a monograph in which he describes nearly three hundred species or varieties of medicinal or toxic plants used by certain peoples of Northern Rhodesia, Gilges writes:

> It has always been a surprise to me to find with what eagerness the people in and around Balovale were ready and willing to talk about their medicines. Was it that they found my interest in their methods pleasing? Was it an exchange of information amongst colleagues? Or was it to show off their knowledge? Whatever the reason, information was readily forthcoming. I remember a wicked old Luchozi who brought bundles of dried leaves, roots and stems and told me about their uses. How far he was a herbalist and how far a witch-doctor I could never fathom, but I regret that I shall never possess his knowledge of African psychology and his art in the treatment of his fellow men, that, coupled with my scientific medical knowledge, might have made a most useful combination (Gilges, p. 20).

Conklin quotes the following extract from his field notes to illustrate the intimate contact between man and his environment which the native is constantly imposing on the ethnologist:

> At 0600 and in a light rain, Langba and I left Parina for Binli . . . At Aresaas, Langba told me to cut off several 10 x 50 cm. strips of bark from an *anapla kilala* tree (*Albizzia procera* (Roxb.) Benth.) for protection against the leeches. By periodically rubbing the cambium side of the strips of sapanceous (and poisonous: Quisumbling, 1947, 148) bark over our ankles and legs – already wet from the rain-soaked vegetation – we produced a most effective leech-repellent lather of pink suds. At one spot along the trail near Aypud, Langba stopped suddenly, jabbed his walking stick sharply into the side of the trail and pulled up a small weed, *tawag kugum buladlad* (*Buchnera urticifolia* R. Br.) which he told me he will use as a lure . . . for a spring-spear boar trap. A few minutes later, and we were going at a good pace, he stopped in a similar manner to dig up a small terrestrial orchid (hardly noticeable beneath the other foliage) known as *liyamliyam* (*Epipogum roseum* (D. Don.) Lindl.). This herb is useful in the magical control of insect pests which destroy cultivated plants. At Binli, Langha was careful not to damage those herbs when searching through the contents of his palm leaf shoulder basket for *apug* 'slaked lime' and *tabaku* (*Nicotiana tabacum* L.) to offer in exchange for other betel ingredients with the Binli folk. After an evaluative discussion about the local forms of betel pepper (*Piper betle* L.) Langba got permission to cut sweet potato (*Ipomoea batatas* (L.) Poir.) vines of two vegetatively distinguishable types, *kamuti inaswang* and *kamuti lupaw* . . . In the camote patch, we cut twenty-five vine-tip sections (about 75 cm. long) of each variety, and carefully wrapped them in the broad fresh leaves of the cultivated *saging saba* (*Musa sapientum compressa* (Blco. Teoforo) so that they would remain moist until we reached Langba's place. Along the way we munched on a few stems of *tubu minuma*, a type of sugar cane (*Saccharum officinarum* L.), stopped once to gather fallen bunga area nuts (*Areca catechu* L.), and another time to pick and eat the wild cherrylike fruits from some *bugnay* shrubs (*Antidesma brunius* (L.) Spreng). We arrived at the Mararim by mid-afternoon having spent much of our time on the trail discussing changes in the surrounding vegetation in the last few decades! (Conklin I, pp. 15–17).

This knowledge and the linguistic means which it has at its disposal also extend to morphology. In Tewa there are distinct terms for all or almost all the parts of birds and mammals (Henderson and Harrington, p. 9). Forty terms are employed in the morphological description of the leaves of trees or plants, and there are fifteen distinct terms for the different parts of a maize plant.

The Hanunóo have more than a hundred and fifty terms for the parts and properties of plants. These provide categories for the

identification of plants and for 'discussing the hundreds of characteristics which differentiate plant types and often indicate significant features of medicinal or nutritional value' (Conklin I, p. 97). Over six hundred named plants have been recorded among the Pinatubo and 'in addition to having an amazing knowledge of plants and their uses, . . . (they) employ nearly one hundred terms in describing the parts or characteristics of plants' (R. B. Fox, p. 179).

Knowledge as systematically developed as this clearly cannot relate just to practical purposes. The ethnologist who has made the best study of the Indians of the north-eastern United States and Canada (the Montagnais, Naskapi, Micmac, Malecite, Penobscot) emphasizes the wealth and accuracy of their zoological and botanical knowledge and then continues:

> Such knowledge, of course, is to be expected with respect to the habits of the larger animals which furnish food and the materials of industry to primitive man. We expect, for instance, that the Penobscot hunter of Maine will have a somewhat more practical knowledge of the habits and character of the moose than even the expert zoologist. But when we realize how the Indians have taken pains to observe and systematize facts of science in the realm of lower animal life, we may perhaps be pardoned a little surprise.
>
> The whole class of reptiles . . . affords no economic benefit to these Indians; they do not eat the flesh of any snakes or batrachians, nor do they make use of other parts except in a very few cases where they serve in the preparation of charms against sickness or sorcery (Speck I, p. 273).

And nevertheless, as Speck has shown, the north-eastern Indians have developed a positive herpetology, with distinct terms for each genus of reptile and other terms applying to particular species and varieties.

The precise definition of and the specific uses ascribed to the natural products which Siberian peoples use for medicinal purposes illustrate the care and ingeniousness, the attention to detail and concern with distinctions employed by theoretical and practical workers in societies of this kind. We find, for instance: spiders and whiteworms swallowed as a cure for sterility among the Helmene and Iakoute; fat of black beetle (Ossete, hydrophobia); squashed cockroach, chicken's gall (Russians of Sourgout, abscesses and hernias); macerated redworms (Iakoute, rheumatism); pike's gall (Bouriate, eye complaints); loach and crayfish swallowed alive (Russians of Siberia, epilepsy and all diseases); contact with a

woodpecker's beak, blood of a woodpecker, nasal insufflation of the powder of a mummified woodpecker, gobbled egg of the bird *koukcha* (Iakoute, against toothache, scrofula, high fevers and tuberculosis respectively); partridge's blood, horse's sweat (Oïrote, hernias and warts); pigeon broth (Bouriate, coughs); powder made of the crushed feet of the bird *tilegous* (Kazak, bite of mad dog); dried bat worn round the neck (Russians of the Altaï, fever); instillation of water from an icicle hanging on the nest of the bird *remiz* (Oïrote, eye complaints). Taking just the case of bears among the Bouriate: the flesh of bears has seven distinct therapeutic uses, the blood five, the fat nine, the brains twelve, the bile seventeen, the fur two. It is also the bear's frozen excretions which the Kalar collect at the end of the winter season to cure constipation (Zelenine, pp. 47–59). An equally extensive list for an African tribe can be found in a study by Loeb.

Examples like these could be drawn from all parts of the world and one may readily conclude that animals and plants are not known as a result of their usefulness; they are deemed to be useful or interesting because they are first of all known.

It may be objected that science of this kind can scarcely be of much practical effect. The answer to this is that its main purpose is not a practical one. It meets intellectual requirements rather than or instead of satisfying needs.

The real question is not whether the touch of a woodpecker's beak does in fact cure toothache. It is rather whether there is a point of view from which a woodpecker's beak and a man's tooth can be seen as 'going together' (the use of this congruity for therapeutic purposes being only one of its possible uses), and whether some initial order can be introduced into the universe by means of these groupings. Classifying, as opposed to not classifying, has a value of its own, whatever form the classification may take. As a recent theorist of taxonomy writes:

> Scientists do tolerate uncertainty and frustration, because they must. The one thing that they do not and must not tolerate is disorder. The whole aim of theoretical science is to carry to the highest possible and conscious degree the perceptual reduction of chaos that began in so lowly and (in all probability) unconscious a way with the origin of life. In specific instances it can well be questioned whether the order so achieved is an objective characteristic of the phenomena or is an artifact constructed by the scientist. That question comes up time after time in animal

taxonomy . . . Nevertheless, the most basic postulate of science is that nature itself is orderly. . . . All theoretical science is ordering and if, systematics is equated with ordering, then systematics is synonymous with theoretical science (Simpson, p. 5).

The thought we call primitive is founded on this demand for order. This is equally true of all thought but it is through the properties common to all thought that we can most easily begin to understand forms of thought which seem very strange to us.

A native thinker makes the penetrating comment that 'All sacred things must have their place' (Fletcher *2*, p. 34). It could even be said that being in their place is what makes them sacred for if they were taken out of their place, even in thought, the entire order of the universe would be destroyed. Sacred objects therefore contribute to the maintenance of order in the universe by occupying the places allocated to them. Examined superficially and from the outside, the refinements of ritual can appear pointless. They are explicable by a concern for what one might call 'micro-adjustment' – the concern to assign every single creature, object or feature to a place within a class. The ceremony of the Hako among the Pawnee is particularly illuminating in this respect, although only because it has been so well analysed. The invocation which accompanies the crossing of a stream of water is divided into several parts, which correspond, respectively, to the moment when the travellers put their feet in water, the moment when they move them and the moment when the water completely covers their feet. The invocation to the wind separates the moment when only the wet parts of the body feel cool: 'Now, we are ready to move forward in safety' (id., pp. 77–8). As the informant explains: 'We must address with song every object we meet, because Tira'wa (the supreme spirit) is in all things, everything we come to as we travel can give us help . . . ' (id., pp. 73, 81).

This preoccupation with exhaustive observation and the systematic cataloguing of relations and connections can sometimes lead to scientifically valid results. The Blackfoot Indians for instance were able to prognosticate the approach of spring by the state of development of the foetus of bison which they took from the uterus of females killed in hunting. These successes cannot of course be isolated from the numerous other associations of the same kind which science condemns as illusory. It may however be the case that magical thought, that 'gigantic variation on the theme of the

principle of Causality' as Hubert and Mauss called it (*2*, p. 61), can be distinguished from science not so much by any ignorance or contempt of determinism but by a more imperious and uncompromising demand for it which can at the most be regarded as unreasonable and precipitate from the scientific point of view.

As a natural philosophy it (witchcraft) reveals a theory of causation. Misfortune is due to witchcraft co-operating with natural forces. If a buffalo gores a man, or the supports of a granary are undermined by termites so that it falls on his head, or he is infected with cerebro-spinal meningitis, Azande say that the buffalo, the granary, and the disease, are causes which combine with witchcraft to kill a man. Witchcraft does not create the buffalo and the granary and the disease for these exist in their own right, but it is responsible for the particular situation in which they are brought into lethal relations with a particular man. The granary would have fallen in any case, but since there was witchcraft present it fell at the particular moment when a certain man was resting beneath it. Of these causes the only one which permits intervention is witchcraft, for witchcraft emanates from a person. The buffalo and the granary do not allow of intervention and are, therefore, whilst recognized as causes, not considered the socially relevant ones (Evans-Pritchard *I*, p. 418–19).

Seen in this way, the first difference between magic and science is therefore that magic postulates a complete and all-embracing determinism. Science, on the other hand, is based on a distinction between levels: only some of these admit forms of determinism; on others the same forms of determinism are held not to apply. One can go further and think of the rigorous precision of magical thought and ritual practices as an expression of the unconscious apprehension of the *truth of determinism*, the mode in which scientific phenomena exist. In this view, the operations of determinism are divined and made use of in an all-embracing fashion before being known and properly applied, and magical rites and beliefs appear as so many expressions of an act of faith in a science yet to be born.

The nature of these anticipations is such that they may sometimes succeed. Moreover they may anticipate not only science itself but even methods or results which scientific procedure does not incorporate until an advanced stage of its development. For it seems to be the case that man began by applying himself to the most difficult task, that of systematizing what is immediately presented to the senses, on which science for a long time turned its back and which it is only beginning to bring back into its purview. In the history of scientific thought this 'anticipation-effect', has,

incidentally, occurred repeatedly. As Simpson (pp. 84–5) has shown with the help of an example drawn from nineteenth-century biology, it is due to the fact that, since scientific explanation is always the discovery of an 'arrangement', any attempt of this type, even one inspired by non-scientific principles, can hit on true arrangements. This is even to be foreseen if one grants that the number of structures is by definition finite: the 'structuring' has an intrinsic effectiveness of its own whatever the principles and methods which suggested it.

Modern chemistry reduces the variety of tastes and smells to different combinations of five elements: carbon, hydrogen, oxygen, sulphur and nitrogen. By means of tables of the presence and absence of the elements and estimates of proportions and minimum amounts necessary for them to be perceptible, it succeeds in accounting for differences and resemblances which were previously excluded from its field on account of their 'secondary' character. These connections and distinctions are however no surprise to our aesthetic sense. On the contrary they increase its scope and understanding by supplying a basis for the associations it already divined; and at the same time one is better able to understand why and in what conditions it should have been possible to discover such associations solely by the systematic use of intuitive methods. Thus to a logic of sensations tobacco smoke might be the intersection of two groups, one also containing broiled meat and brown crusts of bread (which are like it in being composed of nitrogen) and the other one to which cheese, beer and honey belong on account of the presence of diacetyl. Wild cherries, cinnamon, vanilla and sherry are grouped together by the intellect as well as the senses, because they all contain aldehyde, while the closely related smells of wintergreen, lavender and bananas are to be explained by the presence of ester. On intuitive grounds alone we might group onions, garlic, cabbage, turnips, radishes and mustard together even though botany separates liliaceae and crucifers. In confirmation of the evidence of the senses, chemistry shows that these different families are united on another plane: they contain sulphur (W.K.). A primitive philosopher or a poet could have effected these regroupings on the basis of considerations foreign to chemistry or any other form of science. Ethnographic literature reveals many of equal empirical and aesthetic value. And this is not just the result of some associative madness destined sometimes to succeed simply

by the law of chance. Simpson advances this interpretation in the passage quoted above; but he displays more insight when he shows that the demand for organization is a need common to art and science and that in consequence 'taxonomy, which is ordering par excellence, has eminent aesthetic value' (loc. cit., p. 4). Given this, it seems less surprising that the aesthetic sense can by itself open the way to taxonomy and even anticipate some of its results.

I am not however commending a return to the popular belief (although it has some validity in its own narrow context) according to which magic is a timid and stuttering form of science. One deprives oneself of all means of understanding magical thought if one tries to reduce it to a moment or stage in technical and scientific evolution. Like a shadow moving ahead of its owner it is in a sense complete in itself, and as finished and coherent in its immateriality as the substantial being which it precedes. Magical thought is not to be regarded as a beginning, a rudiment, a sketch, a part of a whole which has not yet materialized. It forms a well-articulated system, and is in this respect independent of that other system which constitutes science, except for the purely formal analogy which brings them together and makes the former a sort of metaphorical expression of the latter. It is therefore better, instead of contrasting magic and science, to compare them as two parallel modes of acquiring knowledge. Their theoretical and practical results differ in value, for it is true that science is more successful than magic from this point of view, although magic foreshadows science in that it is sometimes also successful. Both science and magic however require the same sort of mental operations and they differ not so much in kind as in the different types of phenomena to which they are applied.

These relations are a consequence of the objective conditions in which magic and scientific knowledge appeared. The history of the latter is short enough for us to know a good deal about it. But the fact that modern science dates back only a few centuries raises a problem which ethnologists have not sufficiently pondered. The Neolithic Paradox would be a suitable name for it.

It was in neolithic times that man's mastery of the great arts of civilization – of pottery, weaving, agriculture and the domestication of animals – became firmly established. No one today would any longer think of attributing these enormous advances to the

fortuitous accumulation of a series of chance discoveries or believe them to have been revealed by the passive perception of certain natural phenomena.*

Each of these techniques assumes centuries of active and methodical observation, of bold hypotheses tested by means of endlessly repeated experiments. A biologist remarks on the rapidity with which plants from the New World have been acclimatized in the Philippines and adopted and named by the natives. In many cases they seem even to have rediscovered their medicinal uses, uses identical with those traditional in Mexico. Fox's interpretation is this:

> . . . plants with bitter leaves or stems are commonly used in the Philippines for stomach disorders. If an introduced plant is found to have this characteristic, it will be quickly utilized. The fact that many Philippine groups, such as the Pinatubo Negritos, constantly experiment with plants hastens the process of the recognition of the potential usefulness, as defined by the culture, of the introduced flora (R. B. Fox, pp. 212–13).

To transform a weed into a cultivated plant, a wild beast into a domestic animal, to produce, in either of these, nutritious or technologically useful properties which were originally completely absent or could only be guessed at; to make stout, water-tight pottery out of clay which is friable and unstable, liable to pulverize or crack (which, however, is possible only if from a large number of organic and inorganic materials, the one most suitable for refining it is selected, and also the appropriate fuel, the temperature and duration of firing and the effective degree of oxidation); to work out techniques, often long and complex, which permit cultivation without soil or alternatively without water; to change toxic roots or seeds into foodstuffs or again to use their poison for hunting, war or ritual – there is no doubt that all these achievements required a genuinely scientific attitude, sustained and watchful interest and a desire for knowledge for its own sake. For only a small proportion of observations and experiments (which must be assumed to have been primarily inspired by a desire for knowledge)

* An attempt has been made to discover what would happen if copper ore had accidentally found its way into a furnace: complex and varied experiments have shown that nothing happens at all. The simplest method of obtaining metallic copper which could be discovered consisted in subjecting finely ground malachite to intense heat in a pottery dish crowned with an inverted clay pot. This, the sole result, restricts the play of chance to the confines of the kiln of some potter specializing in glazed ware (Coghlan).

could have yielded practical and immediately useful results. There is no need to dwell on the working of bronze and iron and of precious metals or even the simple working of copper ore by hammering which preceded metallurgy by several thousand years, and even at that stage they all demand a very high level of technical proficiency.

Neolithic, or early historical, man was therefore the heir of a long scientific tradition. However, had he, as well as all his predecessors, been inspired by exactly the same spirit as that of our own time, it would be impossible to understand how he could have come to a halt and how several thousand years of stagnation have intervened between the neolithic revolution and modern science like a level plain between ascents. There is only one solution to the paradox, namely, that there are two distinct modes of scientific thought. These are certainly not a function of different stages of development of the human mind but rather of two strategic levels at which nature is accessible to scientific enquiry: one roughly adapted to that of perception and the imagination: the other at a remove from it. It is as if the necessary connections which are the object of all science, neolithic or modern, could be arrived at by two different routes, one very close to, and the other more remote from, sensible intuition.

Any classification is superior to chaos and even a classification at the level of sensible properties is a step towards rational ordering. It is legitimate, in classifying fruits into relatively heavy and relatively light, to begin by separating the apples from the pears even though shape, colour and taste are unconnected with weight and volume. This is because the larger apples are easier to distinguish from the smaller if the apples are not still mixed with fruit of different features. This example already shows that classification has its advantages even at the level of aesthetic perception.

For the rest, and in spite of the fact there is no necessary connection between sensible qualities and properties, there is very often at least an empirical connection between them, and the generalization of this relation may be rewarding from the theoretical and practical point of view for a very long time even if it has no foundation in reason. Not all poisonous juices are burning or bitter nor is everything which is burning and bitter poisonous. Nevertheless, nature is so constituted that it is more advantageous if thought and action proceed as though this aesthetically satisfying equivalence

also corresponded to objective reality. It seems probable, for reasons which are not relevant here, that species possessing some remarkable characteristics, say, of shape, colour or smell give the observer what might be called a 'right pending disproof' to postulate that these visible characteristics are the sign of equally singular, but concealed, properties. To treat the relation between the two as itself sensible (regarding a seed in the form of a tooth as a safeguard against snake bites, yellow juices as a cure for bilious troubles, etc.) is of more value provisionally than indifference to any connection. For even a heterogeneous and arbitrary classification preserves the richness and diversity of the collection of facts it makes. The decision that everything must be taken account of facilitates the creation of a 'memory bank'.

It is moreover a fact that particular results, to the achievement of which methods of this kind were able to lead, were essential to enable man to assail nature from a different angle. Myths and rites are far from being, as has often been held, the product of man's 'myth-making faculty',* turning its back on reality. Their principal value is indeed to preserve until the present time the remains of methods of observation and reflection which were (and no doubt still are) precisely adapted to discoveries of a certain type: those which nature authorised from the starting point of a speculative organization and exploitation of the sensible world in sensible terms. This science of the concrete was necessarily restricted by its essence to results other than those destined to be achieved by the exact natural sciences but it was no less scientific and its results no less genuine. They were secured ten thousand years earlier and still remain at the basis of our own civilization.

There still exists among ourselves an activity which on the technical plane gives us quite a good understanding of what a science we prefer to call 'prior' rather than 'primitive', could have been on the plane of speculation. This is what is commonly called 'bricolage' in French. In its old sense the verb 'bricoler' applied to ball games and billiards, to hunting, shooting and riding. It was however always used with reference to some extraneous movement: a ball rebounding, a dog straying or a horse swerving from its direct course to avoid an obstacle. And in our own time the 'bricoleur' is still someone who works with his hands and uses devious means

* The phrase is from Bergson, op. cit., 'fonction fabulatrice' (trans. note).

compared to those of a craftsman.* The characteristic feature of mythical thought is that it expresses itself by means of a heterogeneous repertoire which, even if extensive, is nevertheless limited. It has to use this repertoire, however, whatever the task in hand because it has nothing else at its disposal. Mythical thought is therefore a kind of intellectual 'bricolage' – which explains the relation which can be perceived between the two.

Like 'bricolage' on the technical plane, mythical reflection can reach brilliant unforeseen results on the intellectual plane. Conversely, attention has often been drawn to the mytho-poetical nature of 'bricolage' on the plane of so-called 'raw' or 'naive' art, in architectural follies like the villa of Cheval the postman or the stage sets of Georges Méliès, or, again, in the case immortalized by Dickens in *Great Expectations* but no doubt originally inspired by observation, of Mr Wemmick's suburban 'castle' with its miniature drawbridge, its cannon firing at nine o'clock, its bed of salad and cucumbers, thanks to which its occupants could withstand a siege if necessary . . .

The analogy is worth pursuing since it helps us to see the real relations between the two types of scientific knowledge we have distinguished. The 'bricoleur' is adept at performing a large number of diverse tasks; but, unlike the engineer, he does not subordinate each of them to the availability of raw materials and tools conceived and procured for the purpose of the project. His universe of instruments is closed and the rules of his game are always to make do with 'whatever is at hand', that is to say with a set of tools and materials which is always finite and is also heterogeneous because what it contains bears no relation to the current project, or indeed to any particular project, but is the contingent result of all the occasions there have been to renew or enrich the stock or to maintain it with the remains of previous constructions or destructions. The set of the 'bricoleur's' means cannot therefore be defined in terms of a project (which would presuppose besides, that, as in the case of the engineer, there were, at least in theory, as many sets of tools and materials or 'instrumental sets', as there are different kinds of projects). It is to be defined only by its potential

* The 'bricoleur' has no precise equivalent in English. He is a man who undertakes odd jobs and is a Jack of all trades or a kind of professional do-it-yourself man, but, as the text makes clear, he is of a different standing from, for instance, the English 'odd job man' or handyman (trans. note).

use or, putting this another way and in the language of the 'bricoleur' himself, because the elements are collected or retained on the principle that 'they may always come in handy'. Such elements are specialized up to a point, sufficiently for the 'bricoleur' not to need the equipment and knowledge of all trades and professions, but not enough for each of them to have only one definite and determinate use. They each represent a set of actual and possible relations; they are 'operators' but they can be used for any operations of the same type.

The elements of mythical thought similarly lie half-way between percepts and concepts. It would be impossible to separate percepts from the concrete situations in which they appeared, while recourse to concepts would require that thought could, at least provisionally, put its projects (to use Husserl's expression) 'in brackets'. Now, there is an intermediary between images and concepts, namely signs. For signs can always be defined in the way introduced by Saussure in the case of the particular category of linguistic signs, that is, as a link between images and concepts. In the union thus brought about, images and concepts play the part of the signifying and signified respectively.

Signs resemble images in being concrete entities but they resemble concepts in their powers of reference. Neither concepts nor signs relate exclusively to themselves; either may be substituted for something else. Concepts, however, have an unlimited capacity in this respect, while signs have not. The example of the 'bricoleur' helps to bring out the differences and similarities. Consider him at work and excited by his project. His first practical step is retrospective. He has to turn back to an already existent set made up of tools and materials, to consider or reconsider what it contains and, finally and above all, to engage in a sort of dialogue with it and, before choosing between them, to index the possible answers which the whole set can offer to his problem. He interrogates all the heterogeneous objects of which his treasury* is composed to discover what each of them could 'signify' and so contribute to the definition of a set which has yet to materialize but which will ultimately differ from the instrumental set only in the internal disposition of its parts. A particular cube of oak could be a wedge to make up for the inadequte length of a plank of pine or it could be a pedestal – which would allow the grain and polish of the old wood

* Cf. 'Treasury of ideas' as Hubert and Mauss so aptly describe magic (2, p. 136).

to show to advantage. In one case it will serve as extension, in the other as material. But the possibilities always remain limited by the particular history of each piece and by those of its features which are already determined by the use for which it was originally intended or the modifications it has undergone for other purposes. The elements which the 'bricoleur' collects and uses are 'pre-constrained' like the constitutive units of myth, the possible combinations of which are restricted by the fact that they are drawn from the language where they already possess a sense which sets a limit on their freedom of manoeuvre (Lévi-Strauss, 5, p. 35). And the decision as to what to put in each place also depends on the possibility of putting a different element there instead, so that each choice which is made will involve a complete reorganization of the structure, which will never be the same as one vaguely imagined nor as some other which might have been preferred to it.

The engineer no doubt also cross-examines his resources. The existence of an 'interlocutor' is in his case due to the fact that his means, power and knowledge are never unlimited and that in this negative form he meets resistance with which he has to come to terms. It might be said that the engineer questions the universe, while the 'bricoleur' addresses himself to a collection of oddments left over from human endeavours, that is, only a sub-set of the culture. Again, Information Theory shows that it is possible, and often useful, to reduce the physicists' approaches to a sort of dialogue with nature. This would make the distinction we are trying to draw less clearcut. There remains however a difference even if one takes into account the fact that the scientist never carries on a dialogue with nature pure and simple but rather with a particular relationship between nature and culture definable in terms of his particular period and civilization and the material means at his disposal. He is no more able than the 'bricoleur' to do whatever he wishes when he is presented with a given task. He too has to begin by making a catalogue of a previously determined set consisting of theoretical and practical knowledge, of technical means, which restrict the possible solutions.

The difference is therefore less absolute than it might appear. It remains a real one, however, in that the engineer is always trying to make his way out of and go beyond the constraints imposed by a particular state of civilization while the 'bricoleur' by inclination or necessity always remains within them. This is another way of

saying that the engineer works by means of concepts and the 'bricoleur' by means of signs. The sets which each employs are at different distances from the poles on the axis of opposition between nature and culture. One way indeed in which signs can be opposed to concepts is that whereas concepts aim to be wholly transparent with respect to reality, signs allow and even require the interposing and incorporation of a certain amount of human culture into reality. Signs, in Peirce's vigorous phrase 'address somebody'.

Both the scientist and 'bricoleur' might therefore be said to be constantly on the look out for 'messages'. Those which the 'bricoleur' collects are, however, ones which have to some extent been transmitted in advance – like the commercial codes which are summaries of the past experience of the trade and so allow any new situation to be met economically, provided that it belongs to the same class as some earlier one. The scientist, on the other hand, whether he is an engineer or a physicist, is always on the look out for *that other message* which might be wrested from an interlocutor in spite of his reticence in pronouncing on questions whose answers have not been rehearsed. Concepts thus appear like operators *opening up* the set being worked with and signification like the operator of its *reorganization*, which neither extends nor renews it and limits itself to obtaining the group of its transformations.

Images cannot be ideas but they can play the part of signs or, to be more precise, co-exist with ideas in signs and, if ideas are not yet present, they can keep their future place open for them and make its contours apparent negatively. Images are fixed, linked in a single way to the mental act which accompanies them. Signs, and images which have acquired significance, may still lack comprehension; unlike concepts, they do not yet possess simultaneous and theoretically unlimited relations with other entities of the same kind. They are however already *permutable*, that is, capable of standing in successive relations with other entities – although with only a limited number and, as we have seen, only on the condition that they always form a system in which an alteration which affects one element automatically affects all the others. On this plane logicians' 'extension' and 'intension' are not two distinct and complementary aspects but one and the same thing. One understands then how mythical thought can be capable of generalizing and so be scientific, even though it is still entangled in imagery. It too works by analogies and comparisons even though its creations, like

those of the 'bricoleur', always really consist of a new arrangement of elements, the nature of which is unaffected by whether they figure in the instrumental set or in the final arrangement (these being the same, apart from the internal disposition of their parts): 'it would seem that mythological worlds have been built up, only to be shattered again, and that new worlds were built from the fragments' (Boas I, p. 18). Penetrating as this comment is, it nevertheless fails to take into account that in the continual reconstruction from the same materials, it is always earlier ends which are called upon to play the part of means: the signified changes into the signifying and vice versa.

This formula, which could serve as a definition of 'bricolage', explains how an implicit inventory or conception of the total means available must be made in the case of mythical thought also, so that a result can be defined which will always be a compromise between the structure of the instrumental set and that of the project. Once it materializes the project will therefore inevitably be at a remove from the initial aim (which was moreover a mere sketch), a phenomenon which the surrealists have felicitously called 'objective hazard'. Further, the 'bricoleur' also, and indeed principally, derives his poetry from the fact that he does not confine himself to accomplishment and execution: he 'speaks' not only *with* things, as we have already seen, but also through the medium of things: giving an account of his personality and life by the choices he makes between the limited possibilities. The 'bricoleur' may not ever complete his purpose but he always puts something of himself into it.

Mythical thought appears to be an intellectual form of 'bricolage' in this sense also. Science as a whole is based on the distinction between the contingent and the necessary, this being also what distinguishes event and structure. The qualities it claimed at its outset as peculiarly scientific were precisely those which formed no part of living experience and remained outside and, as it were, unrelated to events. This is the significance of the notion of primary qualities. Now, the characteristic feature of mythical thought, as of 'bricolage' on the practical plane, is that it builds up structured sets, not directly with other structured sets* but by using the

* Mythical thought builds structured sets by means of a structured set, namely, language. But it is not at the structural level that it makes use of it: it builds ideological castles out of the debris of what was once a social discourse.

remains and debris of events: in French 'des bribes et des morceaux', or odds and ends in English, fossilized evidence of the history of an individual or a society. The relation between the diachronic and the synchronic is therefore in a sense reversed. Mythical thought, that 'bricoleur', builds up structures by fitting together events, or rather the remains of events,* while science, 'in operation' simply by virtue of coming into being, creates its means and results in the form of events, thanks to the structures which it is constantly elaborating and which are its hypotheses and theories. But it is important not to make the mistake of thinking that these are two stages or phases in the evolution of knowledge. Both approaches are equally valid. Physics and chemistry are already striving to become qualitative again, that is, to account also for secondary qualities which when they have been explained will in their turn become means of explanation. And biology may perhaps be marking time waiting for this before it can itself explain life. Mythical thought for its part is imprisoned in the events and experiences which it never tires of ordering and re-ordering in its search to find them a meaning. But it also acts as a liberator by its protest against the idea that anything can be meaningless with which science at first resigned itself to a compromise.

The problem of art has been touched on several times in the foregoing discussion, and it is worth showing briefly how, from this point of view, art lies half-way between scientific knowledge and mythical or magical thought. It is common knowledge that the artist is both something of a scientist and of a 'bricoleur'. By his craftsmanship he constructs a material object which is also an object of knowledge. We have already distinguished the scientist and the 'bricoleur' by the inverse functions which they assign to events and structures as ends and means, the scientist creating events (changing the world) by means of structures and the 'bricoleur' creating structures by means of events. This is imprecise in this crude form but our analysis makes it possible for us to refine it. Let us now look at this portrait of a woman by Clouet and consider the reason for the very profound aesthetic emotion which is, apparently inexplicably, aroused by the highly realistic, thread by thread, reproduction of a lace collar (Plate 1).

The choice of this example is not accidental. Clouet is known to

* 'Bricolage' also works with 'secondary' qualities, i.e. 'second hand'.

have liked to paint at less than life-size. His paintings are therefore, like Japanese gardens, miniature vehicles and ships in bottles, what in the 'bricoleur's' language are called 'small-scale models' or 'miniatures'. Now, the question arises whether the small-scale model or miniature, which is also the 'masterpiece' of the journeyman may not in fact be the universal type of the work of art. All miniatures seem to have intrinsic aesthetic quality – and from what should they draw this constant virtue if not from the dimensions themselves? – and conversely the vast majority of works of art are small-scale. It might be thought that this characteristic is principally a matter of economy in materials and means, and one might appeal in support of this theory to works which are incontestably artistic but also on a grand scale. We have to be clear about definitions. The paintings of the Sistine Chapel are a small-scale model in spite of their imposing dimensions, since the theme which they depict is the End of Time. The same is true of the cosmic symbolism of religious monuments. Further, we may ask whether the aesthetic effect, say, of an equestrian statue which is larger than life derives from its enlargement of a man to the size of a rock or whether it is not rather due to the fact that it restores what is at first from a distance seen as a rock to the proportions of a man. Finally even 'natural size' implies a reduction of scale since graphic or plastic transposition always involves giving up certain dimensions of the object: volume in painting, colour, smell, tactile impressions in sculpture and the temporal dimension in both cases since the whole work represented is apprehended at a single moment in time.

What is the virtue of reduction either of scale or in the number of properties? It seems to result from a sort of reversal in the process of understanding. To understand a real object in its totality we always tend to work from its parts. The resistance it offers us is overcome by dividing it. Reduction in scale reverses this situation. Being smaller, the object as a whole seems less formidable. By being quantitatively diminished, it seems to us qualitatively simplified. More exactly, this quantitative transposition extends and diversifies our power over a homologue of the thing, and by means of it the latter can be grasped, assessed and apprehended at a glance. A child's doll is no longer an enemy, a rival or even an interlocutor. In it and through it a person is made into a subject. In the case of miniatures, in contrast to what happens when we try to understand an object or living creature of real dimensions,

knowledge of the whole precedes knowledge of the parts. And even if this is an illusion, the point of the procedure is to create or sustain the illusion, which gratifies the intelligence and gives rise to a sense of pleasure which can already be called aesthetic on these grounds alone.

I have so far only considered matters of scale which, as we have just seen, imply a dialectical relation between size (i.e. quantity) and quality. But miniatures have a further feature. They are 'man made' and, what is more, made by hand. They are therefore not just projections or passive homologues of the object: they constitute a real experiment with it. Now the model being an artefact, it is possible to understand how it is made and this understanding of the method of construction adds a supplementary dimension. As we have already seen in the case of 'bricolage', and the example of 'styles' of painters shows that the same is true in art, there are several solutions to the same problem. The choice of one solution involves a modification of the result to which another solution would have led, and the observer is in effect presented with the general picture of these permutations at the same time as the particular solution offered. He is thereby transformed into an active participant without even being aware of it. Merely by contemplating it he is, as it were, put in possession of other possible forms of the same work; and in a confused way, he feels himself to be their creator with more right than the creator himself because the latter abandoned them in excluding them from his creation. And these forms are so many further perspectives opening out on to the work which has been realized. In other words, the intrinsic value of a small-scale model is that it compensates for the renunciation of sensible dimensions by the acquisition of intelligible dimensions.

Let us now return to the lace collar in Clouet's picture. Everything that has been said applies in this case, for the procedure necessary to represent it as a projection, in a particular space, of properties whose sensible dimensions are fewer and smaller than that of the object is exactly the reverse of that which science would have employed had it proposed, in accordance with its function, to produce (instead of reproducing) not only a new, instead of an already known, piece of lace but also real lace instead of a picture of lace. Science would have worked on the real scale but by means of inventing a loom, while art works on a diminished scale to produce an image homologous with the object. The former

approach is of a metonymical order, it replaces one thing by another thing, an effect by its cause, while the latter is of a metaphorical order.

This is not all. For if it is true that the relation of priority between structure and event is exactly the opposite in science and 'bricolage', then it is clear that art has an intermediate position from this point of view as well. Even if, as we have shown, the depiction of a lace collar in miniature demands an intimate knowledge of its morphology and technique of manufacture (and had it been a question of the representation of people or animals we should have said: of anatomy and physical attitudes), it is not just a diagram or blueprint. It manages to synthesize these intrinsic properties with properties which depend on a spatial and temporal context. The final product is the lace collar exactly as it is but so that at the same time its appearance is affected by the particular perspective. This accentuates some parts and conceals others, whose existence however still influences the rest through the contrast between its whiteness and the colour of the other clothes, the reflection of the pearly neck it encircles and that of the sky on a particular day and at a particular time of day. The appearance of the lace collar is also affected by whether it indicates casual or formal dress, is worn, either new or previously used, either freshly ironed or creased, by an ordinary woman or a queen, whose physiognomy confirms, contradicts or qualifies her status in a particular social class, society, part of the world and period of history . . . The painter is always mid-way between design and anecdote, and his genius consists in uniting internal and external knowledge, a 'being' and a 'becoming', in producing with his brush an object which does not exist as such and which he is nevertheless able to create on his canvas. This is a nicely balanced synthesis of one or more artificial and natural structures and one or more natural and social events. The aesthetic emotion is the result of this union between the structural order and the order of events, which is brought about within a thing created by man and so also in effect by the observer who discovers the possibility of such a union through the work of art.

Several points are suggested by this analysis. In the first place, the analysis helps us to see why we are inclined to think of myths both as systems of abstract relations and as objects of aesthetic contemplation. The creative act which gives rise to myths is in

fact exactly the reverse of that which gives rise to works of art. In the case of works of art, the starting point is a set of one or more objects and one or more events which aesthetic creation unifies by revealing a common structure. Myths travel the same road but start from the other end. They use a structure to produce what is itself an object consisting of a set of events (for all myths tell a story). Art thus proceeds from a set (object + event) to the *discovery* of its structure. Myth starts from a structure by means of which it *constructs* a set (object + event).

The first point tempts one to generalize the theory. The second might seem to lead to a restriction of it. For we may ask whether it is in fact the case that works of art are always an integration of structure and event. This does not on the face of it seem to be true for instance of the cedarwood Tlingit club, used to kill fish, which I have in front of me on my bookshelf (Plate 2). The artist who carved it in the form of a sea monster intended the body of the implement to be fused with the body of the animal and the handle with its tail, and that the anatomical proportions, taken from a fabulous creature, should be such that the object could *be* the cruel animal slaying helpless victims, at the same time as an easily handled, balanced and efficient fishing utensil. Everything about this implement – which is also a superb work of art – seems to be a matter of structure: its mythical symbolism as well as its practical function. More accurately, the object, its function and its symbolism seem to be inextricably bound up with each other and to form a closed system in which there is no place for events. The monster's position, appearance and expression owe nothing to the historical circumstances in which the artist saw it, in the flesh or in a dream, or conceived the idea of it. It is rather as if its immutable being were finally fixed in the wood whose fine grain allows the reproduction of all its aspects and in the use for which its empirical form seems to pre-determine it. And all this applies equally to the other products of primitive art: an African statue or a Melanesian mask . . . So it looks as if we have defined only one local and historical form of aesthetic creation and not its fundamental properties or those by means of which its intelligible relations with other forms of creation can be described.

We have only to widen our explanation to overcome this difficulty. What, with reference to a picture of Clouet's, was provisionally defined as an event or set of events now appears under a

broader heading: events in this sense are only one mode of the contingent whose integration (perceived as necessary) into a structure gives rise to the aesthetic emotion. This is so whatever the type of art in question. Depending on the style, place and period the contingent plays a part in three different ways or at three distinct points in artistic creation (or in all of them). It may play a part in the occasion for the work or in the execution of the work or in the purpose for which it is intended. It is only in the first case that it takes the form of an event properly speaking, that is, of contingency exterior and prior to the creative act. The artist perceives it from without as an attitude, an expression, a light effect or a situation, whose sensible and intellectual relations to the structure of the object affected by these modalities he grasps and incorporates in his work. But the contingent can also play an intrinsic part in the course of execution itself, in the size or shape of the piece of wood the sculptor lays hands on, in the direction and quality of its grain, in the imperfections of his tools, in the resistance which his materials or project offer to the work in the course of its accomplishment, in the unforeseeable incidents arising during work. Finally, the contingent can be extrinsic as in the first case but posterior, instead of anterior, to the act of creation. This is the case whenever the work is destined for a specific end, since the artist will construct it with a view to its potential condition and successive uses in the future and so will put himself, consciously or unconsciously, in the place of the person for whose use it is intended.

The process of artistic creation therefore consists in trying to communicate (within the immutable framework of a mutual confrontation of structure and accident) either with the *model* or with the *materials* or with the future *user* as the case may be, according to which of these the artist particularly looks to for his directions while he is at work. Each case roughly corresponds to a readily identifiable form of art: the first to the plastic arts of the West, the second to so-called primitive or early art and the third to the applied arts. But it would be an oversimplification to take these identifications very strictly. All forms of art allow all three aspects and they are only distinguished from one another by the relative proportion of each. Even the most academic of painters comes up against problems of execution, for example. All the so-called primitive arts can be called applied in a double sense: first, because many of their productions are technical objects and, secondly, because

even those which seem most divorced from practical preoccupations have a definite purpose. Finally, as we know, implements lend themselves to disinterested contemplation even among ourselves.

With these reservations, it is easy to show that the three aspects are functionally related and that the predominance of any one of them leaves less or no place for the others. So-called professional painting is, or believes itself to be, quite free so far as both execution and purpose are concerned. Its best examples display a complete mastery of technical difficulties – which, indeed, can be considered to have been completely overcome since Van der Weyden; the problems which painters have set themselves since then amount to little more than a game of technical refinement. In the extreme case it is as though, given his canvas, paints and brushes, the painter were able to do exactly what he pleased. On the other hand, he also tries to make his work into an object independent of anything contingent, of value in itself and for itself. This is indeed what the formula of the 'easel picture' implies. Freed from the contingent both with regard to execution and purpose professional painting can, then, bring it to bear upon the occasion of the work, and indeed if this account is correct it is bound to do so. Professional painting can therefore be defined as 'genre' painting if the sense of this expression is considerably widened. For, from the very general viewpoint we are taking, the attempt of a portrait painter – even of a Rembrandt – to recapture on his canvas his model's most revealing expression or secret thoughts belongs to the same genre as that of a painter like Detaille, whose compositions reproduce the hour and order of battle and the number and disposition of the buttons distinguishing the uniforms of each Arm. To use a disrespectful analogy, 'opportunity makes the thief'* in either case. The relative proportions of the three aspects are reversed in the applied arts. In these, first place is given to purpose and execution, contingent factors playing an approximately equal part in each, in the examples we consider the most 'pure', at the same time the occasion of the work plays no part. This can be seen from the fact that a wine cup or goblet, a piece of basket work or a fabric seems to us perfect when its practical value manifestly transcends time and corresponds wholly to its functions for men of different periods and civilizations. If the difficulties of execution are entirely mastered, as is the case when it is entrusted to machines,

* In the original: 'l'occasion fait le larron' (trans. note).

the purpose can become more and more precise and specific and applied art is transformed into industrial art. We call it peasant or folk art if the reverse is the case. Finally, primitive art is the opposite of professional or academic art. Professional or academic art internalizes execution (which it has, or believes itself to have, mastered) and purpose ('art for art's sake' being an end in itself). As a result, it is impelled to externalize the occasion (which it requires the model to provide) and the latter thus becomes a part of the signified. Primitive art, on the other hand, internalizes the occasion (since the supernatural beings which it delights in representing have a reality which is timeless and independent of circumstances) and it externalizes execution and purpose which thus become a part of the signifying.

On a different plane we therefore find once more this dialogue with the materials and means of execution by which we defined 'bricolage'. The essential problem for the philosophy of art is to know whether the artist regards them as interlocutors or not. No doubt they are always regarded as such, although least of all in art which is too professional and most of all in the raw or naive art which verges on 'bricolage', to the detriment of structure in both cases. No form of art is, however, worthy of the name if it allows itself to come entirely under the sway of extraneous contingencies, whether of occasion or purpose. If it did so it would rate as an icon (supplementary to the model) or as an implement (complementary with the material worked). Even the most professional art succeeds in moving us only if it arrests in time this dissipation of the contingent in favour of the pretext and incorporates it in the work, thereby investing it with the dignity of being an object in its own right. In so far as early art, primitive art and the 'primitive' periods of professional painting are the only ones which do not date, they owe it to this dedication of the accidental to the service of execution and so to the use, which they try to make complete, of the raw datum as the empirical material of something meaningful.*

* Pursuing this analysis, one might define non-representational painting by two features. One, which it has in common with 'easel' painting, consists in a total rejection of the contingency of purpose: the picture is not made for a particular use. The other feature characteristic of non-representational painting is its methodical exploitation of the contingency of execution, which is claimed to afford the external pretext or occasion of the picture. Non-representational painting adopts 'styles' as 'subjects'. It claims to give a concrete representation of the formal conditions of all painting. Paradoxically the result is that non-representational painting does not, as it thinks, create works which are as real as,

It is necessary to add that the balance between structure and event, necessity and contingency, the internal and external is a precarious one. It is constantly threatened by forces which act in one direction or the other according to fluctuations in fashion, style or general social conditions. From this point of view, it would seem that impressionism and cubism are not so much two successive stages in the development of painting as partners in the same enterprise, which, although not exact contemporaries, nevertheless collaborated by complementary distortions to prolong a mode of expression whose very existence, as we are better able to appreciate today, was seriously threatened. The intermittent fashion for 'collages', originating when craftsmanship was dying, could not for its part be anything but the transposition of 'bricolage' into the realms of contemplation. Finally, the stress on the event can also break away at certain times through greater emphasis either on transient social phenomena (as in the case of Greuze at the end of the eighteenth century or with socialist realism) or on transient natural, or even meteorological, phenomena (impressionism) at the expense of structure, 'structure' here being understood as 'structure of the same level', for the possibility of the structural aspect being re-established elsewhere on a new plane is not ruled out.

We have seen that there are analogies between mythical thought on the theoretical, and 'bricolage' on the practical plane and that artistic creation lies mid-way between science and these two forms of activity. There are relations of the same type between games and rites.

All games are defined by a set of rules which in practice allow the playing of any number of matches. Ritual, which is also 'played', is on the other hand, like a favoured instance of a game, remembered from among the possible ones because it is the only one which results in a particular type of equilibrium between the two sides. The transposition is readily seen in the case of the Gahuku-Gama of New Guinea who have learnt football but who will play, several days running, as many matches as are necessary for both

if not more real than, the objects of the physical world, but rather realistic imitations of non-existent models. It is a school of academic painting in which each artist strives to represent the manner in which he would execute his pictures if by chance he were to paint any.

sides to reach the same score (Read, p. 429). This is treating a game as a ritual.

The same can be said of the games which took place among the Fox Indians during adoption ceremonies. Their purpose was to replace a dead relative by a living one and so to allow the final departure of the soul of the deceased.* The main aim of funeral rites among the Fox seems indeed to be to get rid of the dead and to prevent them from avenging on the living their bitterness and their regret that they are no longer among them. For native philosophy resolutely sides with the living: 'Death is a hard thing. Sorrow is especially hard'.

Death originated in the destruction by supernatural powers of the younger of two mythical brothers who are cultural heroes among all the Algonkin. But it was not yet final. It was made so by the elder brother when, in spite of his sorrow, he rejected the ghost's request to be allowed to return to his place among the living. Men must follow this example and be firm with the dead. The living must make them understand that they have lost nothing by dying since they regularly receive offerings of tobacco and food. In return they are expected to compensate the living for the reality of death which they recall to them and for the sorrow their demise causes them by guaranteeing them long life, clothes and something to eat. 'It is the dead who make food increase', a native informant explains. 'They (the Indians) must coax them that way' (Michelson I, pp. 369, 407).

Now, the adoption rites which are necessary to make the soul of the deceased finally decide to go where it will take on the role of a protecting spirit are normally accompanied by competitive sports, games of skill or chance between teams which are constituted on the basis of an *ad hoc* division into two sides, Tokan and Kicko. It is said explicitly over and over again that it is the living and the dead who are playing against each other. It is as if the living offered the dead the consolation of a last match before finally being rid of them. But, since the two teams are asymmetrical in what they stand for, the outcome is inevitably determined in advance:

This is how it is when they play ball. When the man for whom the adoption-feast is held is a Tokana, the Tokanagi win the game. The Kickoagi cannot win. And if it is a Kicko woman for whom the adoption-

* See below, p. 199 n.

feast is given, the Kickoagi win, as in turn the Tokanagi do not win (Michelson I, p. 385).

And what is in fact the case? It is clear that it is only the living who win in the great biological and social game which is constantly taking place between the living and the dead. But, as all the North American mythology confirms, to win a game is symbolically to 'kill' one's opponent; this is depicted as really happening in innumerable myths. By ruling that they should always win, the dead are given the illusion that it is they who are really alive, and that their opponents, having been 'killed' by them, are dead. Under the guise of playing with the dead, one plays them false and commits them. The formal structure of what might at first sight be taken for a competitive game is in fact identical with that of a typical ritual such as the Mitawit or Midewinin of these same Algonkin peoples in which the initiates get symbolically killed by the dead whose part is *played* by the initiated; they feign death in order to obtain a further lease of life. In both cases, death is brought in but only to be duped.

Games thus appear to have a *disjunctive* effect: they end in the establishment of a difference between individual players or teams where originally there was no indication of inequality. And at the end of the game they are distinguished into winners and losers. Ritual, on the other hand, is the exact inverse; it *conjoins*, for it brings about a union (one might even say communion in this context) or in any case an organic relation between two initially separate groups, one ideally merging with the person of the officiant and the other with the collectivity of the faithful. In the case of games the symmetry is therefore preordained and it is of a structural kind since it follows from the principle that the rules are the same for both sides. Asymmetry is engendered: it follows inevitably from the contingent nature of events, themselves due to intention, chance or talent. The reverse is true of ritual. There is an asymmetry which is postulated in advance between profane and sacred, faithful and officiating, dead and living, initiated and uninitiated, etc., and the 'game' consists in making all the participants pass to the winning side by means of events, the nature and ordering of which is genuinely structural. Like science (though here again on both the theoretical and the practical plane) the game produces events by means of a structure; and we can therefore understand why competitive games should flourish in our industrial societies. Rites

and myths, on the other hand, like 'bricolage' (which these same societies only tolerate as a hobby or pastime), take to pieces and reconstruct sets of events (on a psychical, socio-historical or technical plane) and use them as so many indestructible pieces for structural patterns in which they serve alternatively as ends or means.