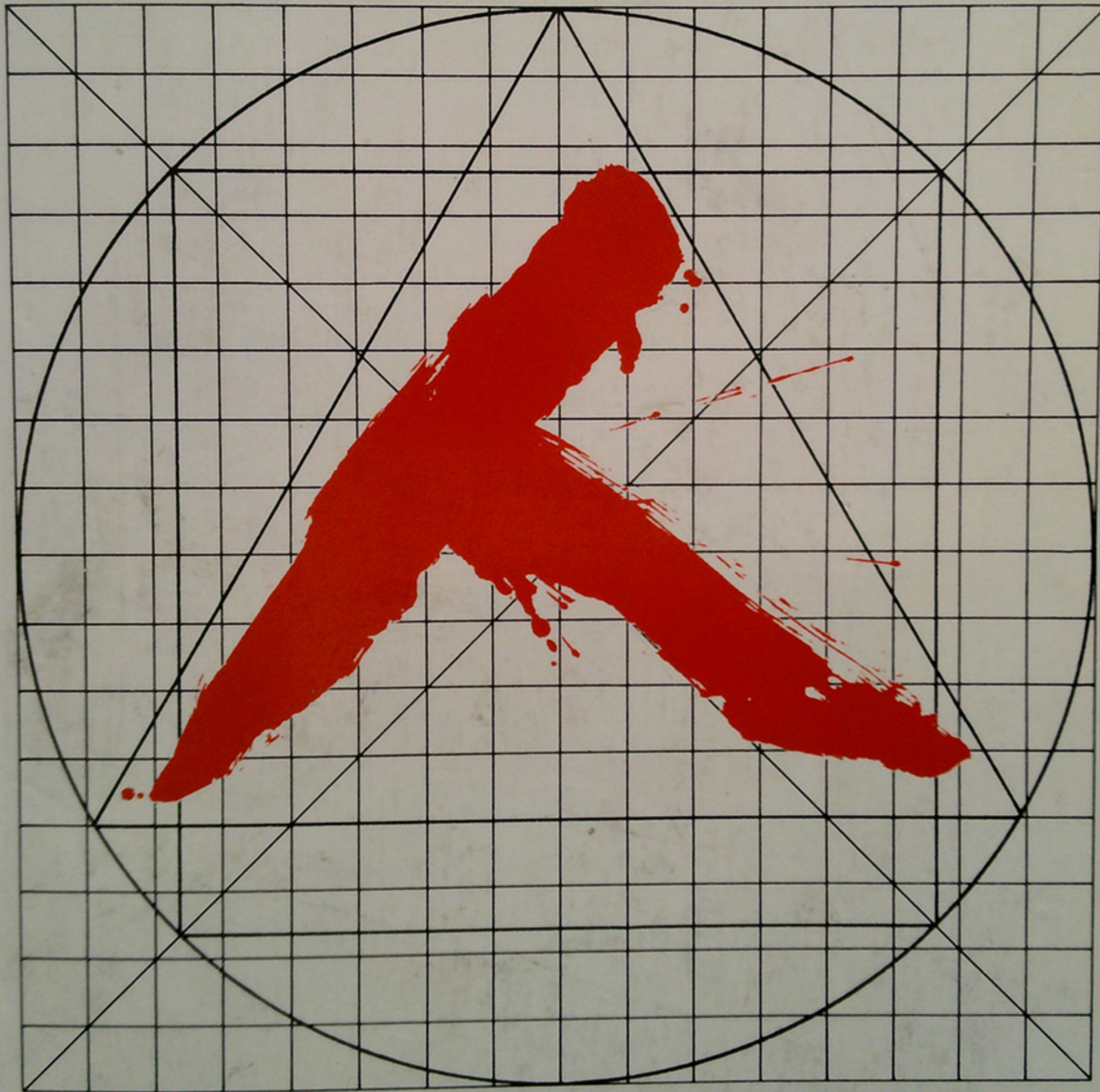


# THE GENESIS OF FORM



FROM CHAOS TO GEOMETRY  
Mark Verstockt

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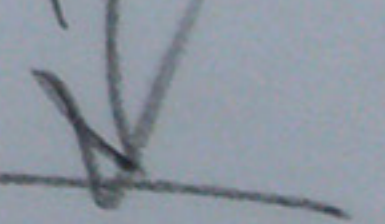
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While it is helpful to make an inventory of all the aspects of a phenomenon, it is more important to look for a structure linking the components that serves to emphasize and clarify their evolution, interaction, influences, diffusion and interconnections. Our aim with this study in the field of signs and form has been to gain by analysis a better knowledge of the graphical material of communication, and thus to use it more efficiently and more consciously. The abstract, experimental art of the beginning of this century was constantly and clearly involved, whether consciously or unconsciously, in the search for a primeval means of expression, a return to the font of creativity. After the pretentious and prudish aestheticism of the 19th century, which banished all abstract and geometrical forms to the realm of decorative art, our century rediscovered these forms as valuable vehicles of expression, which, from their beginnings, they had always been. In the first half of the 20th century the Bauhaus (1919–33) and De Stijl (1917–32) in particular focused their attention on basic forms; the Russian Constructivists (1920) and the artists of Cercle et Carré (1930) and Abstraction Création (1931–36) followed. From then to the present, constructivist and concrete artists the world over have never ceased to include these primeval forms in their research (fig. 1).

In the course of this study, points of contact with logographic, ideographic and pictographic communication could not be avoided, but beyond the formal aspect we were reluctant to enter these areas except where they might help elucidate the matter under consideration. At the same time, we have attempted to draw a distinction between forms without meaning, i.e. without reference to reality, and forms with a meaning, or *signs* (with a signifier and a signified); but sometimes this is untenable, since so-called *forms*, which should therefore have no meaning, appear in the end result to be able to function as signs, or to be so interpreted. So as not

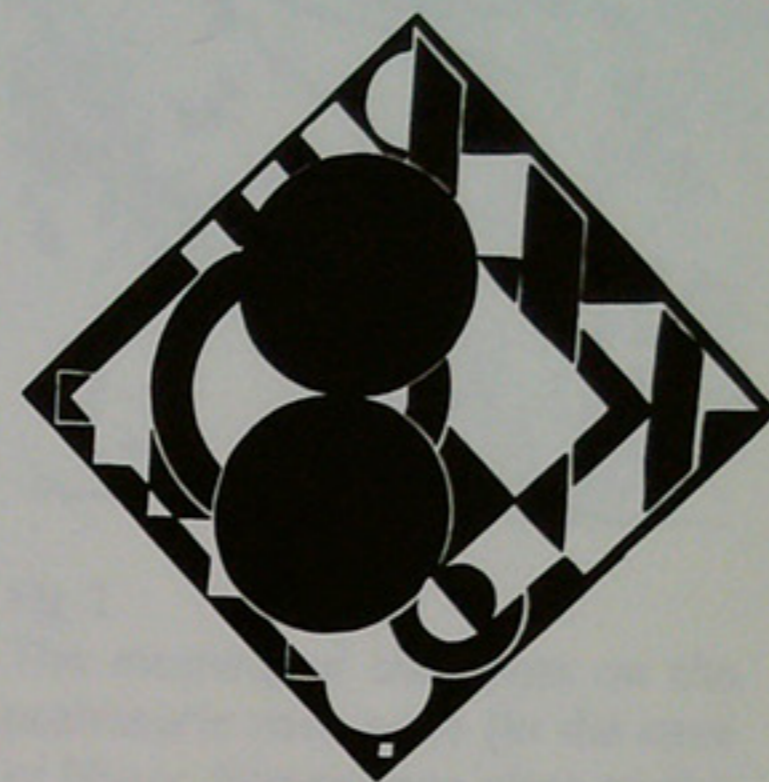


Fig 1  
Josef Peeters  
*Lino*—1920

to introduce any new or academic terms, we propose to call the second group *signs* and the first group *abstract signs* or *forms*, or on some occasions *graphics* or *graphisms*. The latter is used as the term for a generalized graphic shape or element; a type of graphic rather than a specific graphic itself; and frequently the abstract, creative and 'primary' rather than the functional aspects of a drawn shape, form or sign. A square, for example, can clearly be called a form, whereas a segment of a line cannot. Both can have a symbolic meaning and thus are here called *signs*, but if they are regarded simply as designs, that is, without meaning, then a line segment should preferably be called an '*abstract*' sign, and a square rather an *abstract form*.

This is a broad area, and we have therefore restricted ourselves to the most elementary developments. When, however, we have been unable to resist the temptation (e.g., in respect of the human form: see page 126) to leave our designated path, we happily throw it in as a whimsical digression. We keep to our self-imposed limitations, however, by not, for example, attempting to examine faunal and floral ornamentation, based on the imitation of nature (figurative stylization), in any depth, despite touching occasionally on that aspect; this could form the subject of a separate study, even if it meant recapitulating the most primitive stages of graphical development.

It goes without saying that we are well aware of the many deficiencies of this book, and are certain that, for example, ethnologists, semiologists, theologians, psychologists and—why not?—metaphysicists would be well able to undertake a fuller examination within their own subjects, or, indeed, might have already done so. Our intentions were more concerned with morphology, but the abundance of symbolic, psychological, religious and other interpretations could not be ignored, and were helpful in achieving a better understanding of the development and original structure of signs and forms. Sign and form are extremely vital: tenacious on the morphological level, they hold their own through the centuries as their functions change, depending on the intentions of the manipulating individual and the period in which they are used. A knowledge of successive interpretations and symbolisms can only lead to a better understanding of morphology. Any attempt at completeness, however, would have resulted in an over-encyclopaedic work.

The schematicized, androgynous sign for a human being, for

example, develops in the course of history and from culture to culture, both in its appearance and in its significance. A similar development can also be observed with abstract signs and forms.

In today's concrete art, a circle is clearly a *circle* and a square is a *square*, but behind this circle and this square lie, historically speaking, *all* circles and squares, with the same morphological characteristics but different semantic qualities. Much as the concrete artist may have the intention of giving his language of forms the maximum autonomy, and may follow this intention, the historical relationship is still there. An understanding of the historical and cultural context is not indispensable to the artist of this century, but artists such as Klee, Kandinsky, Delaunay, van Doesburg and others have sought to broaden their knowledge of the phenomenon of form so as to strengthen the foundations of current art. We have found that, in the 20th century, a formal estrangement from the archaic signs, the archetypes in a Jungian sense, has been less great outside the field of art, too, than might at first sight be thought; does not the symbol-set of a computer, for example, contain enough primitive signs to support this



Fig 2 The meaning of the spots on the prehistoric rock walls (in the cave of Niaux, France) was clear to the cave-dwellers, but we can only guess at their purpose. However, the morphology is no different from the dots in modern communications systems.

Fig 3 Extract from the symbols catalogue of a computer company. Morphologically, there is no difference between symbols on the walls of caves such as Lascaux, France, for example, and these. Even in our century of high technology, man must still fall back on the same elementary graphics.

finding (figs. 2 and 3)?

Practically every author we have consulted has complained about the boundless scope of his subject and asked for indulgence in respect of limitations and deficiencies. We ask the same indulgence for the hypothetical and intuitive nature of some proposals. Our aim is to reconstruct a graphic development, to set up a hierarchy stretching from, let's say, scribbles and scratches to geometrical forms: circles, squares, triangles. We have attempted to chart the evolution of the proto-geometric sign, through the different stages between a (supposed) zero (chaos\*) and the basic shapes (circle, square, triangle). In the process, we were trying to arrive at a scale of cultural values rather than a factual trend of historical evolution, which is no simple exercise, since too many factors affect the formal development.

We might assume, for instance, that a primitive tribe would first produce a graphic mark of left-sloping strokes (\\\\\\\\) or right-sloping strokes (////) and then, in a later stage of development, draw one over the other to produce a cross decoration (XXXXX). But this assumption is by no means certain. The tribe might have adopted the cross pattern from a neighbouring tribe, without passing through the stroke pattern first.

The motor linkage on the one hand, and imagination and invention on the other, however minimally present, are important factors in the development of primary signs and forms. Undoubtedly the whole process is rooted in an animistic experience of nature. We can therefore posit from the outset a definite relationship between communication by gesture and the primary sign. The gesture can itself become a sign. Thus we see that where gesture steps in when words are not enough, the same verbal impotence can give rise to signs. Gesture can strengthen the spoken word, give it power,

\*Chaos—negative and positive finding harmony in darkness, according to the Cabbala—is a concept that can be considered on many levels. It means potential energy in the immaterial as well as the material sense; it contains a maximum as well as a minimum of information. We can say chaos is basically anti-order and anti-time: once we introduce a point into chaos, chaos ends; at that moment time and space are created and order exists. Chaos can only exist in opposition to order (and of course *vice versa*)—and in this book, where the thesis concerns the creation of order, the genesis of form, chaos is a most useful antithesis.

emphasize it; likewise the sign. Gestures can be the expression of deep emotions (aggression, sadness, despair ...) or of religio-cosmic aspirations (worship, invocation, conjuration, devotion ...), and signs themselves can indicate the same attitudes. We can extend this parallel as far as dance, where rhythm plays an important role; we can also discern this rhythm in the structures of signs (see *Man and the Geometry of the Body*, page 115). We further find that these primeval signs manifest themselves in more complex irrational, emotional, aesthetic or other processes, as well as in spontaneous graphical, serial or rhythmical applications, for example during ritual activities or playful/creative processes. It is also probable that actions and gestures in prehistoric ritual resulted in signs: for example, hand prints (the cave of El Castillo, Spain) or arrows drawn on representations of wild game (the caves of Niaux and Lascaux, France).

On a graphical level, we can subdivide signs into two categories: *open* signs and *closed* signs (if we apply this to Western script, we could say that the open signs comprise: C, E, F, G, H, I, J, K, L, M, N, S, T, U, V, W, X, Y, Z; and the closed signs: A, B, D, O, P, Q and R).

The primary *open* signs belong to a lower cultural level, and their execution makes minimal demands on the skill of the artist. The semantic input is likewise limited. They are produced with very few actions or movements of the hand: one (point, line), two (wedge), three (fork), several (zigzag). The *closed* signs are part of a higher cultural level, and the difficulty of their execution is greater than that of the primary open signs. Their production makes higher demands on the artist's awareness and requires a rational input: composition, relationships, correction, combination, judgement ... the movements are: one (circle), two (mandorla), three (triangle), four (square), several (polygon).

From an even higher cultural level derive the combinations of *open + closed* signs and *closed + closed* signs. In both cases we also find a double, plural, often complementary symbolism: Christ-and-the-disciples (cross-in-square), spirit-and-matter (circle-in-square). Even in the simpler open signs we can recognize a plural, frequently complementary symbolism: the cross (vertical + horizontal) unites male and female, life and death, yin and yang ...

Perhaps, as we trace the often uncertain path taken by the development of signs and forms, we could speak of 'haphazard creativity' (Lévi-Strauss in *La Pensée Sauvage*, calls it *bricol-*

OPEN  
+  
CLOSED  
SIGNS

age) to refer to the lack of technical competence with which the primitive artist, in his ignorance, nevertheless endeavours to give expression to what is in his mind. In fact, such an artist is not aware that there is any problem: he is simply producing something, and luck sees him through where his ability fails him. Over a very long period, which might cover generations, he will tend to improve and at the end of the process achieve some virtuosity. The technical handicaps to be overcome by the primitive artist, on the one hand, and his will to expression on the other, are evident in his work. Imitation of nature (mimesis) as an aid to drawing is rarely encountered, and the sole stimulus is the advancement of technical ability. Franz Boas in *Primitive Art* wrote:

There is nothing to show the mere contemplation of nature or of natural objects develops a sense of fixed form. Neither have we any proof that a definite stylistic form develops as a product purely of the power of imagination of the workman, unguided by his technical experience which brings the forms into his consciousness. It is conceivable that elementary esthetic forms like symmetry and rhythm are not entirely dependent upon technical activities; but these are common to all art style; they are not specifically characteristic of any particular region.



Fig 4  
Manon girl (Ivory Coast) painted for the initiation rite: the body is painted blue and covered with white spots. Painting with the fingertips directly on to the body or another surface is very much a primary creative act. Children, too, find a great deal of pleasure in fingerpainting.

It might be noted here that to draw parallels with the evolution of drawing skills in a child is not always as useful as it might at first seem, since this drawing comes about within a culturally determining pattern. That does not invalidate the fact that there are indeed clear parallels to be drawn, such as the pleasure in rhythms experienced by the child as he uses his fingers to mark a sheet of paper with dots of paint, or by, for instance, the Manon girl (western Ivory Coast) adding white spots to her blue-painted body before an initiation ritual (fig. 4). Another remarkable case of parallelism can be identified in the fact that the basic archetypal forms appear just as spontaneously in the drawings of children (cf. Rhoda Kellog, *What Children Scribble and Why*). But as Alfred Baader asserts in *Though This Be Madness*, drawings by the mentally ill also show a spontaneous reflection of what are called archetypal forms *originating in the collective unconscious* (fig. 5). It is indeed strange that few basic forms have their origin in direct imitation of nature (e.g., the sun-circle, the snail-spiral ...), although this certainly does occur, but rather in a motor-graphical activity, cosmic and magical in inspiration. It is possible that the products of this creative, spontaneous activity later get used as symbols and eventually as ornaments.

motor-graphical activity

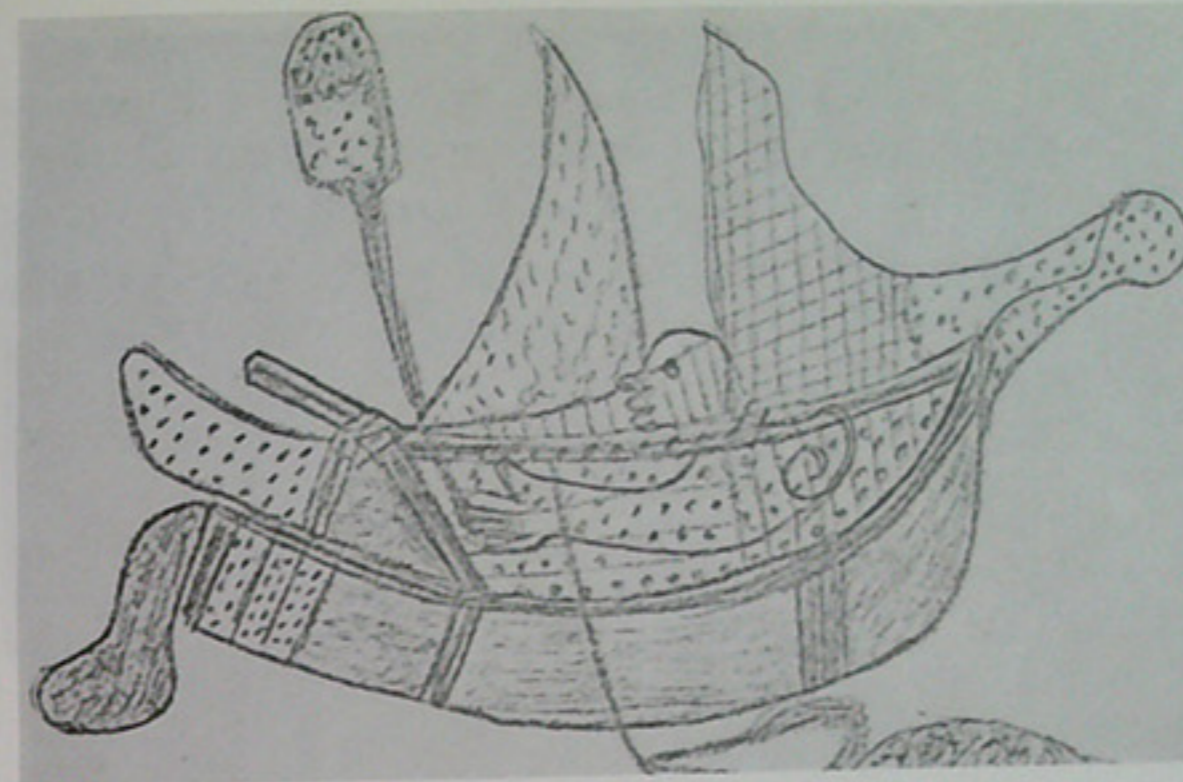


Fig 5  
Drawing by a mental patient, Jules, in which the primeval marks (dots, lines, chequer patterns, spirals) are used as filling for the plain areas.

Technical experience and the acquisition of virtuosity have probably led to the general prevalence of the plane, the straight line and regular curves such as the circle and the spiral, for all these are of rare occurrence in nature, so rare indeed that they had hardly ever a chance to impress themselves upon the mind (Boas, *Primitive Art*).

Elsewhere, Boas frequently lays emphasis on the importance of motor play as the principal origin of sign language, with rhythm as the driving force and technical ability as a necessity, but with technical predetermination as a restriction. It is clear that societies with a greater rate of artistic production have a faster-developing and more varied armoury of forms at their disposal, as a consequence of intense artistic activity and specialization. In *Le Geste et la Parole*, A. Leroi-Gourhan says on the nature of primitive graphics:

Les opérations religieuses sont plus rarement figurées et les concepts métaphysiques font l'objet de représentations abstraites.

In contrast, S. Giedion asserts (*La Naissance de l'Art*):

Masques, créatures hybrides et êtres indéterminés sont des manifestations des premières tentatives de l'homme pour donner une forme à l'expérience religieuse.



Fig 6  
Enrico Baj.—Snake  
The snake, the living line, an undulating or coiled form, universal and with a strong appeal to the imagination, is frequently the source of undulating, zigzag or spiralling signs. But it can also be, and is more likely, that these signs originated in the motor activity of the hand, at the very primary stage, and only later took on a reference to the snake.

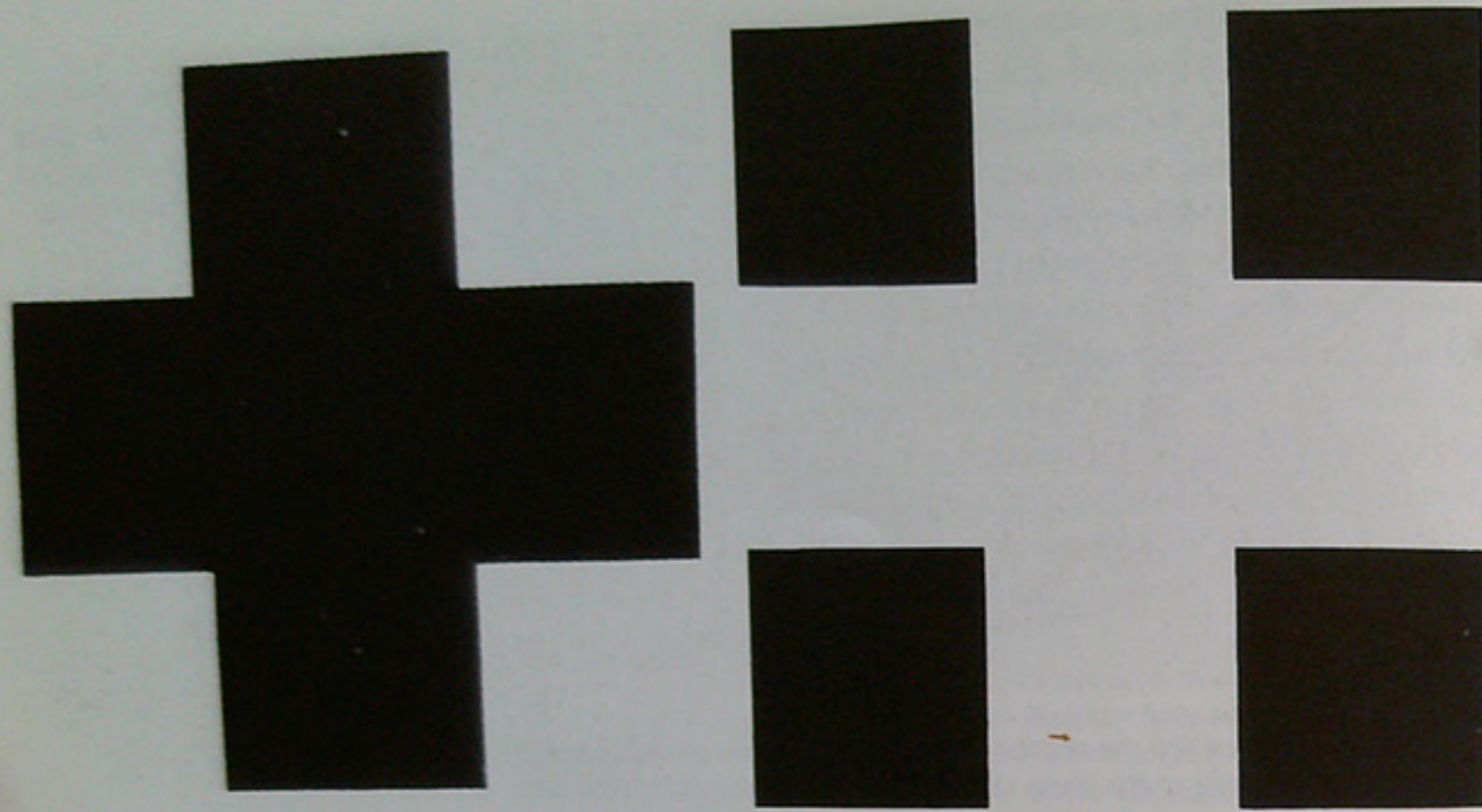


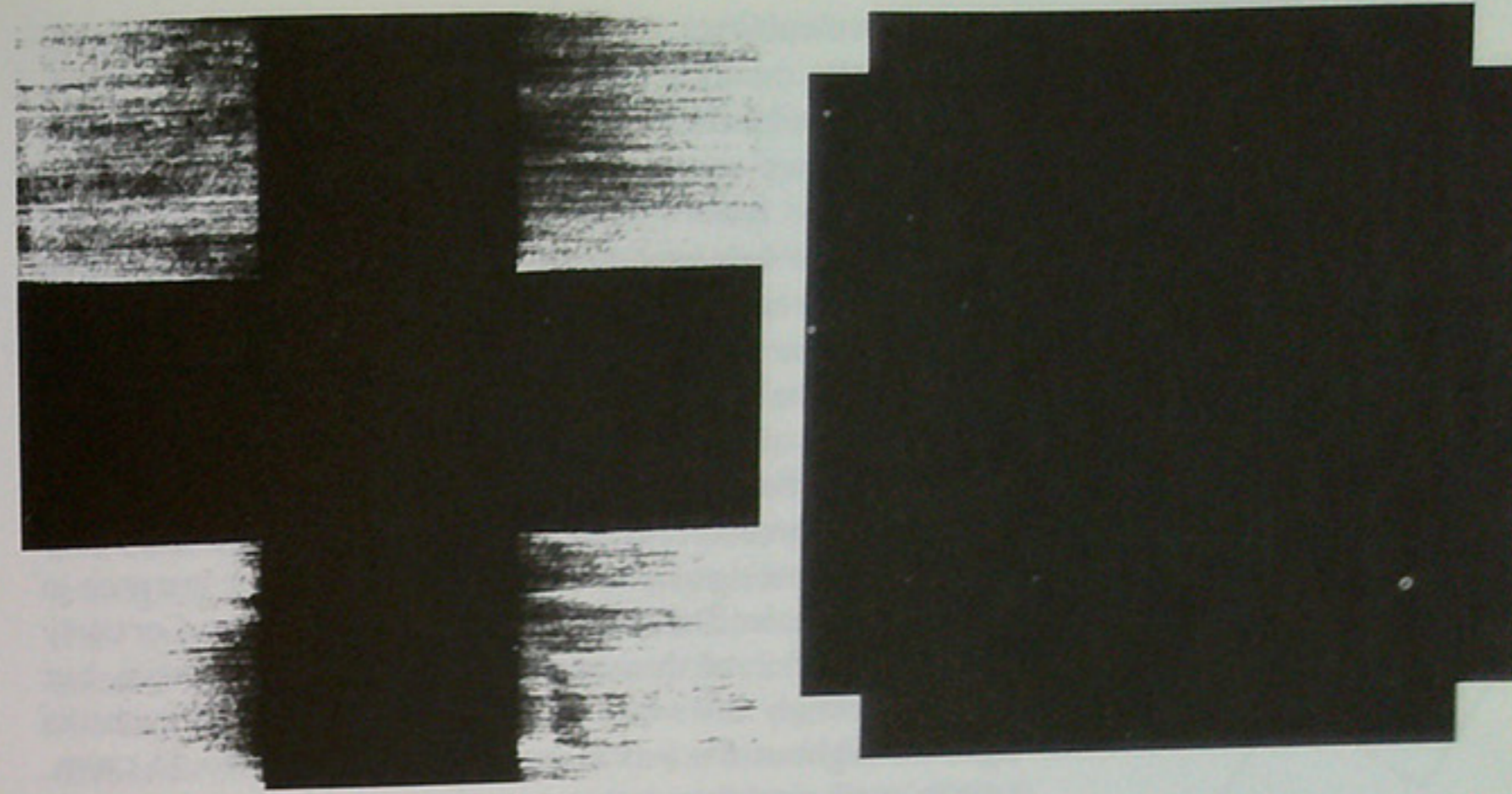
Fig 7  
The fact that the four artists Malevich, Tschaschnik, Richard Allen and Aurélie Nemours divided surface space in a similar manner indicates, on the one hand, the obsession artists have for this strong horizontal and vertical combination, primeval form and sign and, on the other hand, the limitations of abstract thematics in which personal interpretation is the only variant.

It can happen that signs come about through an unconscious mimesis of forms in nature. But it is much more common for signs to take on *post factum* the meaning of similar phenomena in nature. Thus the spiral, in fact deriving from a spiralling, playful hand-movement, could be an unconscious aping of the coiled snake and originally have a totally different significance, e.g., sun, only to re-assume its reference to the snake much later. It is further possible that in this last stage the previous significance is lost or forgotten, or becomes coupled to the latest meaning (sun-snake).

In this context we should draw attention from the very outset to the limited nature of the graphics and forms developed by man, and of the possibilities for development available to the primitive designer, which can be laid at the door of various socio-cultural factors. But these limitations are not exclusive to the primitive designer/artist: we can also see the phenomenon of limited choice in folk art and decoration, and even in the art of our own century (fig. 7).

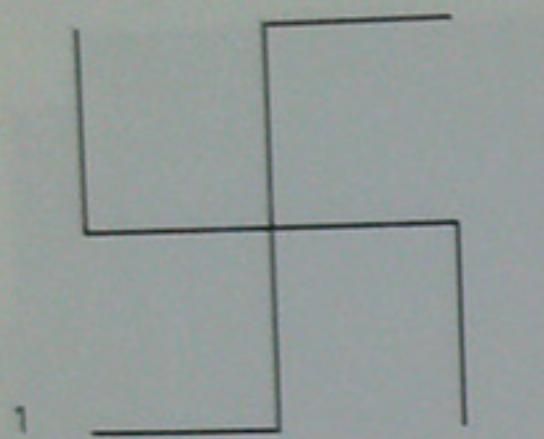
Signs originate in a different creative process from figuration. The primitive process that gives birth to abstract signs is in the first instance a motor one. Figuration arises from a mimetic process. Signs are closer to writing than what we would call 'artistic expression' (cf. Leroi-Gourhan).

The primitive draftsman/sign-drawer has no aesthetic or formal anxieties: expression (cosmic, magical, religious) is important and, in so far as the degree of technical difficulty

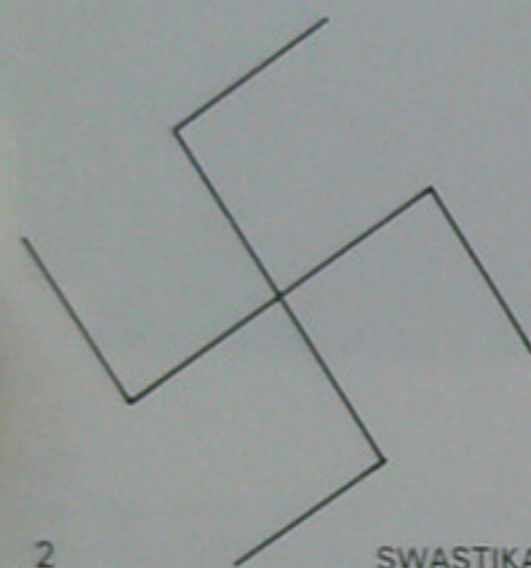


may be very slight, the execution of the sign is a repeated attempt to achieve mastery of both the material on which the drawing is made and the instrument by which it is made. The artistic creative process, ending in the banality of a *l'art pour l'art* product, only gets under way very late in primitive and prehistoric cultures. In numerous cultures we can observe the development of a split between what we can call writing (making signs) on the one hand and drawing (artistic expression) on the other. It may also be that there is a continuing relationship between the two tendencies, as for instance in pictographic writing or in Chinese (bone-writing) calligraphy. What we call writing, including the pictographic varieties, is marked by a formalistic development. Drawing develops more freely.

Undoubtedly there are also obstacles of an extra-creative sort. We note, for example, that artistic production among the Eskimos is for the most part very small scale. This, of course, is due to the scarcity and small size of suitable materials: some seal-ivory, some pebbles, some bones... Naturally, this will have an influence on the quantity and quality of creativity. Central African tribes, on the other hand, are very highly productive, as a result of the manifold and abundant presence of easily workable woods. This natural stimulus certainly encourages variety of production and skill on the part of the artist. Here, geographic and climatic circumstances clearly have an influence on the possibilities for

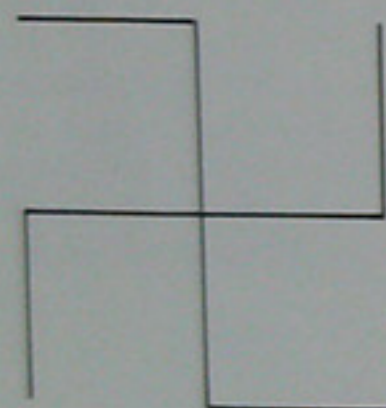


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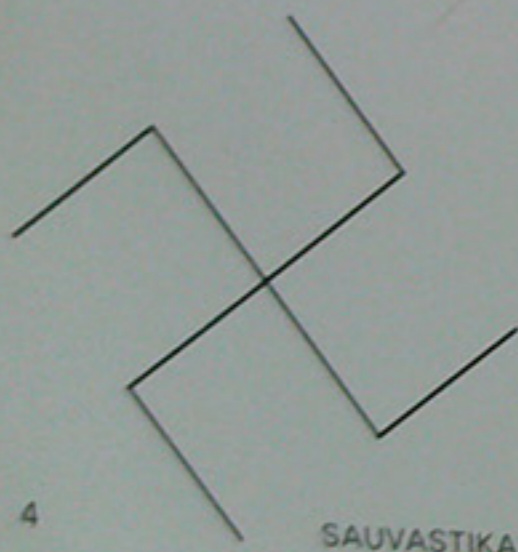


2

SWASTIKA



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cultural development.

We can also mention in this connection a steady, inevitable, compelling evolution towards certain universal archetypal forms. We thus see the hooked cross of the sun wheel (Anglo-Saxon: *fylfot* = many-footed, tetraskelion), either right-handed or left-handed, originating spontaneously within separate cultures on separate continents: among the Cretans, the Greeks, the Germanic tribes, the Pre-Columbian Indians, the Eskimos, the Indians, the Tibetans, the Africans—but with a completely different starting point in each case, and frequently a different symbolic value, here a sign of luck, there a sign of misfortune. Yet, at the same time, there are some areas where this sign remains totally unknown: for instance in Central Africa, in Zoroastrianism in Mesopotamia. Certainly the dissemination of this sign from India was appreciable, but equally certainly this was not the sole source of all swastika signs throughout the world, as the diffusionists would claim.

It is well established that travel was widespread even in earliest historic times, that an overseas barter trade was carried on with distant peoples, that emigration took place, sometimes enforced because return proved impossible, as a result of ocean currents, for example. It thus came about that ways of life, (death) rituals and a number of signs too were transported by chance far from their origins. But it is hardly acceptable to suppose that the peoples among whom these cultural forms settled were not themselves already enjoying a secure cultural development, even if this was more primitive than that of the donor. Thus, serious researchers are baffled by the fact that some signs showing similarity with Breton ones are encountered in Ireland, but others belonging to the same armoury of signs are not. Why only these and not the others? Did the seafarers from Brittany acquire or influence certain rock graphics? This would be perfectly possible. There are similarities between the arc or bow graphics of Gavr'inis and those of Loughcrew and Knowth, which give support to the donor hypothesis. But in that case, what of the equally apparent similarities with graphics in Africa and America?

Eon MacWhite (*Estudios sobre las relaciones Atlánticas de la Península Hispánica en la Edad del Bronce*, Madrid, 1951) asserts that the Western European spiral could have travelled from Egypt via Malta, back to the North African mainland and from there to Gran Canaria, finally settling in the Atlantic part of Europe. Then there is the even more complicated story of the trek onward from Atlantic Europe to Ireland, northern

England and Scotland, and from there to Scandinavia.

In our endeavours to understand primitive forms and signs, we have been struck time and again by their moving powerlessness, their humble simplicity, their honest graphical quality. Where earlier periods (notably the 19th century) did not even attempt to understand them and branded them barbarian products or ethnological curiosities, we study them with the aim of finding in them the origins of art, the primeval stage of human communication. We compare prehistoric graphics with the forms of expression of present-day primitive cultures, and attempt, through these comparisons, to find analogies. It is evident that the prehistoric archetypes had their origin in different geographical, climatological and socio-cultural circumstances than the pictograms of contemporary Africans or American Indians. Yet clear agreements are demonstrable, which give support to certain deductions.

The mainsprings behind the primitive artist's creativity are many, but must always be sought in his primeval condition: his attitude to the unknown, to the cosmos, to nature and natural phenomena, his emotions, his fears, his pastimes, his sexuality... He was certainly influenced also by the slowness of processes surrounding him, the unhurried rhythm of life, the surplus of time, the tedium of winter or of long periods of rain.

As to the indications of time, it is difficult to set estimates. Signs and forms sometimes evolve extremely slowly; often centuries pass before the next stage of development or the next combination is achieved. For this slowness various reasons, sometimes contradictory, can be offered: the sedentary condition (conservative, though at the same time frequently very creative); migration (too little rest to allow evolution, the continuing use of existing elements, products always to be carried on the journey); economy (the hardness of the living conditions, which demanded too much energy for there to be any spare for creativity); domination by other peoples; the climate... A strong traditional sense of style, which is not unusual in primitive peoples, can be a powerful brake on the artistic evolution of the individual artist, and equally on that of the group. We cannot say, however, that the artist merely copies; rather that he keeps, slavishly and almost without variation, to the familiar patterns and schemes.

Evolution is thus slow, the inventory of achievement



Fig 8  
Ashanti gold weights  
The gold weights decorated with geometrical forms are less popular than weights with human and animal images, in their inexhaustible variety, and it is probable that these forms (squares, diamonds, swastikas, pyramids, stars, combs ...) were adopted, probably from designs that travelled with traders to the Gold Coast.



Fig 9  
Pot with dactylograms  
This 2nd century B.C. clay pot (Royal Museums of Art and History, Brussels) is decorated in a primitive style by the marks of fingers pressed into the clay. It is possible that the surface decoration was intended to prevent the pot slipping from the fingers when drawing water. However, in the rhythmic manner in which the decoration is laid out we can also see an attempt to give the pot an individual, personal and aesthetic character.

generally minimal. Sometimes one or other factor, difficult to pinpoint, will introduce itself, with the result that, within a short period of time, the designer/artist does invent new forms or brings novel and different combinations to the fore. Some kind of process of acceleration manifests itself thanks to some special talent, the genius of an individual or a change in the socio-cultural structure within the group, or a refreshing new *élan* after a period of stagnation. A curious thing is that some peoples, such as certain African pygmies—in spite of their, however slight, contact with other tribes—have never developed a graphic activity beyond the secondary stage of two lines (e.g., on their bows). Dance, too, has remained binary and extremely primitive among the pygmies: one foot raised and one on the ground. Their music comprises one high note and one low note. In contrast to this, they had—in relation to the tribes among whom they lived—a highly developed technology: compared with the hunting implements of other groups, who were culturally further developed, their arrows flew far more precisely, and were stronger and more functional (their arrows had flights of animal skin, a foot at the back which made better contact with the bow-string and, at the point, sharp barbed hooks).

Surprising, too, is the discovery that the cross shape was unknown in Asia Minor until the Cretans imported it at the time of their raids on the mainland; that Greek slaves imported a wealth of previously unknown forms into Rome; that the geometrical forms on the gold weights of the Ashanti of West Africa (fig. 8) probably travelled with the gold and were introduced to the Ashanti by that route. This supports our assertion that so-called archetypal, simple, cultural elements (such as  $\cdot - | \wedge +$ ) did not arise by themselves and as a matter of course within *all* prehistoric, pre-literate and even historical social patterns. Sometimes it was war, raids, migrations, (slave) trading or colonization that dispersed signs and forms across the continents.

Certain peoples achieved speedy evolution on the craft level (utensils, clothing, textiles, weapons, adornment, ritual objects ...), with highly advanced functionalism in the shape of the objects, but remained very primitive in their symbolism and ornamentation (lines, crosses, dots ...) (fig. 9).

We do know that some cultures, such as some Pre-Columbian ones (fig. 10, a-b), developed the human or animal figure almost to anatomical perfection, or at least set up



Fig 10 a  
Maya statuette (Guatemala).  
This human figure was modelled in clay according to reasonably accurate anatomical rules, but has been decorated very clumsily. Was the figure modelled by one artist and the graphics added by another?

Fig 10 b  
Mayan figurine  
This contemporary statuette from Michoacam, in the Chupicuaro style (pre-Classical, 1200-500 B.C.), has a much more primitive anatomical structure but a strong geometrical and sophisticated decoration.

canons for the representation of men and animals that evidenced a sure sense of relationships, and we can add that, alongside this, abstract decoration stagnated at a markedly elementary, restricted stage. Perhaps we might posit that in many cases the two were the work of different artists: one produced the figuration and another the abstract decoration. Or, alternatively, that the simple abstract signs were a sort of magical completion of the figuration; this probably does in fact apply to the marks over and beside the animal drawings of Lascaux (fig. 10, c).

After the production of weapons of defence and implements for hunting and fishing, ceramics and basket-weaving were the oldest trades by which man sought to satisfy his elementary needs. Baskets and pots no doubt originally took shape in imitation of familiar receptacles in nature: the cupped hand, the scallop shell, the leaf, the gourd, the bamboo... But occasionally these originals were forgotten, and from easily worked and re-worked material (reeds, clay) freely developed shapes were produced, answering to a very precise functionality. From the technique itself there arose, unconsciously, as if growing spontaneously from the co-ordination of hand and eye, structures and forms which could be the occasion for new, unsuspected possibilities of expression. The craftsman's product became, as it were, the training ground of the aspiring designer. In the vertical and horizontal structure and in the rhythms of the weave, patterns came into being—at first, possibly by accident—through the use of reeds or fibres of different colours: squares, angles, blocks, steps,

Fig 10 c  
Cave painting, Lascaux  
Were the drawing of the horse and the addition of the mysterious signs (arrows, animal trap?) one operation?





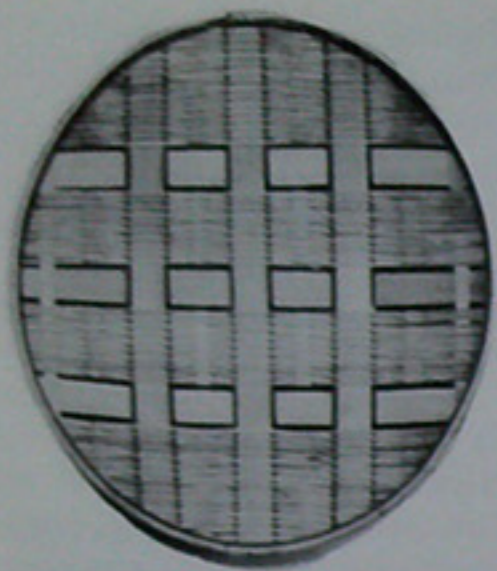


Fig 11  
Present-day Italian folk basketweave, in which we can see clearly how the use of differently coloured reeds produces geometric effects.

Fig 12  
Makiritare Indian basketweave. The techniques used in making this product have developed schematic (stylized) representations of still-recognizable figures. These also appear, in a further abstracted form, in carvings, necklace beads and metalwork, where they may only just recall the original figures. All staircase forms in primitive art derive from woven originals.



diagonals, crosses... Later, the reeds would be coloured deliberately, to achieve greater variation in the patterns or structures (fig. 11). The sensitive, soft clay used by the potter was an excellent potential vehicle for all kinds of line-drawn designs. The jug or dish built up from rolls of clay already carried in it the structure of the spiral, the circle, the continuous line, the undulating line...

We see the theory growing from the practice of production (craftsmanship), and subsequently settling in the imagination of the producer, where it is stored, to be applied later in other graphical disciplines. This means that we must postulate clear interaction between the different disciplines: the herringbone technique from weaving, for example, is imitated in pottery and carving; the horizontal and vertical lines of warp and weft are copied on the walls of the cave or the hut; the horizontal-and-vertical design of the fishnet (chequer pattern) is transferred to dishes... This can even be ascribed to a kind of cultural laziness. For example, at the outset earthenware is set in the bottom of baskets for baking, and takes on the pattern of the woven material. In a later stage the craftsman will imitate the same structure in separately made pots, pitchers, dishes, and cast or beaten metalwork. Often a variety of geometric schematicization of figurative motifs (man, animal, plant) comes about through imitation of these figurative forms as they appear in woven fabric or basketwork (fig. 12), which may extend to abstraction that is no longer recognizable.

But this, in conjunction with what we have said above, indicates an already advanced degree of cultural development. In some American Indian tribes, the weaving of headbands, neckbands and belts is said to be an experimental medium where variants on the traditional signs are tried out. In other tribes, conversely, it is the weaving of blankets, baskets and mats that is important for creativity. Tribes are said to specialize in one or other industrial product, to use them as a bartering commodity in their relations with other tribes. This can lead to forms and signs being adopted by other tribes and being used in techniques removed from the original one, and also to the signs being given different and new meanings, though without discarding the original meanings. Boas is quite right when he speaks of the influence of trading on the development of graphics and forms: this influence can scarcely be over-estimated. But against this he considers entirely hypothetical the position of those who attempt to trace all

forms and structures to a craft-technical source.

It can happen that the women who produce the ceramics also add the designs (decoration) on them\*; that the smith—who frequently has important socio-religious functions in the tribe—also fashions the images for ritual occasions; that the medicine man is also the village artist... In the most primitive cultures there was no specialized *artist* function. When differentiation of function does come about, this marks an important phase in the evolving social process. On the one hand there is craft—the production of the functional utility object. On the other side there appears *free art*—at this stage, nearly always subordinate to the dictates of a governing or priestly caste using art for the sake of prestige, or as a component of a programme to sustain its power. It can thus come about at this stage that art becomes decoration, ornament, frills, or art for art's sake.

It is not unusual to find two, three or more primary graphic elements brought together on one piece of primitive ceramics. While certainly indicating that we are dealing with a sure sense of invention—the combination of different elements—this must still be regarded as a combination of miscellaneous influences, or an achievement by the primitive artist that arises from his own research into form. But it can also happen that we observe a sudden growth of graphical variety within a large cultural group, which results in a fruitful evolution of style within the sections of the group. Thus we may suppose that during a period of severe drought in the area of the Pueblo Indians, for example, a wide variety of symbols came into being, perhaps highly varied in form and inspiration, some referring to rain, some to its consequences (fertility). This may well be connected with the complexity of the message or story. Wall decorations have been recorded by Mallery\* that present a complete armoury of the primeval signs (Inhamun, Brazil; Owens Valley, California). The universality of this phenomenon, which can be seen in practically all

\*It is not only in present-day primitive cultures that the women carry out the artistic work for the group (family or tribe). It is very probable that they also did so in the earliest period of *Homo sapiens*. Is it not an elegant position to maintain that women fashioned pots according to their own physiognomy and hence their own psyche, in sensuous and elegant shapes (Hoernes)? If it was also women who scraped the signs in the soft clay, we might conclude that women not only created the trade of artist, but art itself. *Mater vitae et mater artis*...

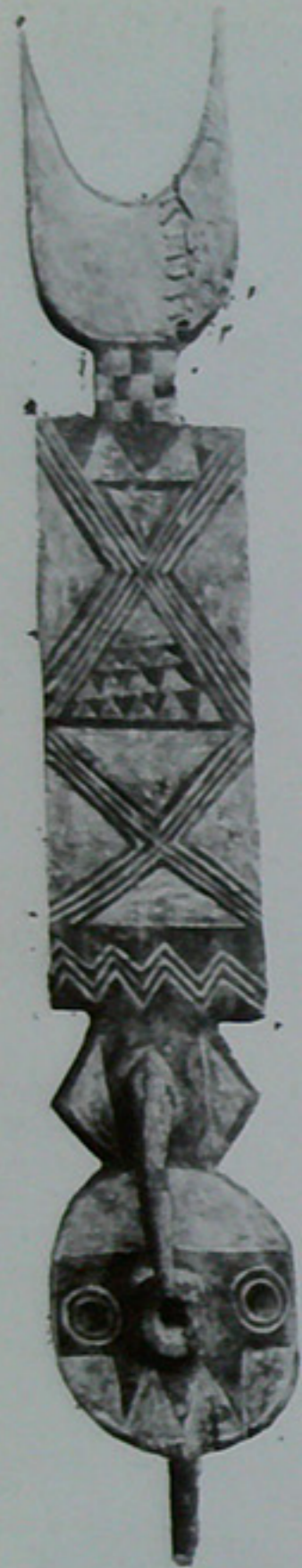


Fig 13  
Bobo mask (Upper Volta).  
This do or ancestor mask shows a wealth of different signs, all strongly geometric in design. Such pronounced feeling for geometric forms is found in many African tribes, notably the Dogon, the Bamiléké, and the Mangbetu ... (collection of the author).

primitive cultures, could be the subject of a separate comparative study (fig. 13). We can also refer in passing to a number of phenomena of Western culture of the early Middle Ages, such as the tympanum of the church at Cortrat, in Loiret (fig. 14) and that of the Great Rollington church in Oxfordshire—two vivid examples of accumulations of primitive signs.

In fact, it is especially absorbing to observe primitive man occupied in some graphical activity for its own sake, such as adding in spontaneous play a design to earthenware, simply to decorate the object or to give it a personalized character, without even the clear aim of producing a sign or symbol. It is particularly fascinating when the manipulated form or design is of a kind that does not demand the slightest specialized artistic skill (scratches, dots, stipples, lines, crosses...), so that we can observe the maker's sense of motor activity and rhythm, or see him satisfy his ambition to build structures, with inborn intense, pure sensitivity.

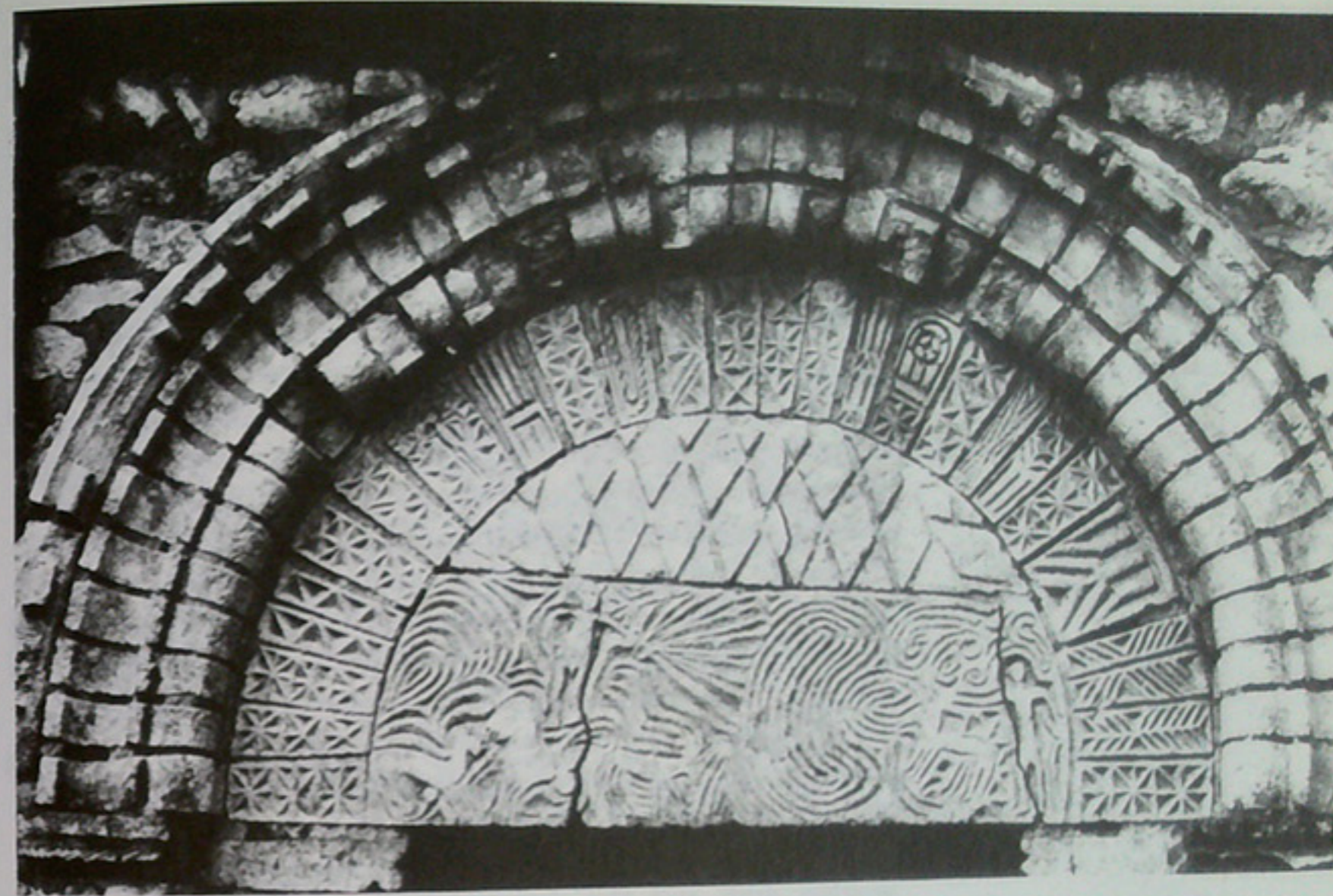
Signs and primary forms may be elements of a game (fig. 15). But it is most likely that the game (whether purely for play or as a magical/divinatory activity) is the origin of the sign (as, for example, the casting of rune sticks would produce the rune).

A connection between rhythm and emotion was established by Jung. Mastery of the mechanisms of rhythm and structure leads to proficiency in form. In praise of rhythm, Michel Seuphor writes in his *La tendance à la répétition des signes géométriques simples dans l'art contemporain* (published by Convergences, Paris-Nantes, 1982, under the title *Autour du Cercle et du Carré*):

Nous sommes rythme avant tout autre chose; nous naissons rythme, et ce n'est que bien longtemps après que nous naissons à la pensée. Mais la pensée est elle-même issue de ce rythme, elle en est en quelque sorte l'efflorescence extrême. Voilà sans doute la raison pour laquelle le rythme et la pensée se comprennent si bien. Ils se nourrissent l'un l'autre, en quelque sorte de leur substance mutuelle.

It is quite possible that such rhythmic sign exercises or structural experiments were only much later introduced to a

\*Mallery, Garrick, *Pictographs of the North American Indians, a preliminary paper*. Tenth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1888-89.



magical, ritual or ordinary system of communication. Rationality is never the rule in the chain of development of signs and forms. But no doubt this is an aspect of human genius.

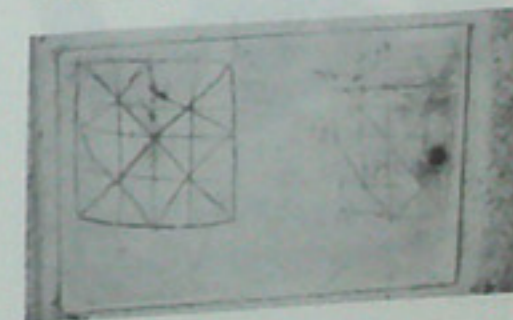
When overproduction occurs, resulting in a higher level of general ability, we see the appearance of a looser graphical style, and the artist, as it were, writes the signs. At this point all the characteristics of handwriting can be seen (personal traits, sloppiness, fluency...), and motor activity becomes once again an important element in the creative process.

Often we see the primitive craftsman append his personal sign (signature) to his product. It may also be that this sign is the symbol of the group: the tribe or the place of work, for example. It is as if he (or the group) desires the product to be recognized as a personal creation by means of the proprietary sign, and as if the artefact, marked by the signature, is given extra protection, so that any imitation would mean an infringement of the personality of the maker (or the group). This mark, identifying the maker, is itself an identity.

When a culture opts for an alphabetic, linear system of writing, this results in a differentiation within the communication of the group. On the one hand, the pictogram will evolve within very formal limits from the drawing; on the other, the

Fig 14  
On the early-Romanesque tympanum of the church at Cortrat (Loiret, France) we can see a battery of primitive signs, surrounding a creation story interwoven with mazes, as if expressing the continuing struggle between pagan and Christian influences.

Fig 15  
Children's drawings on a wall in Fez (Morocco). This game is usually played on the ground, like our hopscotch, but sometimes the children draw the game's pattern on a wall as a graffito.



CALIG  
PAINTING

drawing will embark on an autonomous evolution and have a totally new function. True, a large number of symbols continue in existence, or are included in the script, but as a result of the advent of the *written* word these will slowly but surely lose their power.

In the Far East, however, a picture-writing script has come into being in which the link with drawing is maintained. The practice of calligraphy has specialized exponents and masters, who are usually painters and artists as well. It also comes about that, when a master calligrapher is asked by an artist to add calligraphy to a painting, to complete it aesthetically, the calligraphy will truly reflect and complement the spirit of that painting: a meeting of calligraphy and painting in one whole. In its essence, calligraphy is just as unique as painting, with the same subjective and personal qualities. This is confirmed by the fact that many calligraphers (Chinese, Japanese, Arabic) sign their characters as autonomous works of art. Frequently the calligraphy and the picture (painting or drawing) are produced in one operation: the writing accompanies the picture, or vice versa. Sometimes the calligraphy runs into the drawing, so that we have difficulty distinguishing where the writing ends and the drawing begins (cf. Roland Barthes, *L'Empire des Signes*).

In *Ryakuga Haya Oshie* (Rapid Reading in Simplified Characters) (1814), Hokusai redraws a scene with two men chatting as an example of calligraphy (*hiragana*). A swarm of dragonflies flows over into the accompanying text, with the aim of establishing the relationship between the two graphical genres: calligraphy grew out of drawing (painting); or: drawing (painting) grew out of calligraphy.

La calligraphie... intermédiaire entre la peinture et la poésie. Le peintre et le calligraphe se servent du même instrument: le pinceau... Il n'y a pas de discontinuité entre les traits peints et les traits calligraphiés. (François Cheng in *La Traversée des Signes*).

Writing and image are thus one. It can be seen from this that within these cultures the graphical quality of the written characters is in fact very important for communication. Unfortunately that is no longer the case in our alphabetized cultures—a fact which may certainly be regarded as an impoverishment of communication.

In our Western culture we are familiar with, for example, Gothic calligraphy, but the quality of that writing was very formal-aesthetic and could, indeed, be a specialized occupa-



Chinese calligraphy in the Tsau-Tse style: to do, make, write, work, act.



*dans ma chambre, ou pour mieux dire : dans ma carrée, la carrée étant la chaise d'un lit et valant deux rondes de musique, dans ma carrée pour la charade,*

tion, drawing remaining a separate specialized area. In our society, art and writing are irrevocably parted. It is with evident nostalgia that 20th-century artists turn to calligraphy: Mathieu, Hartung, Alechinsky, Tobey, Dotremont (fig. 16), Michaux...

It is part of our intention to stress that the primeval sign or form is universal; that it has been in use, an attainment of man and a property of society, in all eras, and thus, needless to say, in our computer society too, often with the same metaphysical function as in furthest antiquity; and that the semantic and graphical usefulness of these signs and forms is not subject to any attrition. Here we need only call in evidence the morphology of heraldry, military insignia, signs for all forms of transport, symbols for typewriters and computers, the language of mathematics and the exact sciences... and, last but not least, the art of the 20th century.

History adds new meanings to the *immanent*, archetypal and *universal* signs, but these do not destroy the previous symbolism as a result. Signs may fall into disuse, sometimes for very long periods, and similarly return from oblivion to sudden prominence, as if from a collective, cosmic memory;

Fig 16  
Christian Dotremont.  
*Logogram* (1978).

A member of the Cobra group, Dotremont was particularly known for his poetic, active logograms. In common with his colleague Alechinsky, he regretted the absence of a calligraphic tradition in Western culture and clearly took inspiration from the East.



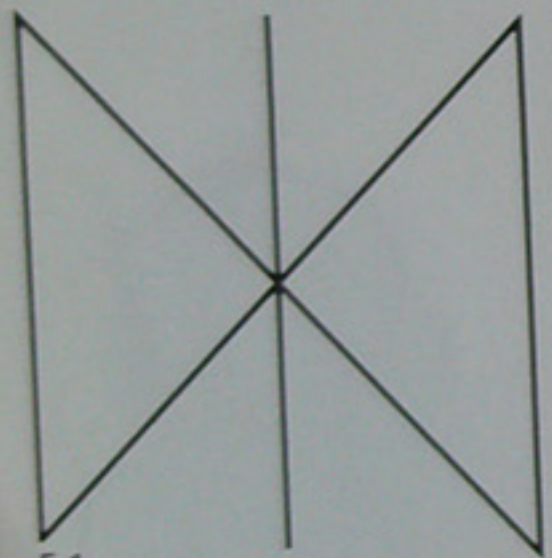
Western calligraphy (1601)

or they may disappear for good. Sometimes we see symbols decay to banal signs, or signs take on the function of a symbol. The interpretation of that symbolism (*le signifié*) will be dependent horizontally on the cultural period and the cultural pattern in which it is manifest, and vertically on the level at which it is (demagogically) manipulated within the culture (by magic, alchemy, religion, art...). The fact that the cross, with its cosmic, magic and religious meanings, was afterwards used in mathematics, in computer symbolism or as an element of ornament, changes absolutely nothing as regards the primeval meaning of that sign. There is simply a difference in level.

Often we find—as with the North American Indians—that the meaning of a sign changes from tribe to tribe, and even that each artist within the tribe, according to the context in which it is put, may attach a different meaning to the sign, because in this case no formal relationship exists between the form and what it symbolizes. Thus, for the Arapaho Indians, the horizontal double-axe sign with a vertical line through the point of contact can mean not so much *butterfly* as *star* (5,1.), but a cross (5,2.) and a diamond (5,3.) can also mean *star*, while a coloured-in diamond is *man* (human being) (5,4.). With the Pomo Indians, a triangular structure means *butterfly* for the northern and eastern groups and, for the central group, *arrowheads* (5,5.).

The manipulation of the abstract language of signs can be so individual that the act of drawing has meaning only for the artist, and even his immediate neighbourhood does not understand it. This would be the case with some prehistoric Indian tribes in East California, Nevada or Monterey, who had little figuration, and whose extensive armoury of signs largely consisted of geometric marks, which were very probably used to represent highly abstract and individually conceived ideas.

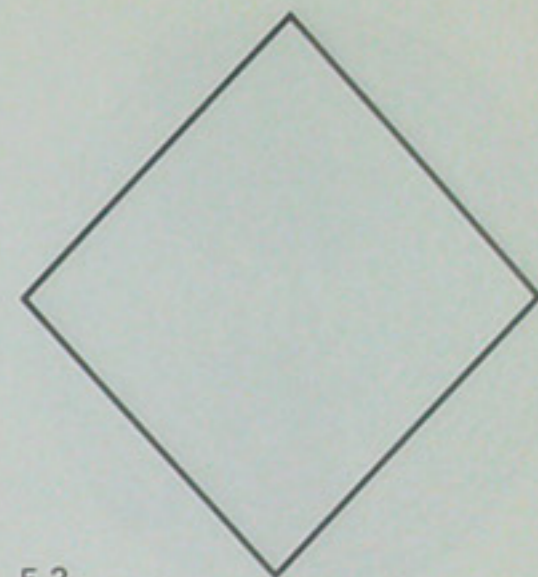
We take too little account of the important function of elementary conventional signs in our daily life. Think for a moment of the compelling effect a mandatory traffic sign has upon us. Only then is it brought home to us (when we stop) how insidiously, by a Pavlovian response, a sign can influence the pattern of our behaviour. We have seen men follow a sign in their thousands, as if following an obsession, or as if in an apocalyptic vision, to meet their death and destruction: crusaders behind the cross, Muslims behind the crescent, Nazis behind the swastika, Italy's fascists behind the fasces... We can see clearly how the *symbol* now becomes *reality*, making possible the substitution of one for the other; where



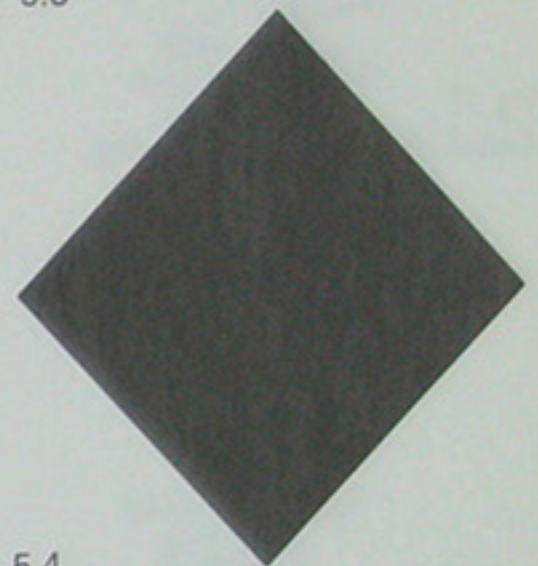
5.1



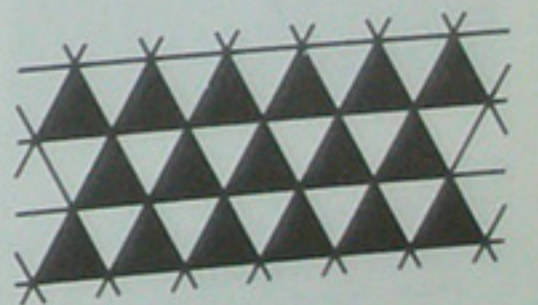
5.2



5.3



5.4



5.5

one is seen, the other is understood.

In prehistoric and primitive cultures it was the initiates, the priests, the priest-kings, the tribal chiefs, the magicians, the artists, who carried out the demagogic manipulation of the signs and who were the custodians of this form of communication within the society. This is also how they contrived to maintain their position against the non-initiates and to command respect. They had power.

The Benin of West Africa know the power of the sign very well. In this tribe it is always the king, and he alone, who is permitted to incise the tattoo motifs: he has power over the signs. Sometimes, as for example with the Ashanti, also of West Africa, the king, who is proprietor and custodian of the signs, distributes them to his subjects or notables, as a sign of gratitude or as a present. On the death of the owner, the signs were burned with his corpse, since they were so bound to the person that they could not be transferred to his heir; the sign being like the profoundest ego of the possessor.

In the cultures of India, too, the shaman or medicine man was the effective possessor of the signs; he alone knew their meaning, and it is clear that the interpretation varied from individual to individual. Possession of the signs and the hidden knowledge of their meaning also guaranteed the shaman's power and influence.

In many African and Indian tribes the aim of body-painting and of the designs on warriors' shields was to make an impression on the adversary. The sign became a talisman, a weapon, a defence; the primitive fighter recognized the power of the sign (magic) and believed in its protection and its influence on the enemy.

In our Western culture, man manipulates (and is manipulated by) signs in religion, magic, politics, ideology: the cross, the crescent, the swastika, the Cross of Lorraine, runes, the Star of David, the hammer and sickle, the triangle, dividers or compasses, the circle, the circle with a cross... Through the strong, condensed power of the economical graphical design of the sign on the one hand and the object to which it refers on the other, a kind of magical, compelling power is exercised over the reader, like the effect of a modern traffic sign with an unambiguous meaning. In cultures without writing, the sign is manipulated in a more complex manner, with added compactness resulting from greater spontaneity and directness. Of course, tradition plays a not insignificant role, and the consumption of the sign is far more evident there than in our



Fig 17  
Detail of a Hopi sand drawing.

alphabetized cultures.

We can agree with Dr. C. W. Verhoeven:

Not only usage, but tradition too makes the symbol banal.

Long before the sign lost its meaning, became desemanticized and gained the function of an ornament or an element within an ornamental graphic design (in which case we can speak of a degradation), it was used by man to communicate with the cosmic realm, or to give expression to his inner fears and tensions. Only much later was it to become a vulgarized means of communication between individuals. It is far too simplistic to maintain that an artist or craftsman, responding simply to the challenge of a blank surface which needs to be filled (*horror vacui*), draws simple graphical, optical effects on it, starting from such beginnings as order, symmetry, logic and clarity. Without wishing to minimize the part played by playful intent and chance, we believe that the processes that gave rise to the sign and to drawing in the earliest stages of *Homo sapiens graficus* were much more complex. The *horror vacui* may indeed provide a powerful stimulus to play, but it is an insufficient explanation, given the complexity of primitive creative processes.

In primitive cultures, every activity is ordered, everything has a purpose, every action, every sign, every image; a value-free phenomenon is very rare. Decoration for decoration's sake is most uncommon in early cultures, unless it is a manifestation of decadence, which has not prevented such serious researchers as MacAlister (1921) from warning us that:

... it would be absurd to read symbolism into every scratch on the surface of a pot; but we must always be prepared for the possibility that marks which to us seem merely decorative were at one time capable of a more recondite explanation. The key of this explanation is however lost, all but certainly, for ever; and we are therefore obliged to draw a rather arbitrary line between devices which we may reasonably consider as symbolic and those which may be treated as pure ornament.

Of great importance for a sign's vitality (charge of energy) is the graphical/technical quality with which it is executed: shape, positive-and-negative effect (*chiaroscuro*), symmetry, both top-bottom and left-right (*gemini*), asymmetry, verticalism, horizontalism, diagonalism, rhythm, counter-rhythm, movement, direction (centrifugal/centripetal), open or closed



Fig 19  
Cuneiform script from the palace of Darius (Persepolis).

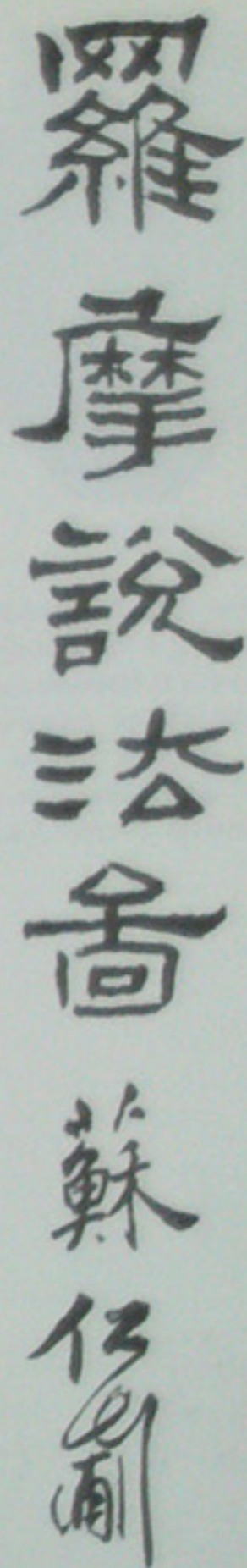
form... This does not mean that the sign must have an intrinsically sound technical execution in order to function in an optimal manner, but that the manner in which it is done must suit the aim in the maker's mind; whether this be explosive, aggressive, suggestive, spontaneous, meditative, ascetic, sacred, erotic, playful, rational, aesthetic, magical or decorative. It is inevitably difficult to put this into words, because of the subjective character of both the message contained and the observer's readiness to provide an interpretation. The magic graphics drawn with sand by the Navajo Indians, adopted by the Hopi (fig. 17), have a different expression from the structural, stacked walls of a Mixtec palace (fig. 20); brush-drawn calligraphic texts of Chinese or Japanese poets (fig. 18) have a different intensity from cuneiform letters pressed into clay tablets (fig. 19). A swastika dripping with tar on a collaborator's housefront (fig. 21b) has a different character from the same symbol on the triumphal banners of the Olympic Games of 1936 (fig. 21a).

In dealing with primitive signs and forms, there is only a minimal distinction to be made between the symbols of darkest prehistory and those of historical times, because the degree of difficulty involved in their production is very low and their origin remains the same universal and archetypal mind, bound to no specific era. Thus, the graphic quality of a circle scratched or painted on the walls of a prehistoric cave shows no significant formal difference to the graphic quality of a circle drawn by an African or Indian medicine man on some religious object; and equally insignificant are the differences between these and similar graphics from the Middle Ages or



Fig 18  
Calligraphy (Japan).

Fig 20  
Zapotec palace at Mitla (Mexico, 12th century A.D.) shows elaborate geometric patterns in the structural design of interior walls.



from modern times. The principal distinction, however, seems to be that man (the individual, but also the group) tends to develop fluency of execution, which evolves at a faster or slower pace according to the influences of external factors, passing from rough attempts and more formal exercises through virtuosity to decadence.

We can state that once a certain degree of proficiency has been reached, new forms and combinations of forms are more easily evolved. The discovery or coming into fashion of complicated systems is not necessarily a reason for the more primitive signs to be allowed to fall into disuse. The dot or the scratch remained in use, as intricate ornaments, for example, when imitated basketwork and knots made their entrance in the primitive armoury of signs. It is evident that the phenomenon changes fundamentally when the form becomes a product of geometric study or technical/mechanical production such as stamping with a roller seal (fig. 22). But the formal basis remains constant, and the form does not lose its usefulness: a circle remains a circle. In this case the manipulation may also change fundamentally, depending on the communication pattern and the interpretation, which in turn is dependent on the information (knowledge) of the individual or the group to which the message is directed.

The re-evaluation of basic forms and signs in art carried out during this century had such importance because it implied a totally different attitude to the business of art, and because at the same time new and revolutionary techniques were



Fig 21 (a) and (b)

Left: The triumphal swastikas on the building constructed for the Olympic Games in Berlin (1936), in a design borrowed from the Bauhaus.

Right: Swastika in a political street sign.

necessary for the production of a work of art.

These primeval signs and forms appear coincidentally at the same time as new technological possibilities, which art is quick to put to use. We see Mondrian, technically still very traditional, evolving out of Cubism. The Russian Constructivists took their inspiration from icons and folk art. Closer to home, after World War II, the forms of expression of many avant-garde artists were determined and stimulated by new, non-conventional materials (plastics, synthetic textiles ...) and techniques (silk-screen printing, spray-guns, lasers, computers ...). Now, an art product can be the result of a rational process (*pure image*) or of an intuitive choice. What we see, in fact, is a revolution in the entire morphology of art. The primeval forms—for so long banned from free art and relegated to the field of simple decoration—have become the basic elements of one of the most important and most diversified forms of artistic expression of our century: abstract art. It was the task of this art to revalue the primeval forms and rid them of their banality, by giving them once more a graphical, expressive and/or metaphysical content, along with a new function.

With *The Genesis of Form* we set out to provide a better insight into this language of forms, both by studying their primeval morphological metamorphosis and pointing out historical, archaeological and ethnological meanings, and by drawing attention to these forms where they occur in the art of our century.



Fig 22  
Vase decorated with roller seal. The character of a graphic design changes whenever it is transferred to a pressing or stamping technique, as for example on this Bronze Age vase (Royal Museums of Art and History, Brussels).