PRESIDENTIAL ADDRESS

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PART I.

THE SOCIETY'S ACTIVITIES.

The past year was the ninetieth of the Royal Society of New South Wales under this title, which was bestowed on May 1st, 1866. It was an important one for the Society. Due to the economies (dealt with in our annual report) effected in the Society's accommodation and in its various activities, our financial position is now reasonably sound, and should continue to remain so in the future. To ensure that it will, members are asked to bear in mind our need for more members, and also of associate members, the latter being a new category introduced to cater for undergraduates and the wives of members. We need, too, more members from the biological and social sciences to make the Society more representative of Australian science as a whole.

A glance at the presidential addresses and annual reports of recent years will reveal how earnestly the various Councils have considered ways and means of improving the Society's financial position, its journal and its programme of meetings. The retiring Council is no exception, and it has, I feel, taken positive action in a number of ways that will be of permanent benefit to the Society. Perhaps the Society's greatest need is for additional financial assistance with the printing of its journal, but to date no permanent source of such funds has presented itself.

This year saw the introduction of a new award by the Society, the Archibald D. Olle Prize, for the best paper submitted for publication by a member of the Society. It is hoped that the idea which prompted the late Mr. Olle to finance this award, which is a money prize, will yield an increase of papers of the highest quality and also an increase in membership.

The programme at the general meetings was an intensely interesting and important one. It included symposia on electron-microscopy, radio-isotopes and radiophysics, blood-grouping and pasture developments. An address on Antarctic research, an evening devoted to the commemoration of great scientists and one to the reading of papers completed the programme. All of these subjects are of topical interest and were dealt with clearly and lucidly by authorities in their fields. While some of the meetings attracted good audiences, others were very poorly attended, and your Council feels that members generally do not support the meetings, and in doing so the speakers and the Council, as well as they should. One of the Society's important functions is to bring together scientists from different disciplines to discuss their work, and our meetings provide an excellent opportunity for this purpose.

I have great pleasure in extending my sincere congratulations to the recipients of the Society's awards for 1956. Their outstanding scientific work has been honoured by the Society with awards which now include the names of many great Australian scientists, as a perusal of the lists, two of which extend
back to 1878 and 1882, of recipients will reveal. The awarding of these honours is one of the most serious, and at the same time one of the most difficult, responsibilities of your Council each year.

His Excellency the Governor, Lieutenant-General Sir John Northcrott, K.C.M.G., K.C.V.G., C.B., one of the two patrons of the Society, stressed the important part that science and scientific societies are playing in the world today when he welcomed the President and Honorary Administrative Secretary to morning tea at Government House on June 11th, 1956.

This has been a year in which the many participant nations began or continued their preparations for the forthcoming Geophysical Year, and already the profound scientific results that will ultimately be revealed by this comprehensive survey are becoming apparent. It is timely to note, also, the untiring efforts of UNESCO to bring about a greater understanding of one people's problems by another, particularly of the backward and economically poor peoples of the world. In this connection we find that acculturation studies by anthropologists and sociologists are providing a mass of data that will be of the greatest value in helping such peoples towards a better future. The alleviation of their bitter struggle to live, to gain an adequate education for their children, and enlightenment for themselves, is one of the major problems UNESCO is attempting to solve.

Science has not the need nowadays to publicize itself that it had formerly. The flood of popular scientific books and of articles in newspapers and magazines, and the regular sessions devoted to science on the radio and television, are spreading widely a broad interest in and knowledge of science among the lay population. That there has been a response is evident from the support given to such media of dissemination. The large audiences which attended the section meetings and public lectures of A.N.Z.A.A.S. at Dunedin this year, and the excellent coverage in the local newspapers, form good examples of the public interest in science today. Science has, nevertheless, a task of first-class importance facing it in the need to attract to its ranks a much larger number than it does now of the young men and women leaving school. It is essential to maintain the greater proportion of scientists and technicians needed in industry and government services today. There are wonderful opportunities for the young to gain a higher education, and better facilities would appear to be one solution of the problem.

It is with the deepest regret that I record the death of Dr. Walter Fitzmaurice Burfitt, a benefactor of the Society who had a lifelong interest in science and the Society, as manifested in his munificent gifts, which made it possible to establish a highly esteemed award for original research work over a period of six years—one which has proved to be a genuine inspiration to scientific workers in both Australia and New Zealand.

My own personal thanks are tendered most warmly to the Honorary Administrative Secretary, Mr. J. Griffith, for the very efficient manner in which he has carried out the exceptionally heavy duties imposed upon him during the year; to the Honorary Editorial Secretary, Mr. F. N. Hanlon; to the Honorary Treasurer, Mr. H. A. J. Donegan; and to the members of the Executive, the Council and various sub-committees for their loyal support and for their keen interest in the welfare of the Society. Vice-President Dr. Ida Browne's watchful eye on our finances and her valued assistance in many other ways during the year merit special mention. Our thanks are due also to Miss M. Ogle, Assistant Secretary, for her conscientious work during the year, and to Messrs. F. Daly and I. A. Crawford for their voluntary assistance in the reorganization of the library.
PART II.

THEORETICAL CONSIDERATIONS OF AUSTRALIAN ABORIGINAL ART.

During the past twenty years the interest of the applied and commercial artist, architect, book illustrator and the scientist in aboriginal art has increased tremendously. The motifs are now applied freely in all kinds of commercial work, and vulgar as much of this exploitation undoubtedly is, we are left with the feeling that it involves an interest in the aesthetic, apart from the scientific, values, and in the meaning of aboriginal art motifs. Although much of the art on portable objects such as weapons, utensils, ornaments and ceremonial objects, and also on the bodies of the people, is purely decorative in nature, there remains an important proportion of it that is serious and sacred when used in a ritual or ceremony. Depiction of single figures, unrelated to any others, is common in rock engravings and paintings, but in all kinds of aboriginal art—whether it be on wood, rock, the ground, body or other medium—planned compositions are featured. Thus a wide range of techniques, motifs and ideas is involved, every available medium is decorated in some areas, form is notable in weapons and design in ornaments and ceremonial objects. Aboriginal art is not a single style, concept or school, but is a mixture of a number of them. The styles we call realism and abstract are both represented. There is no denying that it is art in the true sense of the term, an art that has developed along different lines, and in a different context, to our own. Nevertheless it has been nurtured from time immemorial by religious and aesthetic inspirations and has never attained a state of free and uninhibited expression. It is timely, therefore, to discuss, more particularly in the terms of Franz Boas (1955), its variety, representative and formal modes of expression, tools and materials, form and content, and its chronological history.

The Aborigines are a semi-nomadic hunting and food gathering people who live in small local groups confined to specific territories. The men paint and incise secular objects, decorate their bodies for corroborees and ceremonies, paint and engrave on rocks. The quality of their work varies, and that of talented craftsmen stands out in collections. To the men art is an integral part of their economic, social and ritual life. To the women it is a culture element of which they stand on the fringe, their work being limited mainly to body decoration and fashioning ornaments. In Arnhem Land, for example, the men decorate baskets made by the women.

The status of the artist in aboriginal society is not a specialized one as a rule, but the old men, and the few men unable to hunt or fish through ailments, who remain in camp making weapons and the like for which they are rewarded in food and other articles (Sharp, 1934; Thomson, 1949), may be regarded as craft specialists, like those at Ngillipidji quarry in eastern Arnhem Land, where the men of a local group own the site and spend a great deal of their time in making and trading stone knives (Thomson, 1949) of the Leilura-type (McCarthy, Bramell and Noone, 1946). The important group of ceremonial leaders of clan and cult groups who make and decorate ritual objects, and paint sacred figures in the caves, approach most closely to specialists in tribal art as a whole. A system of hereditary craftsmen, like that of Polynesia, is not established in Australia. The art of the Aborigines, therefore, is principally an art of the men, and in its higher forms of the ritual leaders and occasional talented old individuals.

Art, like music and language, is a means of expression, of perpetuating ideas, and of educating a people about the topography, fauna and flora of their habitat and about their own history. Whether art in aboriginal culture is a product of visual or mental processes, or of an innate visual sense of form, whether it arose out of a need and desire to employ symbols in magical and religious rites,
will probably never be known, and need not be debated here. It is a psychological, emotional and visual link between the social, economic, magical and ritual life of the Aborigines. It combines an aesthetic impulse or desire for expression with inspiration from all aspects of life, and illustrates well the close-knit structure of a primitive culture.

Sir Herbert Read (UNESCO, 1954) implied that environment is the principal cause of different forms of art and of the comparative skill involved among primitive peoples, stating that "a people hunting bison and reindeer across icy tundras, and retreating periodically to the shelter of caves, is bound to produce an art different from that of a people chasing kangaroos through the hot desert."

It may be pointed out that no other of the prehistoric peoples of the world who lived in a similar cold environment to the Aurignacians and Magdalenians produced a cave art of such incomparable quality; furthermore, that only a small proportion of the Australian Aborigines chased kangaroos in the hot desert and some, in fact, never chased them at all. But Aborigines who hunted and fished and retired to rock-shelters to paint have failed to produce realistic pictures of animals as technically fine as those in France and Spain for the reasons discussed later. Environment, then, may be rejected as the primary factor in dictating the artistic quality of aboriginal art.

A much more potent factor is the possession by a people of a rich mythology and religion. On the Sepik River in New Guinea, the fascinating body of beliefs is expressed in a remarkable art of wood carving and painting, bark cloth, pottery and other media, but in central New Guinea the cultures are as bereft of art as they are of mythology and folklore. In Australia art is highly developed in areas where an inspiring body of beliefs exist, as in Arnhem Land, Kimberleys, central Australia and south-eastern Australia, and this factor would appear to me to be one of the most important ones in the development of aboriginal art.

To Professor Elkin (in McCarthy, 1956a) aboriginal art arises for the most part out of, and finds its meaning and significance in, the sphere of ritual and belief, combined with an aesthetic sense, and Dr. Berndt (1952b) regards it in the same light. The combination of an active aesthetic desire, a dynamic cultural and mythological inspiration, and an environment providing suitable rock surfaces, has both induced and enabled the Aborigines to produce a vast array of engravings and paintings in many parts of the continent. The number of paintings runs into tens of thousands in Arnhem Land alone. It is likewise patent that the above desire and inspiration have produced the wealth of ornamentation, ritual objects and body decoration characteristic of aboriginal culture.

Boas (1955) in analysing primitive art, postulated that the principle must be accepted of the fundamental sameness of mental processes in all races and in all cultural forms of the present day. To him the difference in thinking is due to the advantage bestowed on civilized people by their accumulation of written knowledge and their constant search for improvements and new ideas, as against the manner in which primitive peoples are conditioned by their culture to accept and maintain without question traditional customs and beliefs so that the logics of science are not the logics of life. Primitive man thinks in a pattern in which magic, belief and subjective causality are important factors. There are many examples of a similar mode of thinking among civilized peoples today. It is true that the aesthetic and psychological approach of aboriginal artists to their work is limited by their cultural background and setting. They thus lack the freedom of our own artists who are ever seeking new techniques and fresh ways of presenting their ideas. McElroy (1952) concluded, after applying tests to 40 Aborigines and 40 Whites, that there is little or no evidence for the existence of inter-racial good taste based upon inherited predispositions; his
results, he thinks, provide much evidence in favour of the view that the beauty of a visual object is almost entirely determined by the cultural conditioning of its perception.

The Polynesians have emphasized the formal element in their art, in which conventionalized motifs are important mythological symbols. The art of Melanesia includes areas like the Massim in which formalism prevails, and others such as the Sepik district, with an intense emotional interest in representative form and in its emphasis by various sculptural devices. In Australia, a similar contrast may be drawn in the formalism of central Australia as compared with the naturalism of the Kimberley and Cape York cave paintings and of the Sydney-Hawkesbury district engravings.

Representative Art.

Representative, realistic or naturalistic depictions comprise the greater part of aboriginal art as a whole, not only as major motifs in rock art but as dominant subjects in a setting of cross-hatching, chevron and other line patterns, and in a dotted field, in decorative art. The principal subjects are mammals and reptiles, fish and sea mammals with some of the batrachians and birds. There are few insects, shells, invertebrates or plants portrayed in most areas. Human beings and spirits, weapons and other objects are common motifs. Generally speaking, the art reflects the fact that it is principally a male sphere and consequently the affairs and activities of the women enter very slightly into it and chiefly in so far as they are associated with the female ancestral beings. On the Forrest River some women paint Brimurer, the Rainbow-serpent, and here, too, the wife of a clan leader retouches totemic paintings during increase rites (Kaberry, 1935).

In three analyses of aboriginal rock art that I have made the results have demonstrated a wide variation in the emphasis upon the artistic value of specific subjects. A few examples will suffice. In the Sydney-Hawkesbury engravings the fish, kangaroos, wallabies, emus, shields and boomerangs are depicted more frequently than all other subjects. While the economic life is thus proved to be an important source of inspiration, it is combined with a high frequency of ancestral and ritual beings and their activities, tracks and weapons. In the paintings of this area human beings are more abundant than animals, among which the kangaroo-wallaby group and their tracks, and fish, take second place to the goannas. Among both the rock engravings and paintings such important sources of food as the wombat, possum, koala, echidna, rodents and tortoise are rare subjects, as is the dingo, and whales are unknown among the paintings. Another important point of contrast is that culture-heroes are seldom pictured in these caves, and they are rare among the cave paintings of Groote and Chasm Islands, where we find the harpooning of dolphins, turtles and dugongs by men in small canoes to be the main subjects of the artists; the animals are comparatively easy to kill by men armed with the detachable harpoon and dugout-canoe and form a major source of flesh-food, but in the Sydney-Hawkesbury district, where they are rarely shown in the rock art, the men no doubt found them difficult to spear from a frail bark canoe and consequently they were not of great importance economically. Lizards and weapons are common motifs in both localities. Whales, however, are featured among the Sydney-Hawkesbury engravings, being not infrequently stranded; they are not shown among the Groote and Chasm cave paintings, although they inhabit the seas of this area and are portrayed in the Arnhem Land bark paintings. Fish are not depicted in some coastal sites in Australia and although used as a food by inland tribes they are almost completely neglected by the latter as an
art motif. Generally speaking, marine subjects are predominant in coastal areas, and animals—snakes, kangaroos, wallabies, lizards and emus principally—in the inland galleries. It is obvious that the relationship between economic and ritual subjects, as exemplified in the rock art, varies in many localities. The one may take precedence over the other in art, but the predominance of the most important economic species as art motifs within the framework of ritual is now becoming clearer as more groups of art are analysed.

The northern Kimberley tribes believe that everything edible is painted in the Wandjina caves, when in reality only a small proportion of these items is so depicted (Love, 1930).

As representative subjects, human and huge spirit beings are the dominating motifs in the Kimberley paintings and in the Sydney-Hawkesbury engravings, with them being found mythological figures like the Rainbow-Serpent and others often of curious shape, and also weapons and utensils. This complex of human, animal and spirit beings, of animals and tracks, weapons and utensils, forms a nucleus of representative art which extends from north-western Australia through the Kimberleys, Arnhem Land and the Northern Territory to parts of central Australia, and most of Victoria. The variation in subjects in the art of different parts of Australia and the many inconsistencies in different areas indicates that numerical analyses are needed from many localities and types of art to ascertain to what degree art is a reflection of local socio-economic and religious beliefs, and to make it possible to establish general principles or conclusions about this important aspect of aboriginal art.

Representative motifs occur in all kinds of aboriginal art, including body painting, but for the purposes of this discussion the cave paintings will be dealt with in detail. The amazing uniformity of style in most parts of the continent is a good example of the stability of tradition in aboriginal culture. Whether we examine the paintings and engravings in New South Wales, Queensland, Arnhem Land or Western Australia, we find the same technical devices in use for portraying various subjects. These include depicting human beings from the front with varying numbers (or none) of fingers and toes, two eyes, no mouth or nose and often no ears or neck. The head is not enlarged because of its importance in belief as it is in Melanesia and Polynesia. The arms are outstretched or upraised, but in the Kimberley Wandjina cave paintings they are held stiffly at the sides of the body. The genitals are inconspicuous in the art of some localities but of exaggerated size in other areas, notably Arnhem Land, but in the Sydney-Hawkesbury engravings the size varies according to the nature of the figure. Many variations occur in the postures of the human figures which include those seated, running, lying down, dancing, fighting and throwing weapons. The types range from the stick-men so gracefully refined in western Arnhem Land and Groote Eylandt to the huge culture-heroes of the Sydney-Hawkesbury engravings, and the stiff and poorly proportioned Wandjinjas of the Kimberleys. Chronological studies of the mythology and relevant paintings throughout the continent would throw a great deal of light on the variations of styles. Macintosh's study (1951) attempts such an analysis for some southern Arnhem Land paintings.

The mammals, birds, fish, whales, dolphins and sharks are drawn in profile, each type being stylized, with a line for the mouth, one or two eyes, the outline of one limb for each pair of limbs; fins are shown as part of the main outline of the fish. The numbers of toes and claws vary, and on the birds the wings are not shown unless in flight. Snakes are shown from the side or top view, but the lizards, frogs, turtles and tortoises are usually depicted from above. Thus the subjects are portrayed from the angle at which they are usually seen by the artists, although the poses vary widely in occasional portrayals from the basic...
stylized type. Examples that might be mentioned are kangaroos hopping, emus running, or both of them feeding or standing on the alert. The young is often shown in the pouch of kangaroos, and the emu may be standing beside or sitting on its eggs. Groups of old and young emus and kangaroos are common. A peculiar error in drawing kangaroos is that the hump of the great loins is often misplaced as far forward as the neck.

Stylization, however, even though it is so firmly established in aboriginal art, has not completely suppressed virtuosity. The artists are, in a sense, impressionists concerned primarily with posture and general outlines, depicted within traditional limits, but even under this restraint they have produced admirable examples of rock and other art which demonstrate a relatively high appreciation of line and mass in the best figures. Their pictures are mental images and symbols, and not representations drawn in the manner of a still-life painting.

There is a lack of any indication of body contours or tones, and of fur, feathers or scales in most of the representative art. Exceptions are feathers shown in a simple way on cave paintings in the Kimberleys and both feathers and wings on birds, by areas of dots or lines, in the bark paintings of Groote Eylandt. But the general omission of these characters elsewhere reduces considerably the artistic possibilities and scope of the artists' work. Nevertheless, although the forms are constant many individual paintings demonstrate that some artists have the skill to infuse into their work a certain amount of animation in capturing a posture or action of an animal, to the degree in some instances of producing a figure of outstanding artistic merit.

The techniques, on the whole, are simple. The painting methods display some measure of control even though much of the work is done on poor surfaces. It is difficult to determine the degree of interest of the Aboriginal artists in technique. One gains the impression from their cave and other paintings that the representation itself, the symbol, however technically deficient, is of greater importance than the method. Should this be true, it is probably the reason why their work has never risen to the great heights artistically of that of the Aurignacian and Magdalenian cave painters and engravers in the late Paleolithic period in southern France and northern Spain. The skill and knowledge of the aboriginal artists are certainly insufficient to imbue their pictures with the intense feeling and character of those of the Palaeolithic artists, or with tonal variations of colour to show body contours.

Aboriginal representative art is, on the whole, child-like in its conventions. As Boas said (1955), the principles of selection in both primitive and child art are based more upon the inclusion of essential features, such as two eyes when only one should be shown, than upon a mental image of the subject. Both adopt a symbolic style in which accuracy as such is not essential because they are more intent upon including the features by which they visualize a creature or human being, an approach that Dr. Adam (1948) has called intellectual realism, than of drawing what they can see from a certain angle. There is an inconsistency in this approach inasmuch as both groups of artists will show one leg or ear when they know two of each should be shown.

FORMAL ART.

To an artist nurtured and trained in a culture in which formal art is the norm it is highly probable that the enjoyment of form is as great as that derived from representative art. In Australia the comparatively intense development of formal or geometric art is probably due to introduced ideas, not to a chronological evolution from the representative to the formal, but there must at the same time be an aesthetic interest even though the content is the more important element in the art.
In south-eastern Australia the formal designs consist of a concentric diamond set in a field of herringbone, chevron and sets of parallel lines incised at various angles. These designs illustrate well the manner in which the Aborigines set out a field and the importance of rhythmic repetition in aboriginal art. The diamond may be incised in parallel rows, or so placed that the fluting of one side form in turn one side of another concentric diamond, thus producing neat and complementary rows. It is sometimes distributed freely in no set order in the field. Where the designs are incised on cylindrical clubs, rubbings reveal that they are planned as though worked out for a flat surface. Occasionally small human or animal figures are introduced. The surfaces of the shields of this area are often divided into panels of design separated by plain bands to set off effectively the patterned panels. Each shield’s surface is treated in the mass, that is, the design is taken to the edges without a marginal band or is divided into panels in a vertical, horizontal or other symmetrical arrangement. A favourite device is one in which the bands are cut in low relief through the incised pattern, thus leaving imperfect half diamonds or sets of grooves with their ends abruptly cut off. On other examples a complete design is laid out in each panel. The panels vary in length. In a symmetrical treatment of a shield’s surface a short panel with a distinct design is placed between two panels each bearing the same design, which is different to the middle panel. Planned asymmetry on another shield consists of three panels of different size, each of which bears a different design. The panels are divided by bands which form a separate pattern outlining lozenges, rectangles, squares or triangles, while some of the bands are in parallel chevrons, zigzags and crosses. The plain smoothed surface of these bands blends harmoniously with the incised panels. This contrast used as a design element is well shown on the boomerangs and Lil-lil clubs of south-eastern Australia, on which linear arrangements of the design elements are common. On some specimens the intricate pattern of flowing sinuous lines, combined with straight lines, widens the scope of the artists’ work. The designs are highlighted with white and red paint.

Another interesting technical device is the use of opposed and carefully arranged rectangles of concentric diamonds defined only by the punctures at the terminations of the grooves, on which reflected light produces two designs according to the angle from which it is examined. The range of cream to plum-red colourings in the fine textured and hard mulga and similar woods harmonizes perfectly with the tooled surfaces of the long boomerangs in western New South Wales.

The evenness and uniformity of the grooves, the great variety and ingenuity of the attractive patterns, demonstrate a certain mastery of technique and motor habits, a control of design which forces the admission that the finest examples of the craftsmen’s work in south-eastern Australia are artistic in the true sense of the word, fashioned with a strong interest and pleasure in their aesthetic standards, quite apart from the importance of the content or significance of the art to the people. When extended into the larger surface areas of the dendroglyphs the designs become more powerful in effect with their deeper and wider grooves, but the unevenness of the work reveals a lesser control of technique.

In Western Australia the incised work on the spear-throwers, shields and ceremonial boards is comparable to that of south-eastern Australia in manual control over tools and materials, and in the mastery of planned designs in which rhythmic repetition, symmetry and asymmetry, and the use of patterns of light on opposed groups of surfaces, are characteristic features. The ingenuity and variety of designs and the wide range of ideas involved, particularly in the use of the zigzag motif on the spear-throwers, illustrate well the relatively
intense aesthetic feeling and pleasure embodied in the attitude of these craftsmen to their work. This attitude in both regions has given the work that indefinable but apparent feeling of true art, even though it is on a completely different plane to that of a Chinese bronze or an African Negro sculpture.

In painting the artistic merit of the formal art is more difficult to assess, and is certainly not as high as with the representative art. In north-eastern Queensland symmetry is the basis of the large shield designs in which a boss forms the central point of a vertically or bilaterally balanced design, to achieve which the naturalistic motifs are modified and conventionalized in a variety of ways. Here, too, the patterns are deliberately planned by skilled designers. As two men paint each shield together, symmetry is a convenient principle for them to work upon. Although the surface of the corkwood shields is rough, and the application of the paint is not technically highly skilled, we must accept the blend of design, colour and symmetry as being of some artistic value in a contemporary style.

In Arnhem Land the formal elements are used as complete symbolic designs or in association with animals and other naturalistic motifs. The formal elements are numerous, being dominated by cross-hatched and parallel lines, but the technique is crude and aesthetically of little interest. The same remark applies to the dotting technique in central Australia and on Groote Eylandt. On the twined baskets of Arnhem Land the symmetrical panels each contain a similar or completely different design to one another, and are separated by strips of colours. The treatment of the surfaces is thus akin to that of south-eastern Australian decorative art.

The use of formal elements in this area is well illustrated on the bark baskets of Bathurst and Melville Islands, on which a wide range of well planned designs is painted. Again we find symmetry and the use of panels applied as important principles but asymmetry and the mass treatment of a surface are not uncommon. These baskets cannot be regarded very highly from the technical point of view but the use of colour in mass and broken style to emphasize the power of the design is so skilfully and artistically developed that the designs must be ranked in the category of art. They compare well with the abstract art of our own civilization today. There appears to be a greater freedom here in the creation and assembly of the design elements than elsewhere in Australia.

In another technique the formal element in art is also well illustrated by the ceremonial waininga and natandja totemic and historical symbols of central Australia and neighbouring areas (Spencer and Gillen, 1927). They are made of frames of sticks upon which diamond, rectangular, elongate, hexagonal and other designs are fashioned by the winding of human hair and possum-fur-string, and string decorated with feather down, on which patterns of red and white feather down and tufts of birds' feathers are made. Few of these symbols resemble the totemic object they represent, exceptions being those for yams, emu and some fruits. Some have been likened to a stretched-out animal skin, others are really derivations of the concentric diamond thread-cross (Davidson, 1951) so widespread in Oceania. The formal examples are symmetrical in principle, and the surface is treated as a whole, but their artistic value lies in the effect achieved as part of a tableau in which a decorated man is carrying or wearing one of them.

Geometric motifs among the rock engravings and paintings are not of a high artistic standard either in technique or arrangement. Perhaps such groups of paintings as the honey-ant, witchetty grub and wild plum (Spencer and Gillen, 1899) in central Australia achieve a pleasant decorative effect, but their purpose is essentially ritual and not artistic in the aesthetic sense of the term. These remarks apply also to the grooved ground drawings and to the
crudely modelled “sand” figures of culture-heroes in south-eastern Australia. The Warramunga and nearby tribes in northern central Australia paint large formal designs on the ground which illustrate activities of ancestral beings in their mythology. These are traditional patterns, mostly asymmetrical in principle, but they achieve a distinctly powerful artistic effect by the beauty and colour of the designs and in their setting. There is a flowing grace about the snake designs seldom achieved in other forms of aboriginal art.

Certainly the range of art contradicts most emphatically the statement of Goldenweiser (1921) that the decorative art is quite simple, and realistic representations are apparently foreign to Australia.

Symbolism.

Aboriginal art includes biological, social, ritual, geographical and astronomical subjects in which form and meaning combine to add to the aesthetic pleasure, as Boas (1955) has said of primitive art generally. Ritual objects are in the main created to represent an animal or other character or feature of a myth, such as totemic symbols in various parts of the continent, and in this instance obviously came into being to fulfil a ritual need.

Certain ceremonial objects, such as tjuringa, waninga and natandja, satisfy a definite need as symbols of existing beliefs and practices, and are useless for any other purpose, but where a bark container represents the type used originally by a spiritual ancestor we are dealing with an object of both practical use in everyday life and of ritual significance in ceremonies.

One of the main deficiencies in our knowledge of aboriginal art lies in the significance of many sites of rock engravings and cave paintings. Few Aborigines have made comments worth recording about the engravings (Elkin, 1949; Harney, 1951) and while we know that some of them are sacred, we cannot be certain about others. Many groups of engravings are adjacent to camp sites, and in fact most of the engravings in the interior are situated beside the most reliable waterholes in the countryside. We know that the Wandjina galleries of paintings in the Kimberleys (Elkin, 1930), the totemic galleries in central Australia (Spencer and Gillen, 1899) and some of those in south-western Arnhem Land (MacIntosh, 1952; Elkin, 1952) are still sacred to the local tribes. But the accent on ritual value varies considerably. Men, women and children camp in the rock shelters of the Oenpelli area in the wet seasons (Spencer, 1914) and all see the wealth of X-ray and other paintings on the walls and ceilings, as they do at Princess Charlotte Bay, Cape York (Hale and Tindale, 1934), in the Sydney-Hawkesbury district (McCarthy, 1948) and other localities. Thus while some galleries of paintings are sacred through totemism, or in connection with the pre-existence and re-incarnation of spirits, with ancestral beings or magic, the generalized statement that “there are some secular galleries which any person male or female may visit but the vast majority are sacred” (Elkin and Berndt, 1930) applies in some areas but not in others.

The grooved ground figures in south-eastern Australia, and the painted ones in central Australia, are sacred because they are made only in rituals, but the scratching of casual figures and tracks in the soft soil or sand is a widespread practice of both sexes of all ages. Decoration of the body, weapons, utensils and other objects follows the same pattern—some are decorated for purely artistic purposes at corroborees, others for varying ritual purposes in totemic, historical and other ceremonies. A considerable portion of the art is thus available for all of the tribe to see, and its sacredness is a question of context, not of form. There is, however, a very important group of symbols, such as the tjuringa, waninga and natandja of central Australia, the rangga of Arnhem Land, and similar objects in other areas which are made and seen only by the men.
initiated into particular cults or totemic groups, and which are so sacred that for a woman or uninitiated man to see them being made or used would mean death by violence or sorcery. Ground and rock art situated along the mythological pathway of an ancestral being is included in this category. Thus the significance of aboriginal art ranges from much that is casual, done by anybody, seen by everybody, to ritual art of great sacredness portrayed and used in the greatest secrecy by small groups of initiated men. Between these two extremes are designs which are sacred only in a ritual context like the geometrical or formal art of central Australia.

In Australia the relationship between symbol and meaning, or form and content, is not only with individuals but equally strong with clans or other social groups, and with the cult groups to which the designs belong, not so much to a tribe as a whole. The members of these groups react to their art designs and symbols in a consistent and unfailing manner, as part of what Boas (1955) has called expressionistic art. This attitude is typical of totemites to their totemic clan designs in central Australia, to ritual groups such as the Djunggawul, Kunapipi and others in Arnhem Land (Berndt, 1951, 1952a; Warner, 1937), to the Djanba dancers of the Kimberleys, and others. Thus the real value of the art appears to lie in the content, not in the form, particularly where geometric shapes represent the natural objects used as totems. Art in aboriginal life can thus be part of a cycle beginning with the pre-existent spirit which decides the totem of the individual, and therefore the art group to which he will belong and other relationships. These bring him into touch with tribal art as a whole, with which he makes contact in many other ways. Art, like the individual and group, is part of a complex of social and economic, ritual and magical, aesthetic and mythological elements in tribal life. It is a link in the chain which is of immense benefit to society and its members. Thus the esoteric character of aboriginal art cannot be understood by an examination of specimens alone. The vital message it holds for the initiated men can only be assessed by an empirical study of the culture and its symbolism as a whole. Much of the sacred art of the Aborigines is the business of cult groups through which every member passes on initiation and comes within the category of a secret society with a group significance. On the other hand, the art employed by a rain-maker, sorcerer and in other forms of magic, or by the hunter or fisherman, is full of meaning to individuals. Thus the art exhibited widely in aboriginal life is done by a section of the men, not by all of them. Casual art in caves has a secret meaning to the men which is never revealed to the women and uninitiated.

There are exceptions to the claim (Elkin and Berndt, 1950) that the sacred significance of portable art is of a temporary nature in Australia and that the ritual value of permanent symbols painted and engraved on rocks is incidental. It is true that the waiminga, rangga and similar objects are dismantled after ceremonies but the solid portions of them, like the tjuringa, hardwood rangga and Djanba sticks, are kept in secret places and are always sacred to the initiated. The sites of the Wandjina cave paintings of the Kimberleys, and those at totemic centres elsewhere, are taboo to the women and uninitiated. It is the degree of sacredness that is important. It is at its height when the rites are being performed, and the presence of the spirits is evident, when objects or designs become imbued through songs and chants in the ritual atmosphere of the spirit world. Thus the initiated men see the world about them with different eyes to the women and uninitiated because of their special knowledge of belief and art, the inside meaning as it is called, of the tribal explanation of life, of their science and logic. Designs carved and painted on weapons imbue them with a magical efficiency, but they are always permeated with the power of the secret life, otherwise the
designs would serve no useful purpose, and for this reason are always sacred to the owner even though publicly displayed.

There are certain minor points of interest. The design is not named separately as such, but bears the name of a totem or hero, and a clan design is usually named after its totemic site. Similarly with ownership, a design belongs to a clan or cult group but with the bark paintings in Arnhem Land a design belongs to the man who dreams it. The meaning of one motif varies considerably. Thus concentric circles in central Australia may stand for a plant, rock, animal, spirit or ancestral being, and other things, according to the totemic design in which they are incorporated (Spencer and Gillen, 1927). In this area the elements of circles and half circles, sinuous lines, tracks and a few others are arranged in hundreds of clan patterns and they have a different meaning in each one. Thus while a motif has various meanings in one tribal art it will also have a wider range of meanings in the other localities in which it occurs. In Arnhem Land symbolism has been taken further than elsewhere in that panels of parallel and cross-hatched lines are included in the bark paintings to represent clouds from which rain is falling, pink clouds which appear after rain, waves breaking upon rocks, seaweed in the sea, and other interesting features of the landscape.

**Compositions.**

In keeping with the broad artistic approach to their ceremonies, in which music, chants, dancing, acting and decoration all play their part in the performances, the Aborigines feature compositions in their art, particularly in rock engravings and paintings, and in the bark and ground drawings. These compositions illustrate activities of everyday life, particularly of the animals sought for food (McCarthy, 1939, 1941–54, 1956b; Campbell, 1899). Among them the hunting of kangaroos and emus and the catching of fish and sea mammals are shown as simple groupings in many galleries throughout northern and eastern Australia, often linked together by the tracks of the animals and hunters. On Groote and Chasm islands men armed with detachable harpoons are shown catching fish, turtles, dolphins and dugongs in numerous cave paintings which exaggerate very considerably the size of the animals being caught (McCarthy, 1955). These hunting and fishing scenes are depicted sometimes as an ordinary daily event; others are of totemic or historical ritual significance. Tiny men hunting large animals are characteristic of western Arnhem Land, in the Mimi series of paintings (UNESCO, 1954, but in the Sydney-Hawkesbury district engravings most of the hunters and animals are life-size and sometimes bigger.

At Mootwingee in western New South Wales the most important single motif among the engravings is the hunting of emus, shown in numerous compositions of tiny men, large tracks and miniature clutches of eggs (McCarthy MS). Among the paintings at this site hunts are reduced to the tracks of the hunters and of their dogs and the kangaroos. In the central Australian area of formal art similar rationalizations of hunts and ceremonies are represented in a symbolic manner with concentric circles, half circles, sinuous lines and other motifs and by emu or kangaroo tracks inside a circle. Ceremonial compositions are strikingly portrayed among the Sydney-Hawkesbury engravings (Campbell, 1899; McCarthy, 1941–54, 1956b), south-eastern Australian ground drawings, Northern Territory Lightning Brothers’ cave paintings (Davidson, 1936), Kimberley **wandjinas** (Mrs. Schulz, 1956), central Australian **tjuringa** (Spencer and Gillen, 1927), and the bark paintings of Arnhem Land (McCarthy, 1956a). In the decorative art on the carved trees of New South Wales, the shields of south-eastern Australia and north-eastern Queensland, the spear-throwers of Western Australia and other objects are to be seen compositions of symbols which are
also used in ritual art in a sacred atmosphere. It is obvious that a great deal of aboriginal art is a planned aesthetic activity, to be interpreted from the collective point of view, as a composed work of art.

Dramatic settings undoubtedly appeal to the Aboriginal artists, a fact brought out well by the perfectly arranged tableaux to be seen in the rituals of central Australia and Arnhem Land. The colour film of the central Australian totemic increase rituals of the native cat ceremonies at Watarka, taken by Dr. T. G. Strehlow, to be shown at the conclusion of this address, illustrates beautifully this concern for planned effect, in the same manner as the choreographer, musician and artist plan the compositions of our own ballets. In central Australia the painted and feathered decoration of the dancers, the siting of decorated poles combined with ground drawings, with a prevailing red and white or black and white colour scheme standing out strikingly against the grey-green vegetation or the red rocks and sand of the sacred totem centres, emphasizes the intense interest of the Aborigines in the all-over dramatic effect of a ceremony, no doubt partly to impress initiates. There is, too, the undoubted admiration felt for and appreciation of the song and dance corroborees in which some individuals excel, compositions which may travel widely, together with body decorations, to tribes which do not know the meanings of the songs or of the designs, but who are always eager to enjoy new dance-dramas of this kind.

**TOOLS AND MATERIALS.**

Boas (1955) stressed the importance of motor habits in developing the art of a primitive people and to them he attributes some of the decoration of a repetitive type. He said, further, that increasing technical skill and perfection of tools bring about changes which are determined by the general cultural history of a people. In Australia relative mastery of techniques or of the motor habits of the craftsmen has undoubtedly been a contributing factor in the development of a wide range of incised decorative art on the spear-throwers of Western Australia, the shields of south-eastern Australia, and the boomerangs of central-eastern Australia, which bear designs composed of straight and curved grooves of remarkable evenness and uniformity. Here, the technical treatment has attained a certain standard of excellence, the processes or mechanical actions of working have produced typical forms and the result may be regarded as aesthetic in its pure sense. The craftsmen in Australia have thus mastered their bone, stone and shell tools, and combined with this achievement a feeling for and pleasure in beauty that some of their products reveal in both form and decoration. In other words, they have a will to produce an aesthetic result, as Riegl (Boas, 1955) expressed it.

The aesthetic sense is revealed also in the method of working. The Aborigines are copyists to a limited degree only. In some caves the artist painting on a wall cannot help but observe and be influenced by the work of earlier generations. Thus on Groote Eylandt the paintings in several large caves represent the pictographic art of the local people from the time their ancestors occupied the island to the present day, and constitute permanent reference galleries for succeeding generations of artists. In other caves, the pictures are painted on an unused wall. Similarly, in the Sydney-Hawkesbury district, virgin rock surfaces formed the canvas of the artists for a great variety of subjects. Nevertheless, the approach of the Aborigines to their art conforms in the main to Boas’ statement (1955) that the imagination of primitive artists never rises above that of the copyist, although the bark paintings of Arnhem Land form an exception to some extent in Australia. The Aborigines are critical of their tribal artists’ work and pay due accord to a man whose paintings or carvings are of outstanding merit. They are especially critical of the artist who leaves
out details of ritual designs, one who fails to perpetuate the traditional norm of tribal art. Poor work is unusual and the general standards of execution are usually high.

Great care is taken in painting or incising a ritual design while the sacred songs are chanted to see that the best possible job is done. I have seen a Groote Eylandt man scolded and taken away from painting a totemic design on a young boy's chest just prior to the latter's circumcision because his work was inferior and incorrect.

One of the outstanding weaknesses of aboriginal art lies in the use of pigments and paints. The artists mix and apply their colours somewhat thickly, and fine work such as the parallel lines in the X-ray paintings of western Arnhem Land is exceptional. The paleolithic artists of Europe had so deep and wide a knowledge of colours that they could mix a variety of shades and apply them in the most delicate gradations. This lack of knowledge of materials prevented the Aborigines from raising their technical standards as high as they might have done. The results certainly please them, while trade and gift exchange are added incentives to produce the best possible work within the limits of their skill and knowledge.

In the placing of their colours the Aborigines display a confidence and certainty which amounts to a relative mastery of tribal design. The colours may accentuate the curves of a spear barb and emphasize its form, or break up the long-toothed pattern of two rows of barbs. On the north-eastern Queensland shields and on the Bathurst and Melville Islands baskets contrasting colours in the mass are used with an admirable sureness of values in both symmetrical and asymmetrical designs. In south-eastern Australia red and white, or red and yellow, are added to emphasize the panels in the designs. In central Australia, Northern Territory, Arnhem Land and other places the strong appeal of colour to the aboriginal artist is evidenced by the manner of its use in rituals and on ceremonial objects. The strong contrast in their use of colour is due to their adherence to the four main colours of red, white, yellow and black.

With stone implements the Aborigines have achieved an artistic standard, or a mastery of technique, in a few types only. The biface Kimberley spear points, the uniface pirri and bondi points (McCarthy, Bramell and Noone, 1946) bear a finish far more elaborate than is necessary for utilitarian purposes. The pressure chipping technique employed demonstrates a control over material exemplified equally well in points made from bottle glass and telephone insulators in modern time as in stone. Even so, their skill does not reach that of the Solutreans nor of the American Indian stone point makers, just as that of their painters is not the equal of the Magdalenians and Aurignacians. The control of motor habits is shown to advantage on the tooled surfaces of the boomerangs of western and central New South Wales and of Western Australia, on which a stone adze-flake mounted in gum on a stick or spear-thrower is used to strike off chips of wood of even size and thickness to produce an artistically finished weapon which would be just as effective without such a surface. The parallel grooving combined with the splendid forms of many of the wooden coolamons of central and Western Australia are in the same category, demonstrating a delight in rhythmic play with a technical process. A deficiency of technique exists in the twined baskets of Arnhem Land and Cape York and the coiled baskets of south-eastern Australia, where the patterns are not interwoven like those of the American Indian and African Negro but are overstitched or painted on the baskets. The ideal standards for the form and finish of various objects are based essentially upon those developed by expert technicians of former generations as in other primitive societies (Boas, 1955), but these standards are no doubt undergoing constant change and possibly improvement. It would be
interesting to check this point in Australia by a time study of old and recent specimens in museums.

The work of individual painters can be recognized in the cave paintings of Groote and Chasm Islands, and in the bark paintings of Arnhem Land generally. Some of the Groote painters work in finer lines and smaller dots than others, resulting in a loss of the power of the stronger designs. Records of the names of native artists have not been kept in other parts of Australia and it is probably impossible to check this point elsewhere.

The Aborigines possess a marked ability to handle large surfaces and to treat them in the mass or as a whole. Thus compositions in the Sydney-Hawkesbury engravings are planned and executed on flat and undulating rock surfaces $30 \times 40$, $100 \times 30$ feet and so on in size (Campbell, 1899; McCarthy, 1941–54, 1956b). On Chasm Island is a cave wall $40 \times 20$ feet in size which has been utilized perfectly for a frieze of large dolphins and turtles, and there are many other examples, including the ground figures on the initiation or *bora* grounds of New South Wales, and the Wandjina cave paintings in the Kimberleys (Elkin, 1930). Large surfaces on poles up to 20 feet high are handled with skill on the Jelmalandjji poles and grave-posts of Arnhem Land, the carved trees of New South Wales and the *natandja* symbols of central Australia. The Aboriginal artist adapts a surface of wood, bark, rock, skin or the ground to his needs, but the question of mastery is perhaps more apparent with wood than with any other of these media.

Form is a feature of Aboriginal work, as a glance at a collection of weapons and coolamons will demonstrate. It is moulded by two factors, efficiency and weight. The natives cannot carry heavy ungainly weapons, as many of them are used as missiles, and their shape must be suited to their function. Consequently, weapons such as boomerangs, clubs, hafted adzes and axes are light, streamlined and fit into the girdle of the owner. As a rule only simple elements such as rim bindings on a basket and graduated bands on club heads are used to emphasize form. It is in the control of form in adapting it for specific purposes that a latent talent for plastic art is seen to exist among the Aborigines, but it has not been manifested, nor given the necessary cultural inspiration to develop, apart from the crude wooden and gum sculptures of Arnhem Land (Elkin and Berndt, 1950), Cape York and the northern Kimberleys.

The time factor in executing art work by the Aborigines has not been studied. Obviously the time given to such work by semi-nomadic hunters and fishermen in the wide range of habitats in Australia would vary widely, those in a fertile area being able to give more time to aesthetic interests than those living in the arid interior. Time is not an important factor in the lives of the Aborigines. In ritual art the execution of art work fits into the pattern of sacred chanting and the performance of rites, and of secular art into the pattern of economic and ritual activities. The most interesting aspect of time would be the relative amount given by members of groups in different environments to art but it is now too late to study this problem.

The effect of white contact upon aboriginal art varies. In the Kimberleys the demand for spear points has led to a marked improvement in technique. In Arnhem Land the curio demand for bark paintings has led to the production of much smaller examples than previously to speed up production, but the line work is just as carefully done as previously, although noticeable deterioration has taken place in the Groote Eylandt bark paintings in recent times. In various parts of Australia a decorative art technique involving the pressing and moving along of the sharpened end of a nail or narrow piece of iron, producing a crude meandering line pattern, was developed almost as soon as the Aborigines began to use metal tools.
According to Boas (1955) there are no generally valid laws that control the growth of specific art objects, but motor habits, maintained by conservatism, exert a strong influence on the development of styles because they are repeated with a confidence and pleasure based upon experience and familiarity.

A variety of styles exists within each of the major techniques of painting, engraving, modelling and sculpturing, feather-down and pocker work employed by the Aborigines. Thus in cave paintings I have listed sixteen monochrome, ten bichrome and five polychrome styles employed on the continent. These are used to a greater or lesser degree on wooden objects and on the bodies of dancers and actors, on bark sheets and on the ground, but on none of these media as widely as in the cave paintings. There are six styles of rock engraving, most of them done by puncturing and pecking, due to the nature of the medium, but on wood the designs are cut, pecked or burnt-in. Styles in the other techniques are limited in nature. The 31 painting styles (McCarthy, 1955) are not restricted singly to regions in the distinctive manner of the petroglyph techniques and up to a dozen or more of them occur in the one gallery in some localities. While it cannot be shown that a chronological sequence exists from the simplest to the most advanced style of painting, it is apparent that there has been a progression from a simple group of stencil, outline and silhouette styles in southwestern Australia to X-ray bichromes, and also to geometric and representative polychromes in the central and northern regions of the continent. Thus my study (1955) of the superimpositions of cave paintings on Groote and Chasm Islands revealed that some styles, including stencil, silhouette, outline and striped, date from the earliest period, as do most of the colours used, although a dark purplish-red and yellow were dominant in the earliest period followed by a tremendous surge of painting in a brighter red when the dugout canoe was introduced by the Indonesians into the local culture. This bright red continued in use till modern times.* More analytical studies of this kind are needed in other parts of Australia before general conclusions may be drawn about the sequences of styles, colours and subjects.

It is obvious that styles of a wide range form an integral part of aboriginal art. Style in itself is an aggregate of formal characteristics in either surface or plastic art. These are traditionally preserved in Australia, and it is apparent that adherence to them, as Boas pointed out (1955), limits the inventiveness and genius of an artist or craftsman. Professor Elkin (in McCarthy, 1956a) has stressed the importance of ritual in maintaining traditional art designs comparatively unchanged, and it is obvious that the insistence during ritual of the exact reproduction of art designs is an important factor in perpetuating them.

Local variation is an important principle in the archaeology and material culture of Australia and of the economic life. As part of this complex art is subject to the same modifying factors. But art does not vary for the same technical and environmental reasons as do stone implements, wooden artifacts

*Mountford (1954 and 1956) stated that the basic art of Arnhem Land, of which the bark paintings of Groote Eylandt are typical, consists of single and grouped figures on a plain ground. This opinion may be true of the bark paintings (the oldest of which were collected less than fifty years ago), but the real basic art of this region is that of the silhouette, outline and other cave paintings, illustrated best in the Groote and Chasm Islands caves and overlaid by more advanced and recent styles on the mainland. This basic cave art is overlaid in western Arnhem Land by the stick-figure Mimis in action poses, and the Mimis in turn by the static X-ray art. On this basis it is possible to understand why the static X-ray art is later than the moving Mimi series at Oenpelli, whereas the static and stick-figure art existed side by side in Spain in the late Palaeolithic. The former art is the older one in Africa. The reason is obvious, therefore, why Mountford (1956), by ignoring the simpler static cave art of Arnhem Land, and particularly of the western portion, is unable to understand why the very advanced X-ray type should be later chronologically than the stick-figures.
or the food-getting habits of the people. The principal art regions are: (1) eastern Australia, with the Baiami-Daramulan sky-hero cults in ground figures and rock engravings and a formal geometric art on weapons; (2) north-eastern Queensland with the totemic increase art on shields and other objects; (3) central Australia, western New South Wales to Western Australia with the totemic and ancestral being cults illustrated in a formal geometric art; (4) Arnhem Land with fertility cults such as the Kunapipi, Djunggawaul and others centred on human and snake ancestral beings, with increase totemism and a rich magic; (5) Kimberleys with the Wandjina, Rainbow-serpent and increase totemic cults and art in caves; (6) Broome with increase totemism and with interlocking key designs on weapons, sacred boards and shells; (7) Western Australia, with rain-making and totemic hero cults with the lozenge, zigzag and other designs in a formal art style. The prevailing regional areas of art are thus linked closely with the religious complexes and the diffusion of the mythologies and rituals has brought with them new art styles and designs which have suppressed and supplanted older ones.

Local variation in aboriginal art has been the result of some interesting technical developments. In western Arnhem Land line design (typical of decorative art generally in Australia) has been accentuated and refined until the whole surface of the figures of animals in the X-ray style is covered with panels of fine and close parallel lines, painted with a feather brush to illustrate the backbone and some of the internal organs of the animal, with occasionally a young one inside the adult. In north-eastern Arnhem Land the graphic compositions of the bark paintings form another important local development.

Technically, the remarkable *mimi* art of western Arnhem Land is a local variation of outstanding merit. These graceful and animated little human figures are posed in a manner so artistically effective that in no other part of Australia has their equal been seen (except in the neighbouring Kimberleys). The stick people, as they are called, occur in many parts of the continent, including the cave paintings of the Sydney-Hawkesbury district, western New South Wales, South and central Australia, Groote and Chasm Islands. In the rock engravings at Mootwingee, western New South Wales, stick people featured in the rock engravings are shown hunting emus, carrying weapons and *wawinga*-like symbols. Stick people are overlaid by the more recent X-ray love-magic and other cult art in Arnhem Land, by the ancestral spirit and totemic art in central Australia, and by the Wandjina and other art in the Kimberleys. The style has had a long history, as shown by its distribution in Australia, surviving in a crude and simple form in the south-east and becoming refined to the highest degree in the north.

The widespread custom of sticking feathers on the body appears to be an indigenous development in Australia. Dreams form an important method of creating designs in Arnhem Land, indicating a strong power of visualization during sleep, with a free play of the imagination, a characteristic feature of the magic life of the Aborigines. Climate has not affected art to any noticeable degree in Australia, where the wet and dry tropical seasons of the north, which the natives seek to maintain by rituals of which art forms an important part, contrast with the temperate four seasons of the south. During the wet season the northern natives camp and paint in rock shelters wherever available (Spencer, 1914; Hale and Tindale, 1934) and in the south, at least in the Sydney-Hawkesbury district (McCarthy, 1948), they adopted the same custom in the cold winter months.

**Development.**

Another principle adopted by Boas (1955) in his study of primitive art is that each culture can be understood only as an historical growth determined
by the social and geographical environment in which each people is placed
and by the way in which it develops the cultural material that comes into its
possession from the outside and through its own creativeness. He further
points out (1955) that there is not a single region in existence in which the art
style may be understood entirely as an inner growth, as an expression of the
cultural life of a single tribe, and it is necessary to compare local styles with those
in contiguous areas. These conclusions fit the problem of the development of
aboriginal art perfectly, and are true of aboriginal culture generally, as I have
pointed out in respect of archaeology and material culture (McCarthy, 1940,
1953).

Just what kind of art the Aborigines had when they first came to Australia
is difficult to decide. Available evidence indicates that they had a much simpler
culture and fewer possessions, particularly in northern and eastern Australia,
than did the recent and modern tribes known to the white man, and that their
art was of a simpler nature than we know today.

The contrast in the rock engravings of southern Australia, on the other
hand, illustrates this point well. The earliest known rock engravings in Australia
form a sequence at Devon Downs rock shelter on the lower Murray River in
South Australia, where straight grooves are incised in the Mudukian period
followed by simple outlines of circles, tortoises and phallic symbols in the
succeeding Murundian period. In the Sydney-Hawkesbury district the evidence
to hand suggests that the outline engravings belong to the later Eloueran culture,
and not to the earlier Bondian period in that area. Much of the history of
aboriginal art, particularly of the rock engravings and paintings, will be explained
more clearly as archaeologists widen the scope of their work and excavation of
prehistoric deposits is undertaken on a much wider scale.

In the meantime, the only method of analysis available is that of geographical
distribution employed with so much profit in analysing Australian material
culture (McCarthy, 1953), to demonstrate that many traits have been introduced
and improved, and cultures as a whole have undergone considerable modification
since the occupation of the country by the Aborigines. But the history of the
art is a confused and difficult problem to elucidate and a number of alternatives
are still open for discussion.

An initial difficulty with the formal or geometric art lies in the non-
continuous distribution of most of the motifs, and the lack of any relationship
between specific objects and designs. The one series of designs is not consistently
associated with boomerangs or with shields or other objects throughout Australia;
instead we find that various articles forming part of a tribal material culture
are all decorated with the prevailing local art designs. Boomerangs and spear-
throwers are decorated in some parts of Australia and not in others. Taken
separately, as Davidson has done (1939), these motifs provide an impossible
riddle to solve. Taken as groups they suggest a basic connection with ancestral
hero beliefs.

One group comprises the concentric diamond or rhomboid, triangle, herring-
bone, chevron, sets of parallel lines and the lattice and a few other minor elements.
In the Sydney-Hawkesbury district this group of formal motifs was featured
on the weapons but not among the cave paintings or rock engravings, suggesting
that it had not completely penetrated the culture. A more complete absorption
of these motifs had taken place elsewhere in New South Wales, where they were
featured on the bora initiation grounds. The presence of these concentric
diamond designs on the thread-cross wantinga of central Australia, and on the
spear-throwers, sacred boards and bullroarers of Western Australia, indicates a
fairly ancient existence in Australia for them as a group if they are all derived
from the one origin. I have suggested previously (1940) that these designs
diffused into Australia from New Guinea via Torres Strait, because they are so widespread in Melanesia, but their absence in Queensland and their continuous distribution from the north-west to the south-east of the continent suggest a possible line of diffusion in that direction.

Similarly, the origin of the concentric circle group of motifs appears to be indigenous at first sight if its present distribution is any guide to its origin. These motifs are featured in the decorative and ritual art in the central Australian region but a recent diffusion for them is indicated in contiguous areas where they figure in sacred art only. Concentric circles have been recorded in western Arnhem Land cave paintings, and in the Port Hedland engravings, but they are not present in the portable art of either Arnhem Land, Kimberleys or Cape York today. These areas are the channels through which the streams of introduced traits have entered Australia. They occur on the carved trees of New South Wales as an outlier or purely local development.

The concentric circle motifs are regarded as the oldest in Australia by some writers, and Professor Davidson inclines to the idea that they are indigenous, possibly a local variation of the herringbone or other formal motif. Professor Elkin has suggested (Elkin and Berndt, 1950) that the spread of rituals and doctrines associated with circumcision may have put a premium on conventional and symbolic design at the expense of symbolism, but the concentric circle motifs are spreading within the distribution of circumcision and the concentric diamond art in south-east Australia is well to the east of the circumcision area.

It could be argued that line designs form a basic element in aboriginal art, and that local preference has emphasized and popularized the concentric diamond type in some areas and the circle type in other areas, or that the diamonds, squares and circles are all variants of the one theme. This would mean that we may be dealing with groups of designs which have developed independently in different parts of Australia. From the evidence available I prefer to regard the diamond and circle series as being due to separate and distinctive outside influences.

It is now becoming apparent that an important culture complex has been diffusing in all directions from the central Australian region into northern South Australia, western New South Wales, western Queensland, Northern Territory and Western Australia. It includes the fluted non-returning boomerang and fluted containers, tjuringa and bullroarers with concentric circle motifs, thread-cross woninga, mounting of tula adze-flake in gum on spear-throwers and sticks, and other traits. Its full implications cannot be discussed here, but its diffusion has thrust a wedge into what appears to have been a continent-wide culture, so that now the returning boomerang, the sky-heroes and concentric diamond art occur in south-eastern Australia and Western Australia but not in the central Australian region. The concentric circle motifs are replacing the zigzag motifs in Western Australia (Davidson, 1936).

Thus the chronological development of the cultures and the replacement of one by the other in various areas in Australia complicates the problem. Perhaps the concentric diamond has been replaced in north-eastern Australia by later designs as part of more recently introduced rituals and beliefs. In a similar manner it is possible that the concentric circle motifs have been supplanted by the great Wandjina and other cults in the Kimberleys or Mother-goddess fertility and serpent cults in Arnhem Land. In both areas were the types of formal art restricted to wooden and perishable objects previously as are the zigzag and allied motifs in Western Australia today, discontinuance of their use would leave no trace of the art in their cultures. For this reason I believe that the concentric circle series was probably introduced along the north-west coast.
during the Bronze Age (McCarthy, 1940, 1953), prior to about A.D. 500, as these motifs are characteristic of decorative art in this metal and they spread widely in the Oceanic region, much more widely than did the making of bronze.

A point raised by the above discussion is the relationship of the concentric line art to the actual cults of which its variations now form a part. They need not necessarily have formed part of a complex of cult and art. Ancestral cults appear to be a basic element of aboriginal belief and the heroes are depicted in various ways in both representative and formal art motifs. It is possible for the concentric line motifs to have been added to the cults and blended with them. The eastern Australian evidence indicates such a possibility.

It has been shown that representative and geometric motifs occur in all art techniques employed by the Aborigines. There is no evidence in existence which suggests that the geometric art as a whole evolved from the representative. It is not possible to put together series of specimens which have at one end an animal or human figure and at the other a concentric diamond or circle, as Haddon (1895) demonstrated for scrolls in south-eastern New Guinea. The only definite relationship of this kind is that which undoubtedly exists between the snake and the zigzag in Western Australia and on central eastern Australian boomerangs. In central Australia and western Arnhem Land human figures with concentric circles as heads are painted in the caves, but there is no evidence to suggest that the concentric circles themselves represent a head without a body. The two main kinds of aboriginal art, in my opinion, had a distinct origin, and both are now integral parts of totemism and ancestral spirit cults. It would appear that the representative art had its origin in the portrayal of totemic animals for magico-religious purposes as an aid to ensure an ample supply of food and raw materials, and that the formal or geometric art has been superimposed upon the representative and ultimately became the dominant ritual art.

There is obviously a strong reason for the great development of painting in Arnhem Land, Kimberleys, Cape York and central Australia. In practically every way it is superior to that in southern areas, the colours and styles more varied, the work more advanced technically, the galleries more numerous and extensive, with a higher proportion of polychromes in the cave paintings. Similarly, in Arnhem Land the ritual paraphernalia is extraordinarily abundant and colourful, well designed and made; there is a wealth of body designs which achieve considerable artistic effect. The bark paintings are outstanding artistic products. All of this work reveals an active aesthetic sense amongst the local Aborigines which has been stimulated in this region by the introduction of religious cults, of which their rich art forms a part. The cave paintings and engravings of Indonesia and New Guinea are comparatively simple in technique and style and cannot have provided the inspiration. But in the decorative art of these two ethnic regions is to be found a wealth of art motifs, styles and techniques similar to that of northern Australia. The art design on the bamboo pipes and lime-boxes of Celebes, which I visited in 1937, is very similar to that of north-eastern Arnhem Land and it is from the pipes, introduced by the Indonesians into the latter area, that the all-over decorative treatment of the field, with the parallel and crossed lines, has been derived in recent centuries. Thus the great flowering of art in Arnhem Land may be due to the general enrichment of culture, particularly of religious cults, which produced a dynamic and higher aesthetic standard generally, introduced by the visits for centuries past of Indonesian natives to northern Australia. It has similarly enriched the music, dances and mythology of these Aborigines.
In this discussion of aboriginal art it is pointed out that there is a consistency in method of treating surfaces throughout Australia, symmetry and rhythmic repetition being of fundamental importance, although asymmetry is a feature of some kinds of art. Art is a planned and serious aesthetic activity, finding its inspiration in mythology and in the ritual, magic, social and economic life. An outstanding feature of rock paintings and engravings in the Sydney-Hawkesbury district, and cave paintings on Groote and Chasm Islands is that species of the highest economic value as sources of food exceed all other animals as art motifs within the body of belief and ritual. The aboriginal artist possesses a clear mental picture of his subject, a sure sense of the use of colour in design, a high appreciation of form, and handles large surfaces without difficulty. The incised work displays a certain mastery of technique and materials. Aboriginal art embodies a wide range of techniques, styles and designs, in which compositions and dramatic settings are important. While the objects decorated or fashioned do not possess a high intrinsic value, their decoration comes within the category of art in its basic principles and craftsmanship. The cultural value of aboriginal art varies from casual depictions to objects and designs made and seen by men initiated into clans or cults, and designs sacred in one area may be seen by everybody outside a sacred context in other areas. The origin of the art motifs is still a controversial and confused problem, one in which local variation and development and introduced ideas have all played a part, but basic styles have persevered and survived despite the increase of surface decoration and formal art that took place.

REFERENCES.


1952. "Paintings in Beswick Creek Cave, Northern Territory." Oceania, 22, 208.


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