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Among the specimens collected among non-literate peoples and deposited in anthropological museums, there are many that show culture contact of some sort with the West. However, specimens of this type were often ignored by the collector in the field just because they did not reflect acculturation and hence were, to a degree, "impure." Museum collections of such specimens may not be entirely representative samples. Yet the "acculturated" specimens in Chicago Natural History Museum are sufficiently numerous to make their analysis worth while. As a matter of fact, we have had to limit the field considerably. Only material from North America and, to a lesser extent, Oceania will be considered here. Also, within these two areas we have not examined certain categories of objects that demand special investigation, such as Greenland Eskimo clothing. It is contemplated that later papers will be devoted to these more specialized topics.

Any artifact can be described from several different points of view, and it is well to state at the outset those aspects of a specimen to which particular attention will be given. These are *form*, the three-dimensional proportions of an object; the *material* of which it is made; the *use* or purpose to which it is put; and the *technological principles* involved in its design and manufacture. The documentation accompanying the specimens is so scant that it gives us little assistance in determining the *meaning* of these objects to their makers and users, but the ethnographic literature is at least helpful in this regard. The word *function* we have largely avoided, as it might lead to ambiguity. Unfortunately, we have little information on the contact milieu, as Fortes (1936) has used the term, surrounding the persons who used the objects, though we can provide at least an estimate of the date of manufacture and hence have some idea of the degree of acculturation of the particular society concerned.

In examining the objects, the first problem was one of classifying the kinds of change they expressed. A number of categories of change were then formulated. The specimens have been described according to these categories rather than by tribe, area, or particular type of object, for primary interest lies here in the processes of change rather than in the objects per se.

ARTIFACTS AND CATEGORIES OF CHANGE

Analysis of museum collections and some previous experience with artifacts reflecting acculturation have suggested to us the following classification:

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- A. New types of artifacts introduced through contact.
- B. Native types of artifacts modified by contact.

Both of these major divisions can be subdivided into a number of categories. In the following pages we shall define these categories and illustrate them when necessary.

CATEGORY A-1

A. NEW TYPES OF ARTIFACTS INTRODUCED THROUGH CONTACT.

- 1. Objects imported through trade or other contact channels.

When artifacts of this type become incorporated into the material culture of a given people, there is no change in the form of the artifact, because it is not made locally. There may or may not be a change in its use and hence in its meaning. For instance, the substitution of a gun for a bow as part of the grave goods complex of an Indian tribe involves a change both in the use and in the meaning of the gun, in contrast to its use and meaning in European society.

Other examples among North American Indians of introduced artifacts, not illustrated in this paper, are flint-lock and percussion-lock guns, officers' gorgets of silver, jew's-harps, glass bottles, and silver brooches. Additional examples are shown in the following illustrations.



FIG. 23. Plains Indian wrapper for sacred war charm (Cat. No. 59528).

This Republican campaign handkerchief was used by the Pawnee as a wrapper for a sacred war charm. There certainly has been a change in the use and meaning of this artifact when transferred from a white American to a Pawnee cultural context. The handkerchief was obtained by the Museum in 1905.



FIG. 24. Plains Indian Costume.

An example of category A-1 of culture change, involving costume, is here reproduced from the work of George Catlin (1848, figs. 271-272). The Assiniboin chief in his native costume (left) was painted by Catlin in 1832 before the chief made a trip to Washington, D.C., as a guest of the United States government. Catlin also painted the chief (right) after his return from Washington. It is obvious which costume is the product of acculturation.

CATEGORY A-2

A. NEW TYPES OF ARTIFACTS INTRODUCED THROUGH CONTACT.

2. Forms copied from introduced models, but reproduced locally of native materials.

If the necessary technique of production has diffused along with an imported object—smelting and forging techniques in producing metal knives, for instance—the diffusion of the culture trait is complete. Often, however, the technique of production does not diffuse, perhaps because the material is not available, and there then results a reproduction of an introduced form out of local materials, without the accompanying diffusion of the necessary production technique. There may or may not be a change in the use and meaning of the introduced artifact manufactured locally. Examples of this category are shown in the following illustrations.



FIG. 25. Wooden knives from Oceania (top, Cat. No. 106761; bottom, Cat. No. 92768).

At the top is a wooden knife made in imitation of a steel-bladed trade knife. This knife was collected from Matty Island, a Micronesian outlier off the north coast of New Guinea, and was received by the Museum in 1908.

At the bottom is a similar wooden imitation of a steel-bladed trade knife, collected on Normanby Island in the Massim area of New Guinea and received by the Museum in 1905.



FIG. 26. Eskimo shell-capper of ivory (Cat. No. 177727).

This shell-capper was collected from Eskimos at Point Hope, Alaska, in 1927. It is a faithful copy of the imported shell-capper of metal.

CATEGORY A-3

A. NEW TYPES OF ARTIFACTS INTRODUCED THROUGH CONTACT.

3. Introduced forms manufactured or decorated locally, partly from native materials and partly from imported trade materials.

This category is obviously closely connected with the A-2 category just described. The reproduced form manufactured or decorated locally may be somewhat modified, and the modification may stem from the use of native materials, native concepts of decoration, or both. There may or may not be changes in use and meaning. Examples of this category are shown in the following illustrations.

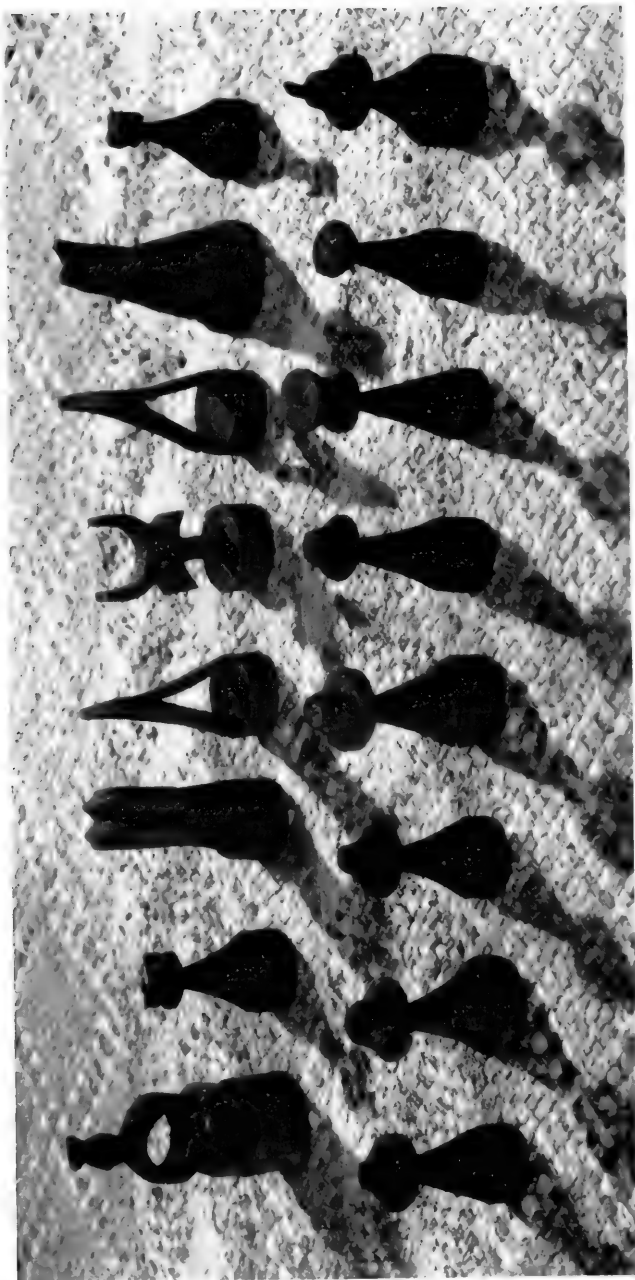


FIG. 27. Chessmen of the Northwest Coast Indians (Cat. No. 69340).

These chessmen, made of carved wood, were obtained among the Kwakiutl and were received by the Museum in 1901.



FIG. 28. Decorated bellows of the Northwest Coast Indians (Cat. No. 17862).

This decorated bellows of wood and leather was used for blowing a whistle, probably in a ceremonial context. Therefore, the meaning of the bellows changed, although the use—to produce and concentrate a draught of air—remained the same. The bellows was collected among the Haida of British Columbia and was received by the Museum in 1893.



FIG. 29. Woodland Indian hand mirror (Cat. No. 15357).

This hand mirror, with an ornamental wooden frame and handle, was collected among the Chippewa along the Broken Head River near Lake Winnepeg in Canada, in 1892.

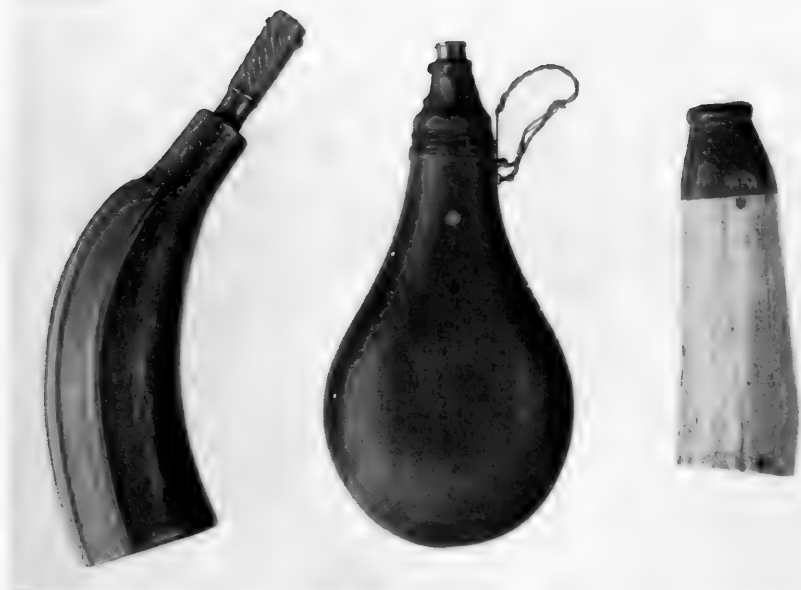


FIG. 30. Eskimo flasks for gunpowder (left, Cat. No. 12250; center, Cat. No. 53350; right, Cat. No. 20505).

The specimen on the left is a carved wooden gunpowder flask with a stopper made from a brass cartridge. The flask is an imitation of an early nineteenth century American or European powder horn. It was collected from Eskimos at Port Clarence, Alaska, and was received by the Museum in 1897.

The specimen in the center is a wooden gunpowder flask with a brass cartridge stopper made in imitation of early nineteenth century American or European powder flasks of pewter or leather. This flask was obtained from Eskimos on King Island, Alaska, in 1897.

The specimen on the right is a gunpowder flask of wood and bone with a metal stopper, collected from Eskimos at Kotzebue Sound, Alaska, in 1896.



FIG. 31. Eskimo bucksaws (top, Cat. No. 111686; bottom, Cat. No. 12042).

The specimen at the top is a bucksaw with an iron blade and a frame made of ivory, bone, wood, and rawhide thongs. It was obtained from Alaskan Eskimos in 1902.

The specimen at the bottom is a bucksaw with a metal blade and a frame made of wood and picture wire. The lack of teeth on the saw blade suggests an analogy with the aboriginal Eskimo saw, a rawhide thong used with sand. This saw was collected from Eskimos at Port Clarence, Alaska, in 1897.

CATEGORY A-4

A. NEW TYPES OF ARTIFACTS INTRODUCED THROUGH CONTACT.

4. Introduced forms manufactured locally from imported materials through the use of an introduced technique or a native technique similar to the introduced one.

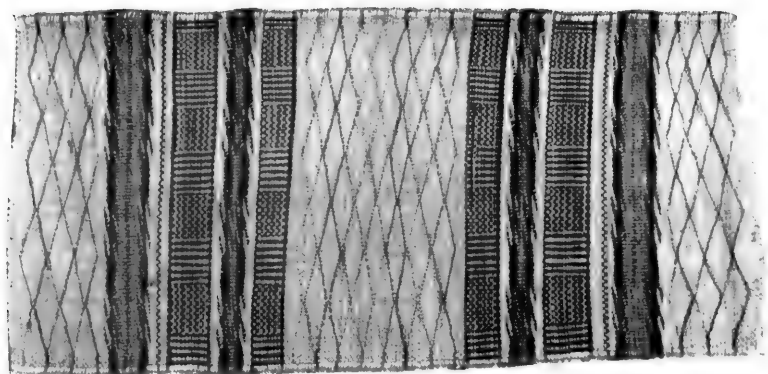
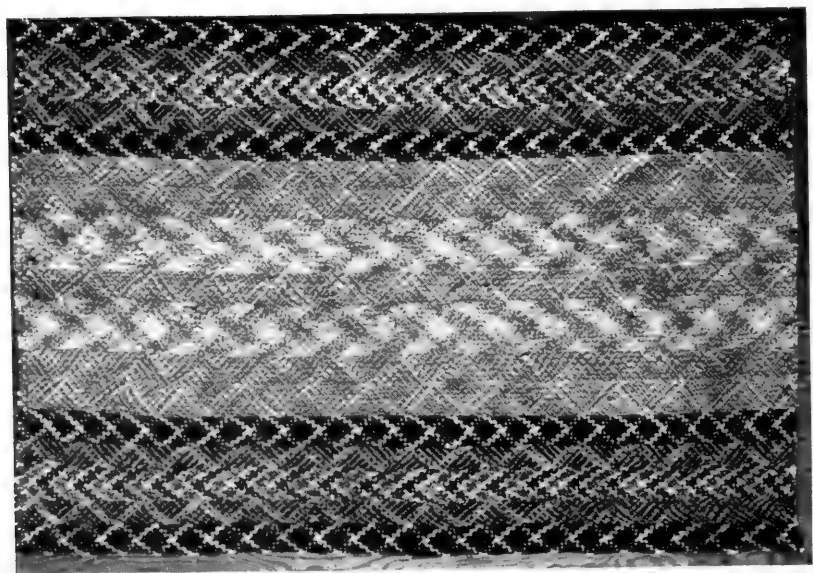


FIG. 32. Woodland Indian mats (left, Cat. No. 155852; right, Cat. No. 155711).

The specimen on the left is our one example of category A-4. It is a rag rug of Indian manufacture, and is a substitute for the traditional style of floor mat exemplified by the specimen shown at the right. The rag rug was obtained from the Potawatomi and received by the Museum in 1925.

The traditional style of floor mat shown at the right resembles sufficiently the rag rug of early settlers so that the Indians were amenable to borrowing the idea of rag rug-making. Moreover, the braiding technique used in making the rag rug was already known to the Indians, though it was not used in the manufacture of floor mats. The specimen at the right was also collected among the Potawatomi and received by the Museum in 1925.

CATEGORY B-1

B. NATIVE TYPES OF ARTIFACTS MODIFIED BY CONTACT.

1. Native artifacts modified by the substitution of an imported material for a local material that is inferior in physical properties or lacking in prestige.

All of the examples illustrated thus far consist of new types of artifacts introduced through contact. Our next major division consists of native types of artifacts modified in various ways through contact. In category B-1, the use of the native type of artifact remains the same as before modification. There is little, if any, change in form, and the technological principles involved in the design and use of the artifact are unaltered. Examples are shown in the following illustrations.



FIG. 33. Eskimo whaling harpoon heads (Left, Cat. No. 12684; right, Cat. No. 533932).

The whaling harpoon head of ivory with an iron blade, shown at the left, was obtained from Eskimos at Port Clarence, Alaska, in 1897. At the right is a whaling harpoon head with a stone blade, collected from King Island Eskimos in 1897. The harpoon head with the stone blade is the native form and that with the iron blade the modified form.



FIG. 34. Eskimo women's knives (left, Cat. No. 177453; right, Cat. No. 177452).

A woman's knife or *ulu* with an iron blade is illustrated at the left. It was collected from Eskimos at Point Hope, Alaska, in 1927. At the right, compared with it, is an *ulu* with a stone blade, collected from Eskimos at Point Hope, Alaska, in 1927. The *ulu* with the stone blade is the native form and that with the iron blade is the modified form.



FIG. 35. Eskimo adzes (left, Cat. No. 53261; right, Cat. No. 177764).

The adze with an iron blade, shown on the left, was collected from Eskimos at Point Hope, Alaska, in 1897. At the right is an old style adze with stone blade, also obtained from Eskimos at Point Hope. It was received by the Museum in 1927, although its date of manufacture is unknown. The adze with the stone blade is the native form; that with the iron blade is the modified form.



FIG. 36. Mouthpieces for Eskimo drills (above, Cat. No. 20559; below, Cat. No. 177442).

An Eskimo bow-drill mouthpiece with a brass drill-socket is shown at the top. It was collected in 1896 at Kotzebue Sound, Alaska. An old style bow-drill mouthpiece with a stone drill-socket is shown at the bottom. This specimen was obtained near Point Hope, Alaska, though it was not received by the Museum until 1927. The mouthpiece with the stone drill-socket is the traditional form and that with the brass drill-socket is the form modified by culture contact.



A



B

FIG. 37. Eskimo skin scrapers (above, Cat. No. 53286; below, Cat. No. 27774).

A skin scraper with an iron blade and a wooden handle is illustrated (see fig. 37, A). This scraper was collected from Eskimos on King Island, Alaska, in 1897. Below (fig. 37, B) is a scraper with a stone blade and a wooden handle, obtained from Eskimos near Nome, Alaska, about 1900. The scraper with the stone blade is the traditional form and that with the iron blade is the modified form.



FIG. 38. Eskimo needle cases (left, Cat. No. 20249; right, Cat. No. 177737).

At the left is a tubular needle case of tin, secured from Eskimos at Kotzebue Sound, Alaska, in 1896. At the right is an old style tubular needle case of bone, obtained from Eskimos at Point Hope, Alaska, though not received by the Museum until 1927. The bone needle case is the traditional form; the tin needle case is the modified form.

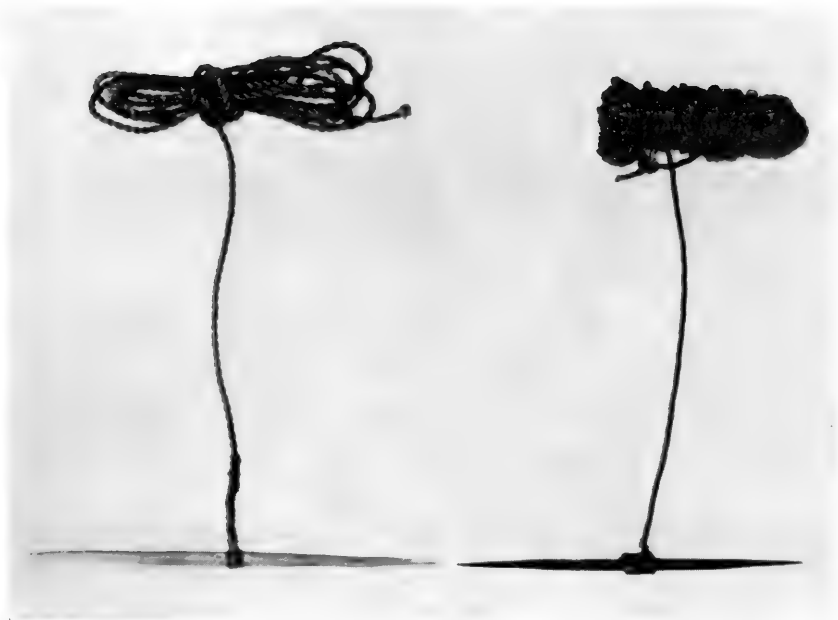


FIG. 39. Fish gorges and lines of the Northwest Coast Indians (left, Cat. No. 18326; right, Cat. No. 19430).

At the left is a bone fishing gorge with fiber line, collected from Bella Coola Indians in 1893. At the right is a similar gorge, made of iron, and also collected among the Bella Coola in 1893. The bone gorge is the traditional form and the iron gorge the modified form.

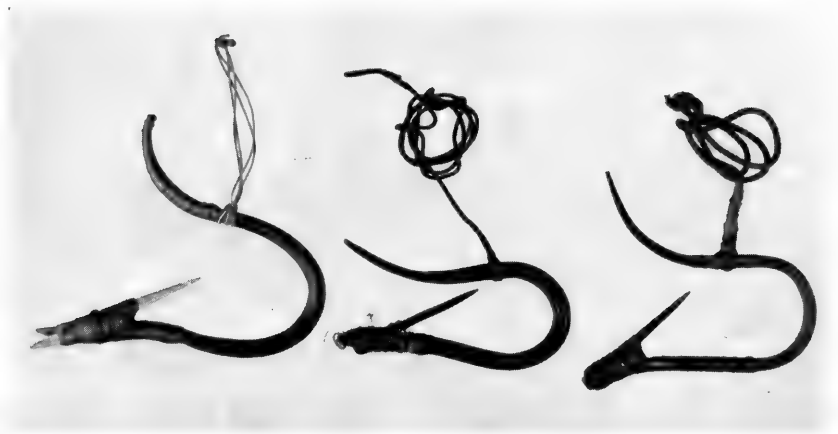


FIG. 40. Halibut hooks of the Northwest Coast Indians (left, Cat. No. 18720; center, Cat. No. 18881; right, Cat. No. 18872).

At the left is a traditional type of Northwest Coast halibut hook made of wood with a bone barb, collected in 1893. In the center is a similar hook of wood with an iron barb, obtained among the Kwakiutl in 1893. At the right is an iron halibut hook with an iron barb, also collected among the Kwakiutl in 1893. These three hooks represent a progressive substitution of metal for native materials, with no alteration of form.

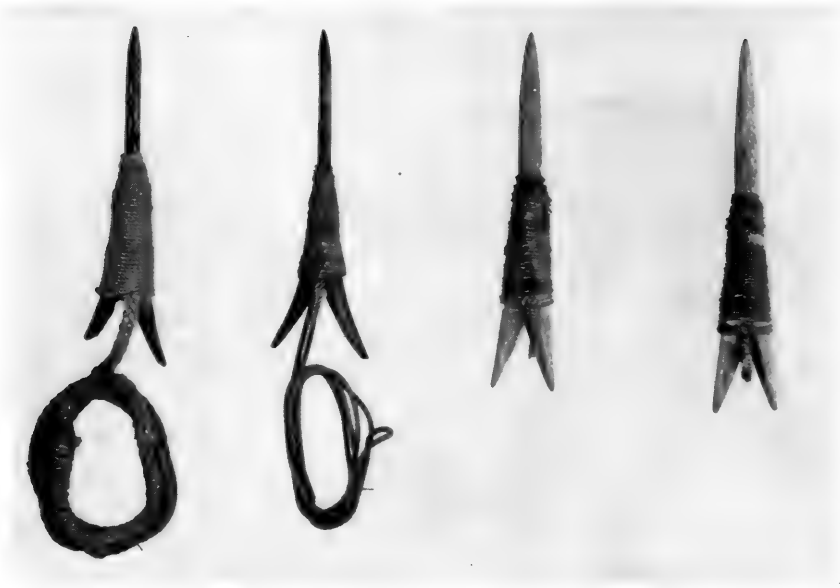


FIG. 41. Salmon spearheads of the Northwest Coast Indians (left, Cat. Nos. 18884 and 18886; right, Cat. Nos. 85949-1 and 85949-2).

At the left are two salmon spearheads of bone with iron points, collected among the Nootka in 1893. At the right are two spearheads of bone with bone points, also collected among the Nootka and received by the Museum in 1904. The spearheads with the bone points are of the traditional type whereas those with iron points are the product of acculturation.



FIG. 42. Adzes of the Northwest Coast Indians (left, Cat. No. 55932; right, Cat. No. 19624).

At the left is an iron adze with a wooden handle, collected in 1899 from the Salish. At the right is a traditional stone adze with a wooden handle, also collected among the Salish, in 1893. The stone adze is the traditional type and the iron adze the modified type, although the basic form of the adze is unchanged.

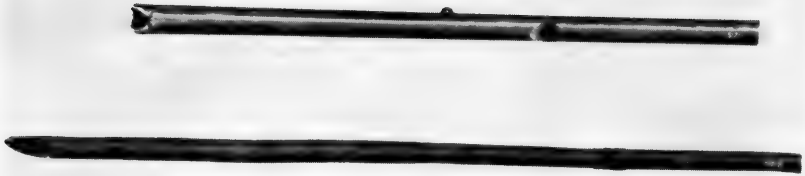


FIG. 43. War whistles of the Plains Indians (top, Cat. No. 51711; bottom, Cat. No. 51712).

At the top is shown a war whistle made from an iron gun barrel, collected among the Blackfoot in Alberta, Canada, in 1897. At the bottom is a wooden war whistle, also collected among the Blackfoot in Alberta, in 1897. The wooden whistle is the traditional form; the iron whistle made from a gun barrel is obviously the result of culture contact.



FIG. 44. Woodland Indian ceremonial rattles (left, Cat. No. 84393; right, Cat. No. 62559).

At the left is a dance rattle made from a baking powder tin can, collected from the Chippewa in Minnesota, in 1903. At the right is a rattle made from a hollow gourd, obtained from the Winnebago in Wisconsin, in 1901. The gourd rattle is a traditional Woodland Indian rattle. The tin can rattle is a product of change brought about by culture contact.

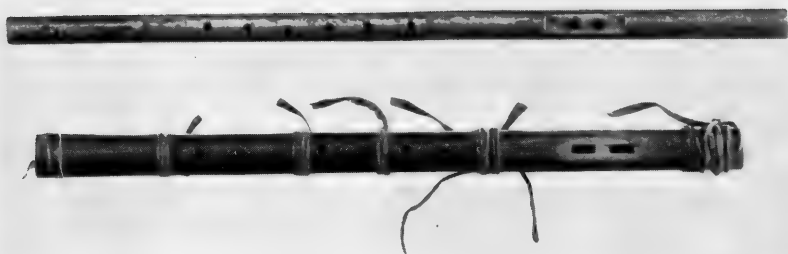


FIG. 45. Woodland Indian courting flutes (top, Cat. No. 69296; bottom, Cat. No. 92025).

At the top is shown a courting flute made from an old gun barrel, collected from the Winnebago in Wisconsin, in 1901. At the bottom is a courting flute of wood, collected from the Sauk and Fox in Iowa, in 1905. The traditional Woodland Indian flute is almost exactly reproduced in the example made from the gun barrel.



FIG. 46. Woven bags of the Woodland Indians (left, Cat. No. 155921; right, Cat. No. 155995).

At the left is a woven bag made of nettle fiber and sheep's wool yarn, and collected among the Menomini in Wisconsin. It was received by the Museum in 1925. At the right is a traditional bag woven of nettle fiber and buffalo hair, also secured from the Menomini, and received by the Museum in 1923. The two bags are essentially the same except for the substitution of sheep's wool for buffalo hair.



FIG. 47. Hawaiian chiefs' necklaces and pendants (left, Cat. No. 255962; right, Cat. No. 62884).

At the left is an Hawaiian chief's necklace made of rolls of black cotton cloth and a whale tooth pendant. Both were collected in Hawaii and probably made about 1880, although the pendant may be considerably older. At the right is a similar necklace, made, in the traditional manner, of strands of braided human hair, and a whale tooth pendant. This necklace was also made in Hawaii, probably about 1850. In the modified type of necklace, there has been an attempt to make the black cotton rolls simulate in form the strands of braided human hair.

CATEGORY B-2

B. NATIVE TYPES OF ARTIFACTS MODIFIED BY CONTACT.

2. Native artifacts modified by the substitution of an imported material whose use involves a different technological principle, although the same end is achieved.

In the B-1 category just described, the examples used as illustrations were all native types of artifacts modified merely by the substitution of a new, imported material for one previously obtained from local sources. There was no appreciable change in the form of the artifacts, in the technological principles involved in their manufacture, or in the use to which the artifacts were put. However, the present category—B-2—consists of artifacts modified not merely by the simple substitution of a new material, but also by the employment of a different mechanical principle to achieve the same end. There is some change in form to accommodate the new material and the new technological principle involved, though there is an obvious attempt to make the new form approximate the old one as closely as possible. The use of the artifact remains the same. Examples of this category follow.

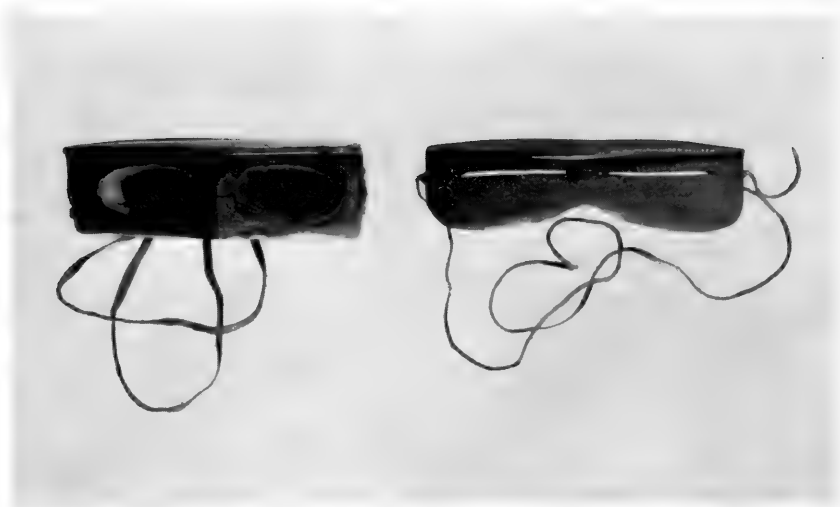


FIG. 48. Eskimo snow goggles (left, Cat. No. 53295; right, Cat. No. 27942-1).

At the left is a pair of Eskimo snow goggles with a wooden frame and sooted lenses of glass, collected at Point Hope, Alaska, in 1897. At the right is a pair of Eskimo snow goggles made in the traditional form, obtained near Nome, Alaska, and received by the Museum in 1915. The traditional Eskimo goggles protect the wearer's eyes by reducing the eye opening to mere slits, which reduce the light and glare but still allow a relatively wide lateral field of vision. The goggles with sooted lenses achieve the same end by a different mechanical principle, which also results in less reduction of the field of vision. The form is modified to accommodate the new material—sooted glass—and the new principle—elimination of light by darkening a transparent glass lens.



FIG. 49. Eskimo skin scrapers (upper left, Cat. No. 20318; upper right, Cat. No. 20301; lower left, Cat. No. 12030; lower right, Cat. No. 53279).

At the upper left is a skin scraper with a thin tubular blade of metal secured to a wooden handle, obtained from Eskimos at Kotzebue Sound, Alaska, in 1896. At the upper right is a traditional type of skin scraper with a socketed blade of chipped stone set into a wooden handle, also collected from Eskimos at Kotzebue Sound in 1896. The new style scraper has a thin metal blade made into a tube so that it would be strong enough—the utilization of a new principle. However, the new material and the new principle necessitated a change in the form of the wooden handle, shown at the lower left, in order to haft the tubular blade. The traditional form of handle is shown at the lower right.

CATEGORY B-3

B. NATIVE TYPES OF ARTIFACTS MODIFIED BY CONTACT.

3. Native types of artifacts modified by the introduction of a new element of subject matter.

In this case, the modification is not one of the substitution of a new material, nor the introduction of a new technological principle used in producing the artifact. Rather, it is the introduction of a new element of subject matter, resulting in a change in the meaning of the artifact. Examples follow.

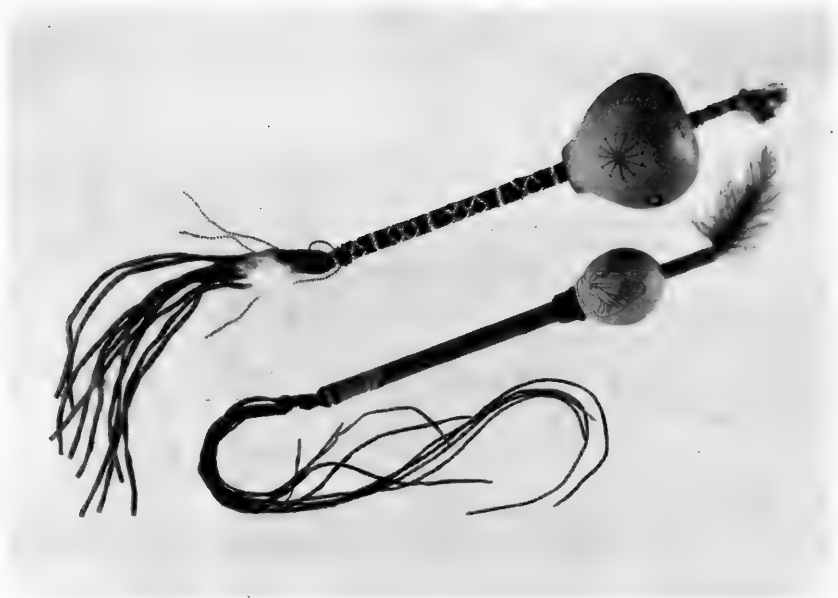


FIG. 50. Plains Indian rattles (left, Cat. No. 67702; right, Cat. No. 14903).

At the bottom is a ceremonial rattle made of a dried gourd and engraved with a representation of Christ. Except for the incised drawing of Christ, this is a traditional Plains Indian ceremonial rattle, and was collected among the Winnebago in 1908. At the top is a traditional rattle engraved with native symbols, collected among the Kiowa in 1899.



FIG. 51. Sculpture of Northwest Coast Indians (Cat. No. 17990).

These two carved and painted wooden figures, the left one representing a judge and the right one a sea captain, were obtained among the Haida in 1893. The carving and the painting of these figures are handled in the native style, but the subject matter is, of course, the result of contact with white men.

CONCLUSIONS

Our brief survey of collections in Chicago Natural History Museum plus a general knowledge of the subject of culture change suggests the following conclusions. In the earliest stages of culture contact the cultural changes involve material things—artifacts. Most of our examples belong to the B-1 category—native types of artifacts modified by the substitution of a new material obtained by contact for an old local material. In the case of tools, it is primarily a matter of the substitution of metal for stone or bone, though it is interesting to note that the tool and weapon types themselves do not exhibit radical change. Metal is obviously superior to the native materials in the cases of tools and weapons here considered. This superiority is not obvious in the substitution of cloth for braided human hair in the case of the Hawaiian chief's necklaces. Whether the former was considered superior because of greater prestige value, or whether it was simply easier to make the necklace with the cloth we do not know. There is always the chance that utility, convenience, and prestige are involved, in combination or separately.

Probably our collections would show a high proportion of examples of category A-1—objects introduced through trade—if such objects had been of interest to ethnologists making collections in the late nineteenth and early twentieth centuries. However, from inventories of goods traded or manufactured for trade it is easy to see that large quantities of objects were introduced by trade.

In both of our major categories—A, objects introduced through contact, and B, native objects modified by contact—the form tends to show very considerable stability, certainly more than the material. Aboriginal forms tend to persist, although imported materials may be substituted for native material. Also, forms once introduced likewise show stability, though local materials may be used.

In the case of tools, a factor making for stability of form is that the form is often closely related to the use of the tool. As long as the tool or weapon has the same use, particularly a rather specialized use, the form will naturally tend to remain stable. However, this does not explain why relatively non-functional aspects of form also exhibit stability, for example, the particular form of the wooden Oceanic knives copied from European trade knives. After all, there are many possible shapes for knives.

Culturally patterned motor habits also make for stability of form. The effect here is first of all the retention of tool types that fit the motor habits in question. Many of the tools described require specialized motor habits for their use. These motor habits, considered as an aspect of culture, are certainly highly resistant to change. Adze-using peoples do not take readily to the ax; even among acculturated peoples such as the Marshallese, the adze (now a Japanese trade adze) is the favored wood-working tool. Motor habits therefore are a force making for stability of form.

Over and above these considerations, however, form seems to be resistant to change, and we think that our material shows it. In culture generally, form seems to be more stable than material or content. Forms of social organization—clans, for instance—tend to hang on even after they have lost most of their functions. Similarly, forms of ritual and ceremony persist. Survivals are, to a large extent, “empty” forms.

Form has, of course, different aspects. We have considered it here essentially as the three-dimensional characteristic of an artifact. Decoration, which is primarily two-dimensional, also has “form.” The question arises whether three-dimensional “form” is more stable than two-dimensional “form.” Thus, are pottery shapes generally more resistant to change than decoration? We suspect that they are.

We have not considered the particular stage in the acculturation process of the societies from which we have drawn our material. By and large our impression is that the time level from which our material comes is one generally prior to large-scale disintegration, even though a long period of contact has been involved.

We consider this study incomplete, and we plan to develop our ideas further, aided by additional analyses of museum specimens showing unmistakable evidence of culture change brought about by culture contact.

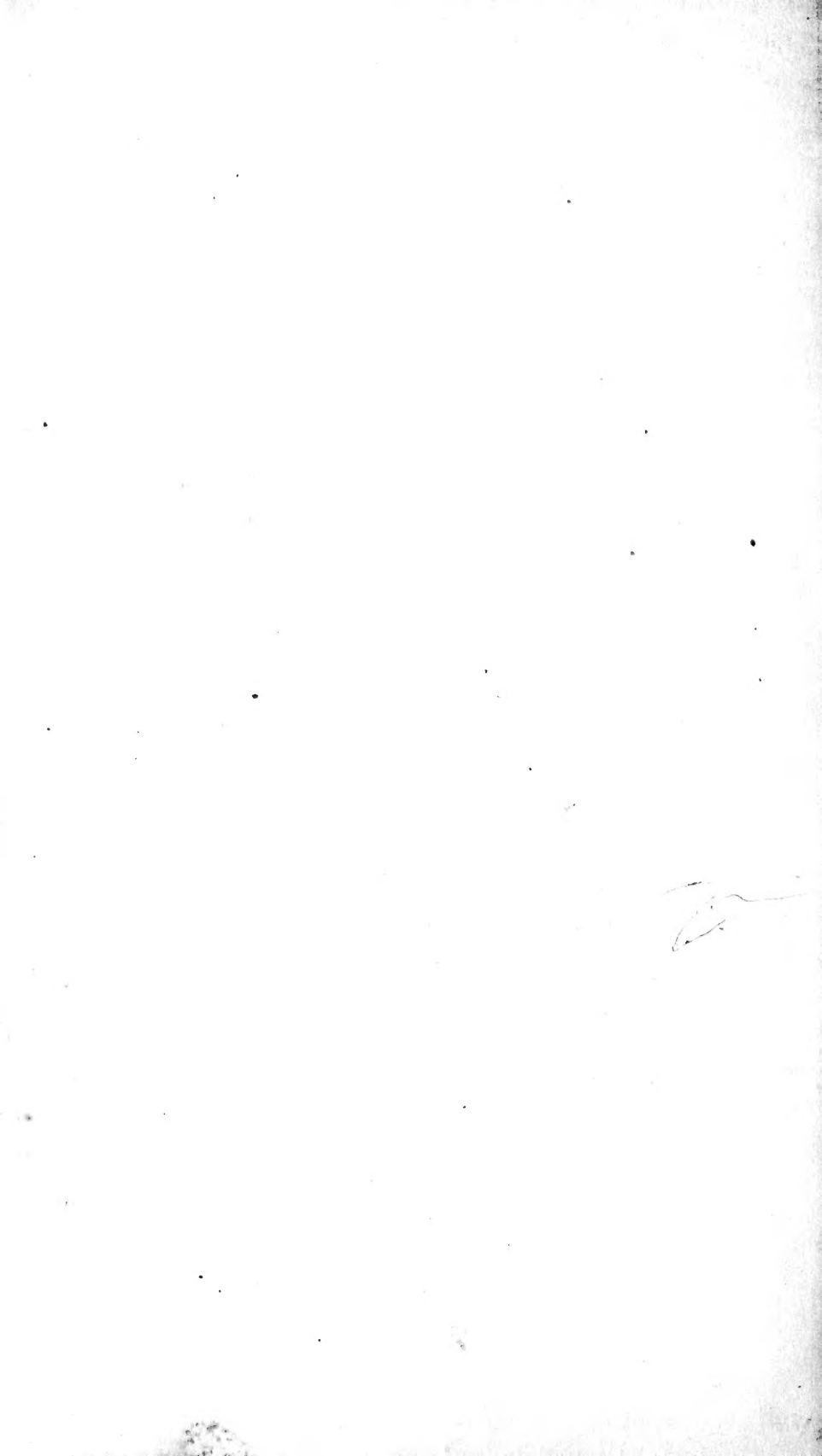
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