

A collection of Hopi ceremonial pigments / by Walter Hough.

Contributors

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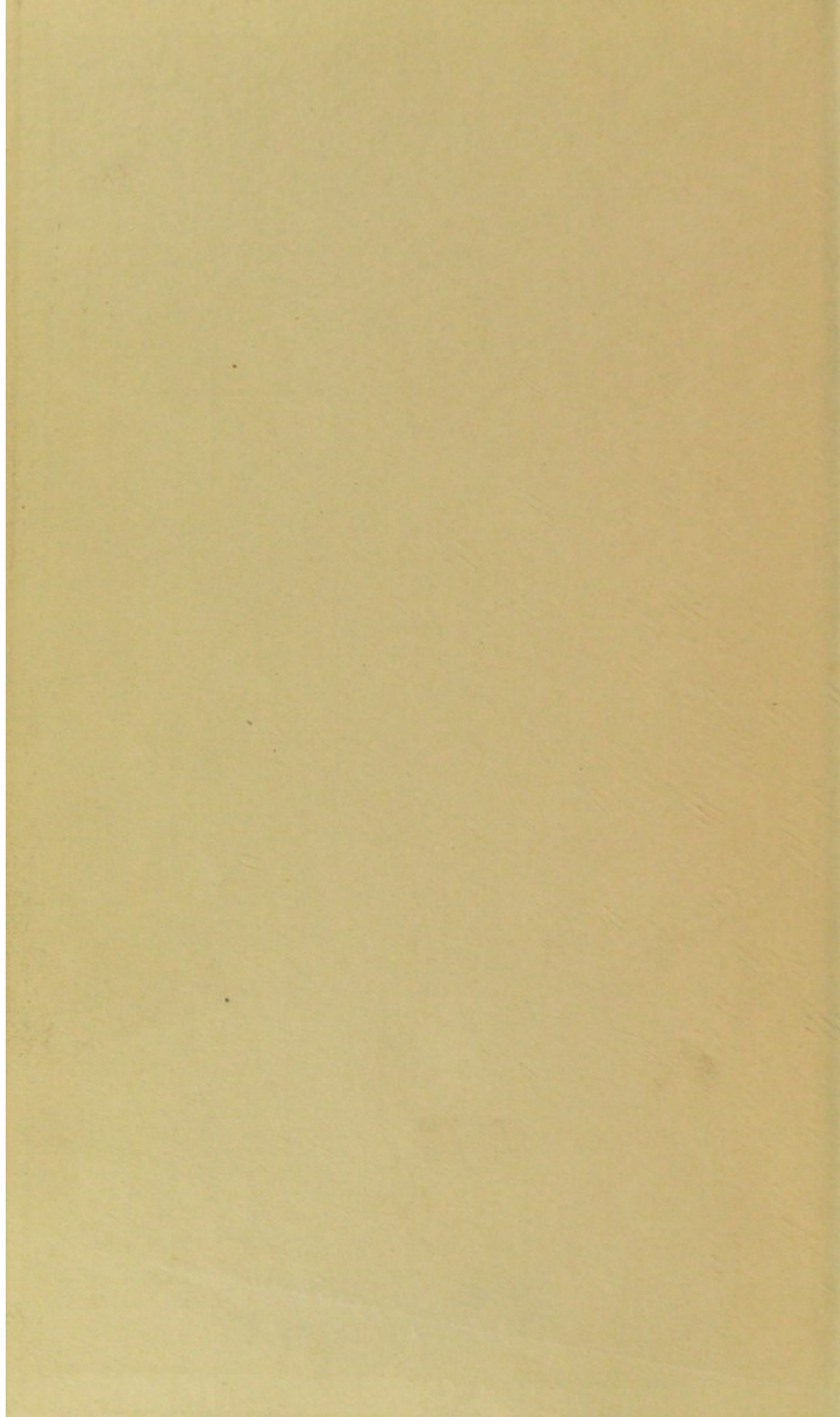
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A COLLECTION OF HOPI CEREMONIAL
PIGMENTS.

BY

WALTER HOUGH,

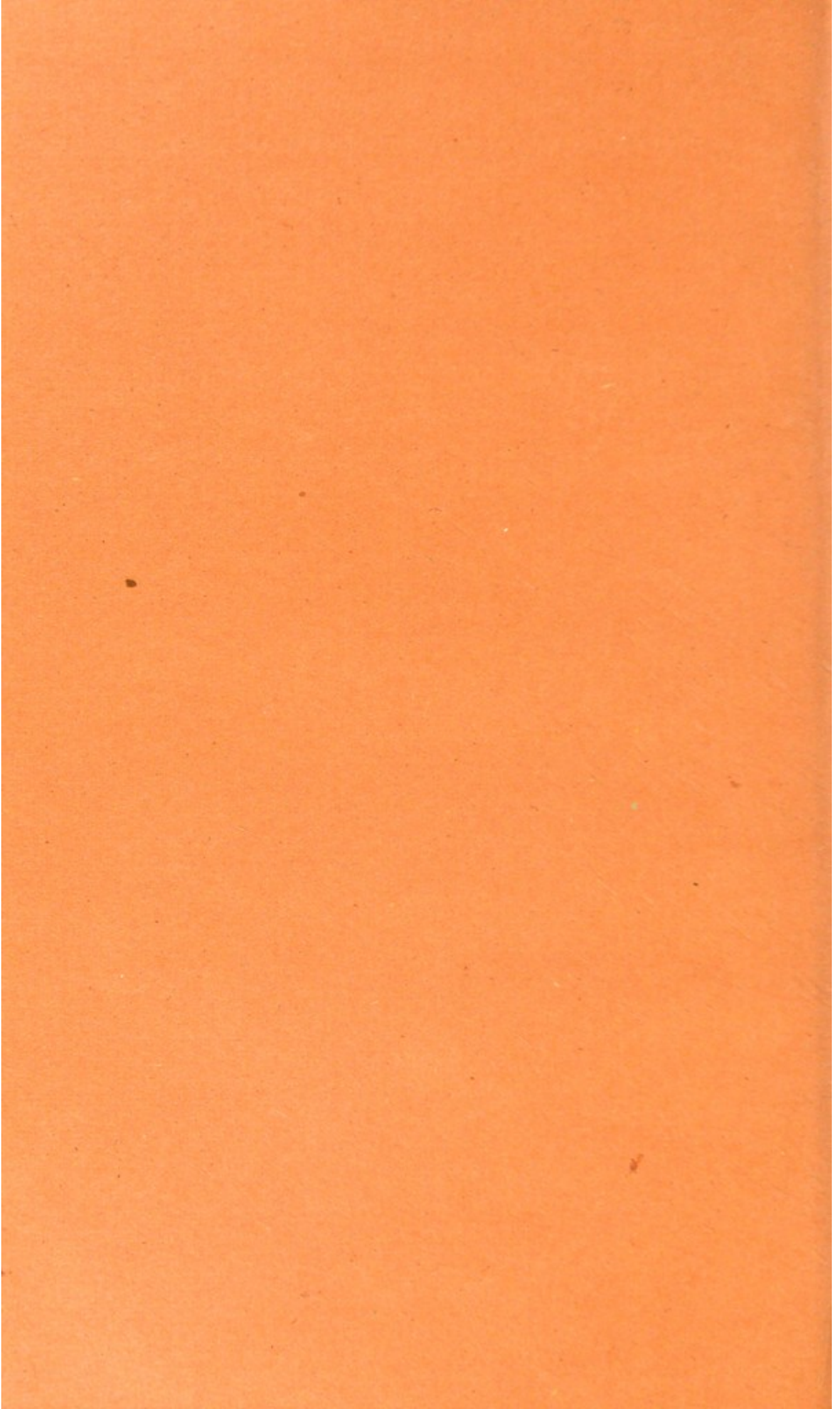
Assistant Curator, Division of Ethnology.

From the Report of the United States National Museum for 1900, pages 463-471.



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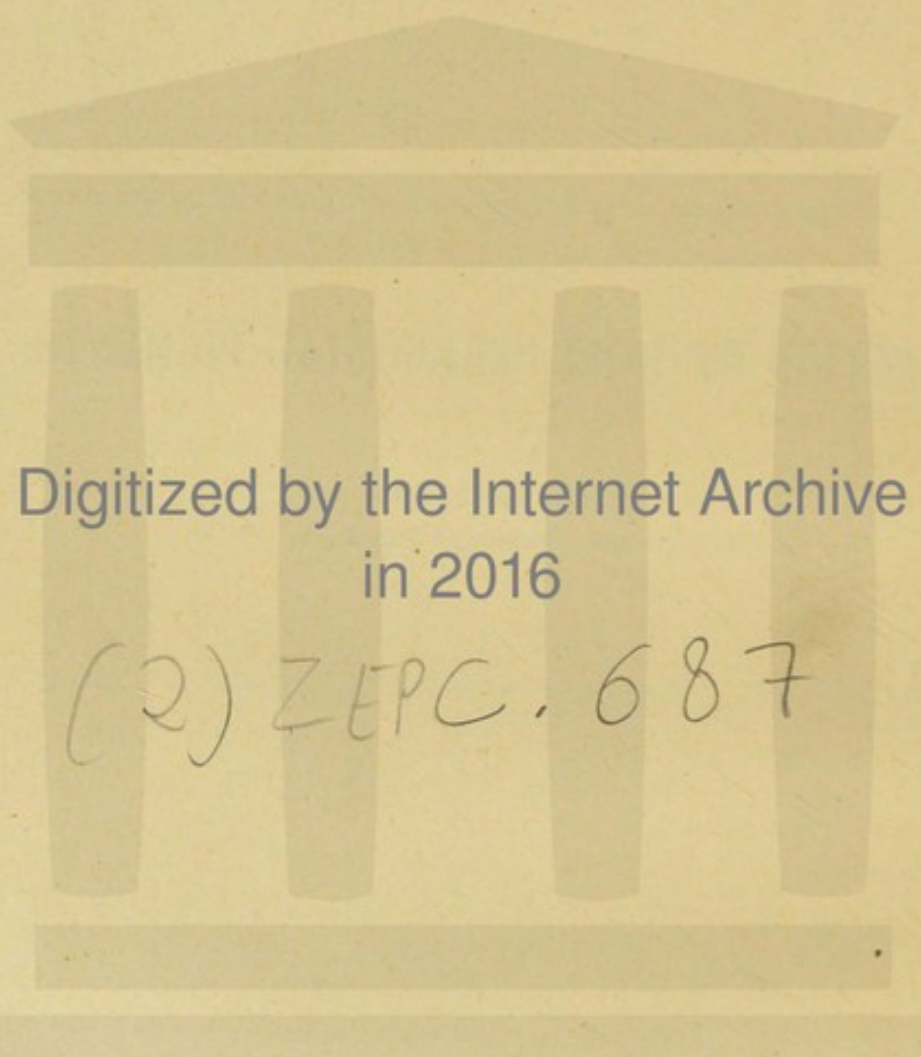
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A COLLECTION OF HOPI CEREMONIAL PIGMENTS.

By WALTER HOUGH,
Assistant Curator, Division of Ethnology.

Some years ago Mr. A. M. Stephen made for Dr. Washington Matthews, U. S. A., a collection of Hopi Indian ceremonial pigments, with notes on their preparation, derivation, and uses. These valuable notes from that most excellent observer were brought together by Dr. Matthews and presented to the International Folk-Lore Congress held at Chicago in 1893, and later were published under Mr. Stephen's name in the report of the congress, which appeared in 1898.¹

Through the liberality of Dr. Matthews, the series of paints, comprising about twenty-five specimens, is now in the national collection. Determinations of the paints have been made by Mr. Wirt Tassin, assistant curator of the division of minerals. With the addition of the pigments secured from the Hopi, many years ago, by Maj. J. W. Powell and James Stevenson, together with those gathered among the Navajo by Dr. Matthews, this unique collection becomes of great importance and interest.

The Hopi are assiduous collectors. A catalogue of the substances brought to their pueblos from long distances would awaken surprise, and the diverse materials gleaned from a region so unpromising in appearance would increase the wonder. Every house is a museum of the environment, with specimens from the mineral, animal, and vegetal kingdoms, and every Hopi is a repository of knowledge as to the places where materials may be secured. Time and distance are little thought of when it comes to procuring the materials desired. For this reason the pigments and dyes, when compared with those employed by other American Indian tribes, are remarkable for their number as well as for the diversity of their origin. The colors range over the whole spectrum and furnish a number of shades and tints, as anyone may observe on looking through the large collections of Hopi objects

¹The International Folk-Lore Congress of the World's Columbian Exposition, Chicago, July, 1893. Archives International Folk-Lore Association, I, pp. 260-265. Chicago, 1898.

in the United States National Museum, the Field Columbian Museum, and the Peabody Museum.

The region where the Hopi live is remarkable for its natural colors, which are displayed in marvelous profusion and brilliancy in the bad lands, known as the Painted Desert. The love of color might well arise from the tints of the native corn, on which the Hopi principally depend for nourishment. This corn presents a variety of beautiful colors, sufficient to represent the six regions, and for this purpose it is used in the ceremonies. The same observation applies to the multifarious varieties of Hopi beans.

The Hopi apparently do not discriminate indigo, blue, and green; at least, they do not have separate words to describe these colors. Violet is classed with the red; orange is not differentiated from yellow or red. Thus, as has been observed among primitive peoples, the Hopi recognize the primary colors and have given them names. Probably primitive man could see only the primary colors, a reasonable hypothesis from the survival of these terms, but in the present culture stage of the Hopi it must not be inferred that they lack practical knowledge of all the spectrum colors.

Abstract terms belong far above the Hopi plane of culture, hence it is found that the term for a color denotes some object having the color. Frequently the name of a pigment refers to the place of its origin or to the use to which it is to be put, or, if a compound, to the principal constituent.

While the Hopi appreciate color, their applications of it are crude and inartistic, the tendency being to barbaric gaudiness. It may be noted that in the Hopi dwellings almost no colors are applied for decoration, the band of red ocher sometimes painted on the walls of a room near the floor being a modern innovation. One remarks also that the Hopi costume is plain, the weaver producing only stuffs of white, dark blue, or brown, without patterns, except in belts and hair tapes, and in garments of a ceremonial character. The leather for moccasins may be dyed according to individual fancy, and in the brilliant shoulder scarfs of cotton print a riot of color is allowable, but the costume without these recent additions is sober and relieved only by ornaments of shell and turquoise.

Of articles in common use pottery shows two colors, a red and a dark brown, and baskets present several colors. These articles, however, are ceremonial in decoration and to a large extent as to use, and as they are buried with the dead it would seem that the symbolic ornamentation has some deeper meaning than that of mere ornament.

The use of pigments among the Hopi is then confined to that large element in Hopi life, ceremony, and colors are displayed in profusion on the paraphernalia of their complex religion.

The Hopi apply color with meaning, if not with art, and these

meanings are many. The colors emblematic of the regions constantly occur in Hopi painting and present an interesting phase of their beliefs as set forth by Mr. Stephen.

The Hopi orientation bears no relation to north and south, but to the points on his horizon which mark the places of sunrise and sunset at the summer and winter solstices. He invariably begins his ceremonial circuit by pointing (1) to the place of sunset at summer solstice, then to (2) the place of sunset at winter solstice, then to (3) the sunrise at winter solstice, and (4) the summer solstice, next to (5) the above, and (6) the below.

The names of these directions and their emblematic colors are as follows:

1. Kwi-ni-wi; yellow, because the anthropomorphic deity who sits there is yellow, wearing a yellow cloud as a mask which covers his head and rests upon his shoulders; a multitude of yellow butterflies constantly flutter before the cloud, and yellow corn grows continually in that yellow land.

Similar phenomena are manifest at all the other directions, only of different colors, thus:

2. Té-vyūñ-a, Blue.

3. Tá-tyūk-a, Red.

4. Hó-po-ko, White.

5. Omi, Black.

6. At-kya-mi, all colors, and here sits the deity regarded as the maker of all life germs. He sits upon a flowery mound on which grows all vegetation; he is speckled with all the colors, as also is his cloud mask, and before it flutter all the butterflies and all the sacred birds.¹

The prayer offerings called Paho, of most of the ceremonies, are painted green, the color of vegetation, a frequent Hopi supplication being for abundant crops. One set of the Pahos of the Ninian Katcina ceremony are painted yellow, and are said to be a supplication for flowers. Red is the color of the warrior, who also rubs his face with powdered charcoal and sprinkles it with micaceous iron ore, when he desires to represent the Twin War-Gods.

The different ceremonies have prescribed uses of certain colors in costume, paraphernalia, and bodily decoration of the priests, and the "dolls" and other representations of the beings of the spirit world are painted in traditional colors.²

In passing, attention may be called to the ceremonial sand painting of the Hopi and Navajo, where the most beautiful effects are secured by allowing sand in slender streams of different colors to fall from the hand guiding it over the surface to form designs. The blending of the colored sands is soft and harmonious, and the result is a sand mosaic.³

With the poor tools and appliances in their reach the skill the

¹ A. M. Stephen, *Pigments in Ceremonials of the Hopi*, International Folk-Lore Congress, I, p. 261.

² Washington Matthews, *The Mountain Chant*, Fifth Annual Report of the Bureau of Ethnology, p. 445.

³ James Stevenson, *Navajo Ceremonial of Hasjelti Dailjis*, Eighth Annual Report of the Bureau of the Ethnology, p. 260.

Hopi display in applying pigments is remarkable. This art is altogether the province of the men, on whom the preparation of the elaborate paraphernalia falls. The accuracy of the drawing and, in many cases, the quality of the lines, are worthy of praise, and seem beyond the simple brush made of a narrow strip of yucca leaf. In fact, the skill displayed is little less than that observed in the Mexican codices, as the set of drawings of Hopi Katchinas prepared by a native for Dr. J. Walter Fewkes amply evidences.

The purity of the natural colors laid on by the Hopi artists gives their work a character like that of Egyptian paintings. It will be seen by examination that colors are laid on in mass usually to define forms and that the background is not intended to enter into the design. It is important to bear this in mind in the study of Hopi symbolism.

While some colors are applied dry and rubbed in as on feathers and the tanned leather of moccasins in the manner of the Plains tribes, the customary method is to use as a medium water or the fatty substance of squash, melon, piñon, or other seeds. The latter medium is procured by chewing the seeds and mixing the saliva with the paint. In a few cases the albumen from the eggs of the eagle is used as a medium. With these mediums the colors have little permanence, and the refurbishing of paraphernalia is usually required for each ceremony.

The Hopi artist applies his colors with a yucca brush or with the hand. The green paint, made by heating together piñon gum and powdered carbonate of copper, says Mr. Stephen, is rubbed down on a paint muller moistened with saliva charged with chewed squash seeds, then transferred to the mouth by means of a corn husk, and spurted over the surface of a mask.

Paint mortars of stone, sometimes a slightly concave stone and sometimes an elaborately worked-out utensil of good shape, are found in use among the Hopi. Paint vessels of pottery are found, though they are not so common as at Zuñi. Some of the massive paint materials are used as a muller on the slab, the paint being ground from the muller as needed, like India ink. Other paints are pulverized and washed with water, and some of the materials are soft enough to be used in the natural state or need very little manipulation.

Face paint, generally red, is carried in bits of skin pursed to form a bag. Face painting, except in ceremonies, is uncommon among the Hopi, and never employed at the East Mesa. At the Middle Mesa and Oraibi the practice is sometimes observed. Commonly one notices persons having patches of kaolin daubed on the skin, but no reason has been given for this custom.

From the processes described by Mr. Stephen in the following catalogue it will be seen that the Hopi exercise considerable skill in the preparation of a number of their colors, especially those of organic substances. In one case piñon gum is employed, as a medium like var-

nish, and in two cases lakes are produced by complicated processes involving the use of alum. The Hopi also know the value of alum as a mordant, this substance being derived from an impure alum-bearing clay.

CATALOGUE.

1. Ca kwa'pi ki, "green bread" (artificial), 175682.

Ca kwa'pi ki is thus made:

About ten ounces of piñon gum is put in an earthen pot and set on the fire, a very little water being poured in to keep it from burning and it is then allowed to roast. A large basin is set conveniently with about a gallon of water in it, and over this basin a yucca sieve is laid, and in the sieve a quantity of horse hair, or shredded yucca fiber. After the gum has melted and boiled for about ten minutes it is poured upon the hair lying in the sieve and allowed to strain through into the water, where it accumulates in a white mass. The operator then puts about three ounces of fragments of blue and green copper carbonate into a small muller and rubs them into a pulp, then pours a little water in the muller and rubs the pulp into a liquid. He then turns to the gum, which is stiff but still pliable, and after kneading and stretching it back and forth, doubling and twisting and pulling, it becomes soft and of glistening whiteness. After manipulating the gum for about a quarter of an hour, he folds it up compactly, dips it lightly in the blue-pulp liquid, and puts it back in the roasting pot, which has been filled with water, and sets it on the fire to boil. As the water heats, the gum melts, and just before it comes to a boil he pours in all the blue-pulp liquid, then, as the mixture boils he maintains a constant stirring with a long rod. He dips up some of the mass from time to time on the rod to examine its color, and the longer it boils the darker it grows, and after about twenty minutes he takes the jar off the fire, pours off the hot water and pours in some cold. He then takes the blue-green mass out, and works it around in his hands, forming a cake of about eight ounces.¹

2. Kū tcate'ka, "white clay," clay; Navajo hlej, or glec. 175683. This clay, which is valued by Hopi potters, is in general use as a ceremonial paint for the body.

3. Ko ho ni ni cū' ta. 175684. Probably hematite ground and worked up with water. The Hopi obtain this pigment from the Kohonini country in Cataract Canyon, 110 miles west of the reservation. The color is symbolic of the northwest region. Its use is most marked in the paraphernalia of the Snake Society.

4. Cūp na la, Si bibse, berries of sumac (*Rhus trilobata*). Artificial. Cūp' na la—red paint, made as follows:

Three ears of dark purple corn are shelled and the kernels put in an earthen pot, in which are about three pints of water, and the pot is set on the fire to boil. About a quart of dried sumac berries are put in a basin, over which a yucca sieve is laid. The corn having boiled about three-quarters of an hour, the pot is taken from the fire and its contents poured upon the sieve, through which the purple-stained boiling water is strained upon the sumac berries. Some of the talc-like substance, called potato-clay [Tumin chuoka] is then produced, and the operator puts a piece about the size of a walnut in his mouth, chewing it a little to soften it. The berries and hot water having now cooled sufficiently, he spits out the clay into his hands which

¹A. M. Stephen, *Pigments in Ceremonials of the Hopi*, p. 263.

are dipped among the berries, and these and the clay he rubs thoroughly between his hands in the water. He continues chewing bits of clay and spitting them among the berries, rubbing and squeezing them until by repeated tests upon the skin he obtains the desired tint, which is usually a hue of lake. The mixture is now ready for use, or it may be dried and used at a future time by again moistening with water.¹

5. Ya la' ha. 175686. Hematite, with clay. Face paint, in ceremonies. This is the sacred paint of the warrior fraternity. It is often found buried with the dead in the ancient ruins.

6. Pa l'a'te ka. Red ochrous, earthy, hematite. 175687.

7. O wa'k ta la' si, "stone pollen." 175688. Yellow clay, resembling in color the pollen used in ceremonies. Dr. Fewkes has stated that the word for pollen, ta la si, means flower of the sun, symbolizing the belief that the light of the sun is sprinkled on the earth, fructifying it as with pollen.

8. Tü mi'n tcü''ka, clay. 175689.

The name means sandy clay. It is collected under the mesas.

9. Ca' kwa, "green." Copper carbonate, composed of malachite and azurite. 175690. The Hopi collect this paint 110 miles west of the reservation in Cataract Canyon. It is used for painting Pahos, masks, figurines, etc. Frequently found in graves in the ancient ruins.

10. Si üña. Glauber salt (mirabilite). 175691.

The name means "salt flower." Its use has not been ascertained.

11. Sikya' pi ki, "yellow bread." 175692.

Sikyapiki, "bright yellow paint," is thus prepared by some old, expert priest.

A small fire is made at any convenient court nook, or on the roof of a house, and two or three flat stones set on edge around it support an earthen pot of about two gallons capacity, and about half a gallon of water is poured into it. The expert then puts in about two ounces of Si-üña, an impure almonogen [alunogen?], rubbing it to a powder between his fingers, and in the same way adds about the same quantity of tü-wik-ta, a very fine, white, calcareous sandstone. He stirs frequently with a gourd ladle, and as the mixture boils it foams violently, and having subsided, some more of the two substances is added, and then as much of the dried flowers of the *Bigelovia graveolens* as can be crowded into the vessel, and then enough water to fill it. The contents are allowed to boil for about half an hour, during which they are stirred as much as possible. A yucca sieve is placed over a large basin and the contents of the pot strained through it, the flowers being squeezed dry and thrown away, and there is thus obtained about two quarts of a dull, yellow liquid. The process just described is repeated and the infusion is poured back into the pot, and as it again comes to a boil more of the earthy ingredients are added in small quantities from time to time.

The tint of the liquid is tested on the skin occasionally; should it prove too pale, another vessel is put on the fire and another infusion obtained by the process first described, enough of which is added to the liquid in the first pot to bring it to the desired tint. Should the liquid be too dark, more of the mineral substances and water are added. The process occupies about four hours and the mixture has then boiled away to about a pint, of a bright yellow color and pasty consistency, which on drying forms a hard cake.²

¹A. M. Stephen, *Pigments in Ceremonials of the Hopi*, p. 263.

²Idem, p. 262.

12. Katci'na sikyate' ka, "Kadcina yellow clay." Ferruginous clay. No organic matter, and therefore not an artificial compound. Probably ground with water. Of dull yellow color; used for personal adornment. 175693.

13. Wi' va vi. Arenaceous clay colored with carbonate of copper. 175694.

The paint is made by pulverizing a dull green sandstone. Mixed with water for use.

14. Kwu'' map o' wa, lignite. 175695.

Black is made from lignite coal, charcoal, soot, and corn smut. Used for different occasions.¹

15. Tū wa'k ta. Carbonate of lime ground and mixed with clay. 175696.

16. Lū ku tak ti pu. Highly bituminous coal. Navajo, Pas jini. 175697.

Ground and used as black paint.

17. Sikya' to ho, "yellow stone." Ferruginous clay. 175698.

18. Tū' ma, "sand." White, fine-grained argillaceous sandstone. 175699.

The paint is made by crushing fine white sand rock.

19. Sikya' to ho, "yellow stone." Ferruginous clay. 175700.

20. Tea káp ta, sikya te' ka. Ferruginous clay. 175701.

The name refers to a clay for making pottery.

21. Red paint. Red ochrous hematite. Navajo Indians. 175678.

22. Green paint. Carbonate of copper (malachite). Navajo Indians. 175681.

23. White paint, Glec. Arenaceous clay. Navajo Indians. 175680.

24. Black paint. A compound used only for painting sacred Kethawn Pahos, or plumed sticks. 175677.

The details of its origin or manufacture are not known. It consists of clay rich in oxides of manganese and iron with some organic matter. Dr. Matthews understood that the substance was found in the ground in this condition. Navajo Indians.

25. Yellow paint. Ferruginous clay. Navajo Indians. 175679.

26. Green paint, carbonate of copper (malachite). 71031.

27. Ca kwa' pi ki, with large proportion of pinon gum. 129075.

28. Same in buckskin bag. Collected by Maj. J. W. Powell. 22893.

29. "Five paints used in decorating masks and bodies for the *Te win ni* dance." 1, Kohonini cuta; 2, Shaqua, copper carbonate; 3, Shaquapik i; 4, Sikiyapiki; 5, Tuma, kaolin. 129074. Walpi. James Stevenson.

¹ Pigments in Ceremonials of the Hopi, p. 264.

