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THE HOPI IN RELATION TO THEIR PLANT ENVIRONMENT

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The country of the Hopi, in northeastern Arizona, is arid and semi-desert. From the last stronghold of this people on the precipitous boat-shape mesas of the high plateau, offshoots of the mountain knots of the Carrizos, one sees only barrenness, but barrenness painted beyond description. To the south the strange, fantastic outline of lava-capped buttes; to the west, beyond the plain, the faint line of the Mogollones, 110 miles away, flanked by the mighty mountain mass of the San Francisco, and to the north and east mesa after mesa fading into the horizon.

A nearer view of the plain reveals a waste of sand, sparsely dotted with the characteristic vegetation of the arid region and cut by gullies and washes, which rarely by the good will of the rain-gods give a glint of water. A few cottonwoods among the cornfields in the beds of the washes delight the eye by their dark green foliage, amid so much desolation, while on the distant mesas scattered cedars have a foothold.

Clear air, the wonderfully blue sky, and the effect of the bright sun on the many-tinted sandstone make a landscape which the dullest eye must behold with admiration.

As has been pointed out by my colleague, Dr Fewkes, the aridity of the climate has had a profound effect on the religious beliefs and practices of the Hopi. To the traveler going for the first time among the white people experiencing the severe probation of this region, water would seem to be the chief good. One might think that no conversation was ever carried on in

Arizona in which the subject of the lack of water was not a primary topic.

The rainfall is less than 10 inches per annum in the years when it rains. The snows of winter are depended on to start the spring vegetation. In August there are local thunder showers, which seem as a rule to generate over the San Francisco peaks on the west or over high mountains on the east. These cause the washes to run locally, but rarely do the washes "run through" to the Little Colorado.

Often these storms are accompanied by so much wind that the clouds are dissipated before reaching the mesas. On the strength of a storm of this character our party were libelled by the natives as being altogether bad, because we brought the wind and kept away the rain.

The wind-storms of this region are indescribable, being one of the worst characteristics of the climate. The heaviest gales are in the spring, when the wind accompanied by sand cuts the tender growths to pieces.

The winters are quite cold and windy, beginning with frosts about the close of September and often biting the early vegetation in the spring.

Owing to the elevation (6,500 feet) of Tusayan, the extreme radiation causes cool nights, which are not conducive to vegetal growth, especially as there is rarely dew.

Such is the province of Tusayan, where dwell the Hopi or "Peaceful people," driven step by step by hereditary enemies from more favorable regions centuries ago. They seem to have adapted themselves to the conditions perfectly, finding in this desert all that goes to make their life happy.

The Hopi are practically vegetarians. There is necessarily a scarcity of animal life in the desert. Sporadically wild game appears in their dietary in the shape of an occasional rabbit, prairie dog, or rat. The annual rabbit hunt of the Flute fraternity last summer, in which 25 horsemen and numerous footmen beat over a number of square miles of country, produced one specimen. Occasionally a sheep or goat, meat bought of the Navaho, or a burro varies the menu of the Pueblo.

There is quite a contrast between the vegetarian Hopi and the meat-eating tribes like the Apache and Navaho, and the contrast extends to physique and character, to roving and seden-

tary life, to agriculture and hunting, and to skill in the arts. This also points to the distinct origin of the Hopi under more favorable culture.

If the Sun is the father of the Hopi, then Corn is their mother. The Ceylonese are said to know sixty ways of cooking rice; the Hopi seem to have as many for corn. There are many interesting matters connected with the cultivation and uses of corn which cannot be entered into here. A sidelight on the frugality and farsightedness of the Hopi is shown by their storage of a reserve supply of corn for two years.

This leads to the observation that the food plants useful to the Hopi are (1) plants under cultivation, both native and acquired, and (2) plants the usufruct of nature. The Hopi brought from their priscan home corn, beans, melons, squash, cotton, and some garden plants. They have acquired peaches, apricots, wheat, and a number of other plants which they infrequently cultivate.[1] Of peaches they are extravagantly fond, and every village has orchards. As the crop failed last year, one of our Indian workmen at Winslow invested all his earnings in peaches, which he would have to carry 80 miles north to his native village. The apricot, of which I saw but a few trees, does not bear, probably from the lack of a fertilizing insect. Very little wheat is raised and that by the Oraibi, at their agricultural summer village of Moenkopi, where cotton also is grown.

Having plants which form the food-supply of the great civilized nations, one might think that the Hopi would be independent of or would disregard the native plants around them. On the contrary, there is almost no plant which the Hopi does not use in some way and no plant to which they have not given a name.

It is true that the Hopi extend their environment by long journeys for various substances. Every berry patch for many miles around is known and visited; a journey of 200 miles or so for salt from the Grand canyon, wild tobacco from the Little Colorado, sacred water from Clear creek, or pine boughs from San Francisco mountain, the home of the snow, is thought of

[1] The Hopi plant corn, watermelons, muskmelons, onions, beans, gourds, chili, sunflowers, squashes, wheat, sorghum, tomatoes, potatoes, cotton, grapes, pumpkins, garlic, coxcomb, coriander, saffron, tobacco, peaches, apricots, and nectarines. They will try any seed that is given them, and among their numerous requests the demand for seed is prominent.

little moment. To my knowledge, an Oraibi man made a continuous run of 160 miles as bearer of a note and answer. The knowledge of the resources of a vast territory possessed by the Hopi is remarkable, and the general familiarity with the names and uses of plants and animals is surprising. Even small children were able to suply the names, corroborated later by adults.

The ancient Hopi were apparently in nowise inferior to their descendants in these matters, as was proven by the excavations undertaken by our party last summer.

In the remains of any ancient culture, stone and bone relics stand as surviving a multitude of other articles which have perished. In many cases even bone, horn, and shell have perished and stone only has endured. It would seem that in many or most cases stone implements represent a very small part of the whole culture. While stone implements are welcome as some clew to the life of a prehistoric people, they are merely better than nothing. Pottery, carvings, and metal make the story somewhat clearer.

There is a tendency to lay too much stress on collections of stone implements *per se*, while their main interest is in their rehabilitation by surviving usages in the present.

These remarks are evoked by a field study of the Hopi tribe of northeastern Arizona with regard to their ethnobotanical and zoological environment and by a comparison of the stone relics found on the surface and in the ruinous dwellings of three ancient Hopi pueblos with the relics of softer, more perishable textures found in the cemeteries of the same pueblos.

In fact, there are some environments in which stone or imperishable materials do not exist. Imagine, for example, the culture of Mr Cushing's ancient Floridians graded by the survival of the stone or shell artifacts which they possessed.

The collection of plants made last summer forms a basis for the ethnobotany of the Hopi. It comprises about 140 species of indigenous plants, with native names and uses, extending the collection made by Dr Fewkes, the account of which was published in the *Anthropologist* for January, 1896. With Dr Fewkes' permission a number of the spring plants in his list have been incorporated in the following list for the sake of completeness.

The determination of the plants was made by Dr J. N. Rose, of the National Museum. The collection, neatly mounted and

catalogued, is regarded as worthy of being placed in the national herbarium.

These plants fall under a number of classes, according to their uses for food, architecture, dress and adornment, domestic life, domestic arts, agriculture, medicine as folk medicine and empirical medicine, religion, and folk-lore.

Food

Kwákwi, Sporobolus cryptandrus strictus Scribn. Seeds ground with corn to make a kind of cake greatly enjoyed by the Hopi.

Shíbna, Astragalus pictus filifolius Gray. Roots eaten for food.

Tüichima, Pectis angustifolia Torrey. Much sought after and enjoyed boiled with green corn (shammi). The Zuñi also eat it.

Tümi, Cleome integrifolia T. & G. Leaves boiled with green corn.

Tümininingiwa, Chamæsaracha coronopus Gray. Berries are eaten.

Wikiákshopi, Epilobium coloratum Muhl. Used in making bread.

Wiwa, Acanthocheton Wrightii Torr. Cooked as greens with meat. It is known as the "ancient Hopi food," and is gathered and strung in long bunches, which hang in nearly every house. The Hopi recount that this plant has warded off famine a number of times, springing up as it does before the corn is filled.

Worshtusha, Panicum obtusum H. B. K. Seeds eaten ground with corn.

Üñátki, Atriplex argenteum Nutt. The salty leaves are boiled with fat and eaten; "very sweet." This is the earliest spring plant used for food (Fewkes).

Katókia, Dicoria Brandegii Gray. Flowers and seeds ground up and eaten.

Kōtóki, Chenopodium cornutum B. & H. Seeds and flowers eaten, the former ground and mixed with meal to make dumplings wrapped in corn-husk and called somipiki.

Kébi, Lycium pallidum Múrs. The berries, which are much desired, are eaten raw or are dried for winter use.

Küsüñ'a, Dalea lanata Spreng. The roots are wholesome for food. They are scraped and eaten raw as a sweet.

Lakápa (probably Spanish), Phoradendron juniporinum Engelm. Used as a substitute for coffee.

Léhü, Eriocoma membranacea (Pursh) Beal. Seeds used in ancient times for food.

Mashiláshi, Solidago missouriensis Nutt. The young leaves are eaten with salt.

Müúñtoshaba, Poliomintha incana Gray. The leaves are boiled and eaten; the flowers are rubbed up and used as a flavor, which the Hopi say "tastes like brown sugar." The Mentha canadensis is also eaten as a relish.

Nünü, Sporobolus cryptandrus flexuosus Thurb. Seeds used for food.

Patáñwuba, Reverchonia arenaria Gray. The berries are sweet and wholesome.

Pihála, Portulaca retusa Engelm.? Plant eaten by Hopi.

Tü'mna, Solanum Jamesii Torr. The wild potato. The tubers are gathered, mixed with clay, and eaten.

Only two narcotics are known to the Hopi, one being Píba, or tobacco, the two species gathered being Nicotiana trigonophylla Duval and the N. attenuata Torr., and the other Shemóna, Datura metaloides DC. The use of the latter is extremely rare and is much decried by the Hopi.

Two plants are chewed in the way of chewing gum, Kopóna, Sphæralcea augustifolia Spach., and Poáwi, Eriozonum corymbosum, the mucilaginous stems of which are employed.

Ishü, Stanleya albescens Jones. The leaves are boiled and eaten in the spring.

Pasípna, Astragalus pictus filifolius Gray. The roots are eaten raw as a sweet.

Yowípsi, Ribes cereum Dougl. The berries are eaten.

Yün'yü, Opuntia. The stem is boiled and eaten in the spring when food is scarce.

Samóa, Yucca baccata Torr. The fruit is eaten.

Hési, Calochortus aureus Watson. The root is eaten raw.

Sü'rswa, Chenopodium album L. The leaves are boiled and eaten with fat.

Posíüh, Amaranthus blitoides Watson. The seeds were formerly used as food.

Nanákopsi, Monarda citriodora Cerv. This plant is boiled and eaten only with hares.

Mü'ha, Lygodesmia grandiflora T. & G. The leaves are boiled with meat.

Lüktánkya, Artemesia dracunculoides Pursh. "In the early spring the leaves are gathered and brought home, baked between hot stones, and eaten after dipping in salted water" (Fewkes).

Kuranto (Spanish), Coriandrum sativum L. The plant is dipped in stew and eaten as a condiment.

Sâle, Mentzelia albicaulis Dougl. Seeds are parched and ground; it is eaten in pinches from the wicker tray in which it is served (Fewkes).

Hoyávako, Atriplex confertifolium Watson. Its scented leaves are boiled in the water used to mix corn pudding.

House-building

Wórshi, Muhlenbergia pungens Thurb. Bunches of this grass are used in the upper layer over the kahabi brush in the roofs of houses.

Kahábi (no specimen). Brush from this shrub used as the first layer in the ceiling and roof.

Pashihürpbe. Populus monolifera Ait. For roof beams. The most valuable tree known to the Hopi, by whom it is planted.

Móhu, Yucca angustifolia Pursh. Woven to make hoods for fireplaces.

Dress and Adornment

Hóko, Juniperus occidentalis Hook. The seeds are pierced and strung as beads. The ancient graves yield examples.

Avátsi, Pentestemon ambiguus Torr. The flower is worn for adornment.

Ishákana, Verbesina enseloides B. & H. Flower worn by children in the hair on the forehead.

Wórshi, Muhlenbergia pungens Thurb. The flower stem is used for hair-brushes.

Wupámansi, Castilleia linariæfolia Benth. The flowers are worn for adornment by the girls. The name means "the great girl flower." It is one of the very few attractive and beautiful flowers of this region and may be appropriately called the Hopi national flower.

——, Solanum elæaginifolium Cav. The yellow seed apples of this plant are often strung for necklaces.

Domestic Life

Hanoshivápi, Bigelovia graveolens Gray. So named because the Tewans of the pueblo of Hano carry great bundles for firewood.

Hóko, Juniperus occidentalis Hook. Called "arrow wood." The principal firewood; from the bark the slow match is prepared.

Kotókshiluvi, Parryella filifolia T. & G. The twigs of this plant are used for snow brooms.

Tü'vü, Pinus monophylla Torr. & Frem. Excellent firewood. The gum is used for chewing and in the arts.

Móhu, Yucca angustifolia Pursh. The root is used for soap, notably for washing the hair in religious ceremonies.

Topílchi, Humulus lupulus L. Wild hops are used to make yeast, according to Mongwe.

The shells of gourds are much prized for dippers, funnels, and other vessels.

Towü'vapi, Bœrhavia erecta L. The plant, which possesses sticky leaves and stems, is sometimes hung in the houses to catch flies.

Samóa, Yucca baccata Torr. The root is used for soap.

Müyitka, Senecio douglasii DC. The top of this plant is used as a brush to remove the hair spines from prickly-pears.

Arts

Sü'ovi, Atriplex canescens James. The ashes of this plant are used to give a gray color to piké.

Kómo, Amaranthus sp. Cultivated in terrace gardens around the springs and used for dyeing piké red.

Komótoshu, Amaranthus Palmeri Watson (?). From the seeds a red dye is prepared for Kachina piké, a paper bread consumed during the Kachina dances.

Ohâishi, Thelesperma gracile T. & G. The whole plant is used to make red-brown dye for basket splints.

Akàüshi, Helianthus petiolaris Nutt. The blue dye which the Hopi impart to their blankets is prepared from the seeds of the sunflower.

Ásа, Sisymbrium canescens Nutt. The seeds of this plant are ground up in a stone mortar, forming an oily liquid, which serves as a medium for the iron paint used in pottery decoration.

Móhu, Yucca angustifolia Pursh. This plant has many uses in the arts for basketry, paint brushes, tying material, etc.

Kotókshiluvi, Parreyella filifolia T. & G. The ashes of this plant are used to color piké.

Tü vü, Pinus monophylla Torr. & Frem. The gum was used as cement in the ancient turquois mosaics as it is in the modern. A few specimens of pottery made by Nampio are glazed with piñon gum.

Shemótala, Calamovilla longifolia (Hook) Hack. The long canes are neatly twined into the ceremonial wedding-blanket covers.

Pieces of gourd are made into smoothers for pottery.

Cübi, (?) Rhus trilobata Nutt. The twigs are used for coarse basketry.

Samóa, Yucca baccata Torr. The root is used for soap and the leaves for basketry.

Patü'saka, Panicum autumnale Bosc.

Tákashü, Hilaria Jamesii Benth. The grass used by women in making the coiled baskets.

Asapzrani (Spanish), Carthamus tinctorius Linn. Saffron, used to dye piké yellow.

Agriculture and Forage

Harü'si, Bouteloua oligostachya (Nutt.) Torr. Forage grass for animals.

Pawia, Franseria Hookeri Nutt. Food for sheep.

Poshíotosü, Amaranthus blitoides Watson. Also eaten by sheep.

Tahoyókpi, Chenopodium olidum Watson. Also eaten by sheep.

Kwákwi, Sporobolus cryptandrus strictus Scribn. Fine forage grass

Sü'obi, Atriplex canescens (Pursh.) James. Eaten by horses.

Takáshü, Hilaria Jamesii (Torr.) Benth. Good grass for horses.

Tavótka, Eurotia lanata Moq. Horses like it very much. The twigs are eaten by them in winter.

Pězrü, Aristida purpurea Nutt. Bad forage for animals on account of the awns.

Kwavü'tushü, Munroa squarrosa Torr. This grass is covered with fine down, which causes horses to cough and choke when they attempt to eat it.

Tuüñwei, Oxytropis Lambertii Pursh. This is the "loco weed," so injurious to horses.

Homútskapü, Krynitzkia sp. The evil burs get into wool and in many ways are troublesome to man and beast.

Brush from a number of plants is employed in the cultivated fields for windbrakes or sand sheds. Brush is also placed in gullies to prevent washing, and brush dams are made to form level places by the collection of the sediment. Crops are planted on the deltas so formed.

Medicine

Chachâume, Townsendia Arizonica Gray. Women boil the plant to make tea to induce pregnancy.

Chiuíña, Astragalus mollissimus Torr. Said to be a good medicine for headache; the leaves are bruised and rubbed on the temples.

Monáhaña, Artemisia Canadensis Michx. Rubbed up and placed on the temples for headache.

Mâiĕtka, Senecio douglasii DC. Rubbed on the limbs for rheumatism and soreness of the muscles.

Mamáuti, Aster sp. Tea is made from the flower and given to young girls to make them fruitful.

Pĭñá, Polygonum ramosissimum Michx. Ground on a stone and used as a plaster; the effect is heating. Women drink a tea infused from the leaves to increase milk.

Poâhi, Erigonum corymbosum (?). Infusion made and drank by women to expedite child-birth.

Tahoóvapi, Gaura parviflora Dougl. Tea made from the root for snake bite.

Tüwázhriapi, Ranunculus cymbalaria Pursh. Known by the Hopi as "Navaho medicine."

Wütákpala (no specimen). Rubbed on the breast or legs for pain.

Ishákana, Verbesina enseloides B. & H. Used on boils or for skin diseases.

Kawíkana, Croton Texensis Muell. Taken as an emetic to relieve the stomach.

Koicháña, Allionia linearis Pursh. Boiled to make an infusion for wounds.

Kokyáña, Brickellia Wrightii Gray. Called "Navajo tea."

Lakápa (Spanish), Phoradendron juniperinum Engelm. The Navaho and Hopi make a beverage, which they say is like coffee, from this mistletoe. A larger species on the cottonwood tree, called "lo mapi," is used as medicine.

Maítbĭ, Bigelovia douglasii stenophylla Gray. Infusion used for bathing bruises and wounds.

Ohá'ishi, Thelesperma gracile T. & G. Tea for headache is made from this plant.

Pámnavi, Gutierrezia euthamiæ T. & G. Tea for fever is made from this plant, in combination with three other plants.

Piiñà, Polygonum ramosissimum Michx. Ground on a stone and used as a heating plaster.

Poáhi, Erigonum corymbosum (?). Infusion drank for disorder of the stomach.

Tavótka, Eurotia lanata Moq. One of the ingredients of tea for fever.

Tawázhriapi, Linum rigidum Pursh. Taken as tea for stomach disorder.

Tüpeloválchu, Chrysopsis villosus Nutt. Pain in the chest cured by a tea made from the leaves and flowers.

Wéi, Aplopappus sp. The root is boiled to make a tea for cough.

Páláñi (no specimen). The plant grows at Awatobi, where the roots are gathered to make tea for colds.

Kütsibsü, Biscutella wislizeni B. & H. The leaf is dried, rubbed to a powder, and sprinkled on wounds.

Sübi, Rhus trilobata Nutt. The buds are regarded as medicinal.

Napalü'ña, Artemisia tridentata Nutt. "An infusion of the leaves is drank by a person whose ailment is supposed to be in the ilium."

Pitñá, Asclepias verticillata L. An infusion is drank to increase the flow of milk.

Religion

Shĕmótala, Calamovilfa longifolia (Hook.) Hack. Carried in the Humis Kachina.

Chuóshi, Aster sp. Mixed with sacred tobacco.

Maíbi, Bigelovia douglasii stenophylla Gray. A component of the Shaqua paho.

Tüminala, Martynia proboscidea Glosc. Part of the soyalana paho; plant male.

Hovápi, Artemisia tridentata Nutt. Used in the flute paho.

Pámnavi, Gutierrezia euthamiæ T. & G. Used in the snake paho.

Tewi, Sarcobatus vermiculatus Torr. One of the four sacred kiva fuels.

Pashehürp'bi, Populus monilifera Ait. The peeled shoots are used in preparing the pahos or prayer-sticks for all ceremonies. Tihus, parts of masks, fire-sticks, plume boxes, etc, are carved from the wood.

Hohoyána, Physaria Newberryi Gray. "This plant is one of the ingredients of the snake charm or antidote drank after the Snake dance by all who have taken part as snake priests" (Fewkes).

Sorósi, Delphinium scaposum Greene. Flowers are ground with corn to make blue meal, "blue pollen," for the flute altar.

Cübi, Rhus trilobata Nutt. Twigs used for ceremonial purposes; the branches are one of the four ceremonial kiva fuels.

Póna, Equisetum lævigatum Braun. Dried and ground with corn to make the sacred bread called ponoviki.

Hési, Calochortus aureus Watson. The flowers and seeds are ground with meal to make yellow pollen for the flute ceremony.

Kü'iña, Artemisia frigida Willd. Used in pahos.

Süóvi, Atriplex canescens James. One of the four kiva fuels.

Sivwápi, Bigelovia Howardi Gray. The dried plant is one of the four kiva fuels. "An infusion of the flowers is used to color a chalky stone employed as a personal decoration during ceremonies" (Fewkes).

Kivi, Lycium pallidum Miers. The entire shrub is used in the Niman Katcina.

Pi'ba, Nicotiana attenuata Torr. Smoked on all ceremonial occasions.

Cotton is cultivated almost exclusively for ceremonial purposes, its chief consumption being for the string employed in assembling the elements of the pahos.

FOLK-LORE

Kolnákawa, Erigonum Thomasii Torr. The big rat, Kalna, eats this plant; hence its name.

Pámnavi, Gutierrezia euthamiæ T. & G. This plant, which grows with the mäíbí, Bigelovia douglasii stenophylla Gray, is called the child of the mäíbí.

Pi'iñá, Polygonum ramosissimum Michx. This plant exudes a milky substance when broken, and hence is used to increase a scanty flow of milk in nursing mothers.

Powü'üsi, Abronia micrantha (Torr.) Choisey, and A. fragrans Nutt. Placed on a child's head to induce sleep.

Sôayañ'a, Alliona nyctaginea Michx. (Oxybaphus nyctagineus Sweet). This plant is named for the bat. When babies will not sleep in the daytime they are washed in a decoction of this plant, because the bat sleeps during the day.

Tüminala, Martynia proboscidea Glosc. The plant is male; gender of plants.

Hohoyáña, Physaria newberryi Gray. Named from the Asida rimata or prayer beetle and nahu charm.

Ása, Sisymbrium canescens Nutt. One Hopi clan bears the name of this plant. (See legend given by Dr Fewkes in *The American Anthropologist* for January, 1896, p. 15.)

Léhü ,Oryzopsis cuspidata Benth. Also the name of one of the clans.

Máryitka, Senecio douglasii DC. The name means "mole corn." "Many plants are thus assigned to animals supposed to hold them in special favor" (Fewkes).

The following summary, in which the duplications have not been eliminated, gives the number of plants falling into the general classes. As there are probably not over 150 indigenous species in the environment, this list shows the thorough way in which the Hopi have made use of their plant surroundings.

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Comparatively late in the study of the new science of ethnology has attention been called to the preëminent importance of the

environments of tribes. The idea has been known for centuries; the scientific renaissance brought it into prominence along with more careful methods of observation and more accurate division of the field into special subjects for observation.

While tribes have been modified by environment and by changes in environment, too much, perhaps, has been attributed to it, from incompleteness and lack of observation.

Years ago some writer propounded a theory for the various complexions of the human race, explaining that men became lighter in proportion to their distance from the equator. Buckle produced also many similar delusive generalizations, giving too much influence to material surroundings and too little to the genius and brain of man.

Without doubt, in the coming years a sufficient body of conscientiously observed facts will be collected from which generalizations may be deduced. There are, no doubt, subtle influences due to life in the desert, the plain, the mountains, and the seashore and islands, ease or difficulty of intercourse, which modify peoples. It is well understood that there is a relation between environment and health, and that the struggle for subsistence makes or unmakes peoples.

The Hopi are one of the most interesting of the North American tribes. Their long isolation from geographical conditions has kept them unmodified by the influences which have changed most native tribes. In the last few years the wedge of civilization has entered, however, and before long it will be too late to make the studies which are so desirable and of so much importance to the science of ethnology. It is earnestly hoped that the Hopi may be thoroughly studied in regard to their natural environment, ceremonials, and arts as speedily as possible.

THE LAMBORN BEQUEST.—By the will of the late Dr Robert H. Lamborn the Academy of Natural Sciences of Philadelphia has been bequeathed his entire estate, aggregating about $200,000, the income to be used for biological and anthropological research. It is expected that the Academy will now be enabled to have a curator of archeology, its excellent collections in that line having necessarily been somewhat neglected in the past owing to the lack of funds.