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MILWAUKEE PUBLIC MUSEUM

Founded By The City of Milwaukee, 1883

To remain "... As a free museum for public instruction and the preservation of materials and helps for scientific investigation."

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JOHN M. **DOUGLASS**

1912-1951

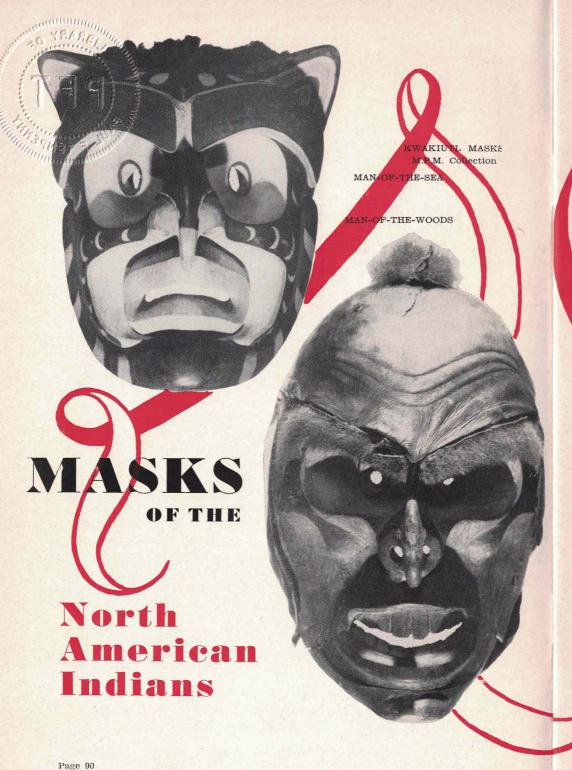


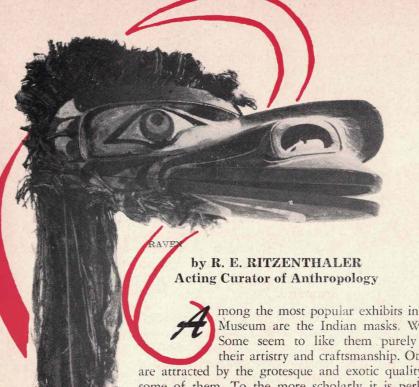
The Museum staff suffered a saddening loss in the unexpected death of one of its younger members, John M. Douglass, of the History Division, on January 26, 1951. John had been in ill health for several months but after nis return from the Mayo Clinic, where he underwent surgical treatment, he appeared to be progressing satisfactorily to the extent that he was able to resume his duties part time at the Museum. However, a cold he contracted in his weakened state resulted in complications from which he did not recover.

It was as a member of the Division of Anthropology that John started work at the Museum. His intense interest in this subject carried over into the History Division to which he was transferred in 1946, and led him to undertake a study of the historical aspect of the Wisconsin Indians. Shortly before his death he finished the writing of a handbook on "Wisconsin Indian History" which is scheduled for publication in the near future.

Music was one of John's special interests and he was well known in musical circles for his technique on the guitar and banjo. Many a Museum party was enlivened by the music he and his wife, Margaret, played for us.

Mr. Douglass had been on the Museum staff for almost six years, and he will be greatly missed. The Museum family and friends of the Museum extend deepest sympathy to his wife, Margaret, and his children, John and Margaret.





mong the most popular exhibits in the Museum are the Indian masks. Why? Some seem to like them purely for their artistry and craftsmanship. Others are attracted by the grotesque and exotic quality of some of them. To the more scholarly it is perhaps the fascination of discovering the use and meaning of them, or speculating as to the psychological reasons for peoples using such objects. Whatever the reasons, masks do have a special appeal for the museum visitor.

What is a mask? Simply defined, a mask is "... anything used to cover or disguise the features." It may represent another being, or serve some practical purpose. Masks have a world wide distribution, being found as a product of native peoples in many of the islands of the South Pacific, and on all the continents with the exception of Australia. They reached a particularly high development in such areas as Melanesia, Indonesia, southeastern Asia, China, Japan, and Africa. In the Western Hemisphere masks were in use by the Indians of North America, Central America, and South America in both prehistoric and modern times. We intend to illustrate and describe for you some of the interesting masks used by the Indians of one area, North America.

There is definite archeological evidence that masks were being used by the Indians before the coming of

the white man to North America. Unfortunately the majority of information on the distribution and types of masks used prehistorically has been lost because masks are usually made of such perishable materials as wood and hide, which have little chance for survival for any considerable length of time in a grave or refuse pit. However, from various parts of the country come reports of masks recovered by archeological technique.



In Barron County, Wisconsin, for example, two funerary masks were uncovered in 1932. These occurred in a burial mound with materials identified as Hopewellian, a cultural group of people flourishing in Wisconsin an estimated 2000 years ago. A layer of clay had been pressed directly onto the skulls, the facial features modeled, and in the process of cremation the clay had hardened into a pottery-like mask that was very apparent when the skeleton was excavated.

One of the most interesting collections of prehistoric Indian masks was unearthed at the famous Spiro site in Oklahoma. These masks are made of wood to represent human faces, and one has a deer antler headdress. The eyes, mouth, and ear plugs are inlaid with shell. These masks are an estimated 500 years old.



Courtesy, University of Oklahoma Museum



Courtesy, University Museum, Paila.

Perhaps the richest discovery of ancient masks occurred on one of the Florida Keys. In 1897 Frank H. Cushing unearthed a series of rather remarkable wooden masks and maskettes on Key Marco, just off the west coast of Florida. They were painted in several colors, and represented both human and animal forms. The thin human masks warped beyond recognition after their removal from the wet soil and subsequent drying, but the heavier animal masks retained their shape. The deer maskette illustrated here is seven and one half inches in length, not counting the

long movable ears. The eyes were originally set with tortoise shell. The Key Marco finds have been dated at about 1500 A.D., and are thought to be products of the Calusa Indians who occupied this region up through early historic times.

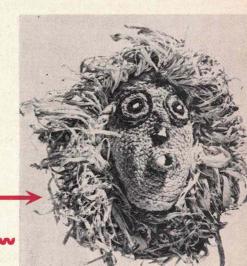
Besides such direct archeological evidence for the prehistoric use of masks by the Indians, it is logical to assume that such groups as the Iroquois, Pueblos, and some of the Northwest Coast tribes who were using masks at the time of white contact had already developed their products during the prehistoric period.

Turning now to the modern scene, we find three areas of North America where masks were in important use by the Indians since the coming of the white man: the East, from New York state to North Carolina; the Southwest, chieflly in the states of Arizona and New Mexico; and the Northwest Coast, particularly centering in British Columbia.

Perhaps the most grotesque and startling masks to the average person are the falseface masks of the Iroquois Indians of New York. These are carved of basswood and painted a solid red or black. The weird effect is produced

by the distorted features, such as long crooked or hooked noses, huge twisted and funnel-shaped mouths, large and deep facial wrinkles, sunken cheeks, faces without chins or sharply pointed ones.

Such masks were worn by the male members of an organization known as the False-face Society at special public ceremonies of which the chief purpose was to cure the sick. Besides this formal curative ceremony, the sick could also be privately treated at home by the false-face members. A kindred society known as the Husk-faces wore masks made of corn-husk braids coiled and sewn together.



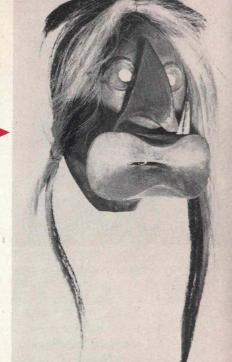
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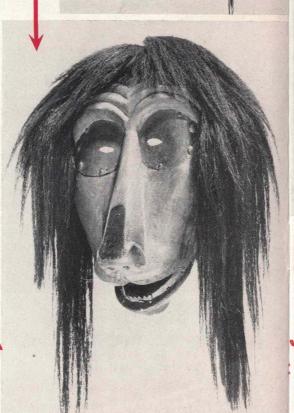
The false-face masks were carved either according to a vision, or to the artistic whim of a person to represent mythical, bodiless beings who dwelt in the forests, and whose aid could be invoked for curative purposes. In the old days the mask was carved in the living tree. The carver went to the forest, selected a tree, burned tobacco at the base as an offering, and roughed out the mask in the trunk. A notch was cut above and below the mask which was then split from the tree. The tree did not die. The carver took the mask home and finished carving it at his leisure. When the carving was completed it was painted red if the tree had been selected in the morning, or black if it had been selected in the afternoon. Horsehair was fastened to

the head portion to simulate human hair, and after the introduction of metal, the eyes were often encircled with metal strips which would create an eerie reflection when the wearer danced before an open fire.

Although the false-face ceremony is still practiced by the Iroquois, the art of making the masks has to all intents and purposes disappeared. While some of the fine old masks are in the possession of the Iroquois today, the majority exist as prized specimens in the hands of private collectors and Museums.

M.P.M. Collection





Two other tribes in the East, the Cherokee and Delaware, were mask users. The Cherokee of North Carolina, linguistic relatives of the Iroquois, wore wooden masks in the so-called Booger Dance to impersonate the whites, negroes, and strange Indians who invaded their territory in early historic times. The "invaders" dressed and acted like rowdies in a dance dramatizing the offensive and obscene behavior of these strangers. Another type of

wooden mask was employed by the medicine men for curative purposes. The Cherokee also made masks out of animal hides which were worn for both magical and decoy purposes in the hunting of animals and fowl.

The Delaware were another mask-using tribe of the East, and have continued the practice despite a series of removals of the main band from the East to Indiana, then to Kansas, and finally to Oklahoma. The wooden and corn-husk masks resemble those of the Iroquois, from whence they probably stemmed, but the use of them is very different. These are worn in the Corn Harvest dance, an annual thanksgiving festival to Mother Corn, in which a plea for good health was included. Another use of masks for religious purposes was in the Big House ceremony in which a solo dancer masks to assume the power of a guardian spirit having control over sickness and the hunting of deer.



Courtesy, University Museum, Phila.

Leaving the East we move across the major portion of the continent and over the Rocky Mountains to find the two remaining areas of mask-using Indians. There is only one place, Oklahoma, in this broad central portion of the continent where masks are used, and this is a result of displaced tribes from the East who brought the masking complex with them.

One of the richest areas for masks is the Southwest, particularly in the states of Arizona and New Mexico, where masks are in important use even at the present time. Here dwell the Pueblo peoples such as the Hopi and Zuni in a desert environment, largely dependent upon agriculture for a livelihood. They have developed many elaborate religious ceremonies based on the planting, raising, and harvesting of crops, particularly corn. Masks play an important part in these and other religious dramas. Most of the ceremonies are centered about a prayer for rain, as for example, the famous Hopi Snake Dance, and this interest is reflected in the art symbols representing rain, clouds, and lightning which are found in profusion on their masks and other religious objects.

One of the very colorful masked dances is the Hopi Katchina ceremony, held for the purpose of bringing rain and good health by impersonating, with the aid of masks, the supernatural beings known as katchinas who are said to come down from their mountain homes twice a year to visit the Hopi. The Zuni also employ elaborate masks in their katchina dance, and in their important winter festival, the Shalako.

As for the masks themselves, there are three basic types used by the Hopi: the half mask, the full mask, and the helmet. Some are made by the priests, some by laymen. Some belong to individuals, others are the property of a clan.







The half mask is made of rawhide to cover the face from the hairline down to the mouth. Hair bangs line the mouth and chin, but still allow the wearer to breath freely and sing. They are usually painted turquoise with a black border around the eye slits, and a series of colored squares painted along the lower edge of the mask.



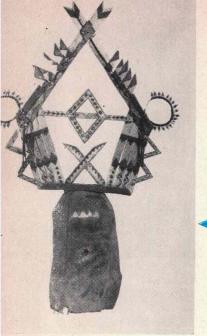
The full mask is much the same except that it covers the entire face with an opening for the mouth, a long horsehair wig, and sometimes moulded leather noses are attached.

The third type, the helmet mask, is made of rawhide in a cylindrical shape to cover the entire head, with a dome-shaped piece added to enclose the top. To this is added a series of accessories such as wooden ears and noses, stepped tablets on the crown, feathers, decorated slats, and basketry features. As the lower edge of the helmet rests on the shoulders of the wearer, a considerable weight can be supported. The helmet and accessories are colorfully painted and decorated with traditional symbols.

The interest in masks results in an almost endless variety of imaginative styles which add color and drama to the already elaborate ceremonial life of the Pueblos.

Neighbors of the Pueblos, but with a very different type of culture and masking complex are the Apache Indians. Here is found the so-called "Devil Dance" mask, a spectacular, but not particularly appropriate name. With the aid of such masks the men impersonate supernatural beings believed to live in the nearby mountains. The dance is performed for religious as well as purely social purposes. One of the chief functions of the dance is to cure the sick and ward off impending plagues.

The masked dancers also perform an important role in the coming-of-age ceremony for girls. At such puberty ceremonies they appear early in the evening to drive away any evil lurking about, and may even perform a cure or two, but their main function is to provide entertainment for the onlookers by demonstrating their dancing abilities.



The Devil Dance mask consists of a cloth or buckskin hood which fits over the head with tiny openings for the eyes, and sometimes an opening for the mouth. The upper part of the hood is stitched onto a horseshoe-shaped wooden hoop that fits over the head of the wearer and supports a slat superstructure which projects high above the head. The only decorative part of the mask is the elaborate superstructure made of thin slats sewn together to form a design. The slats bear colored designs usually in black, red, and yellow. Eagle down may be attached to the top, and socalled "earrings" dangle from the crosspieces. These are sets of two or four cylindrical pieces of wood which knock together to produce a noise when the dancer is in motion.

A third group in the Southwest, the Navaho Indians, make a limited use of masks in connection with some of their many elaborate religious rites. One type is a limp deerskin hood which fits over the entire head of the wearer who impersonates one of the gods called "Yebachai" in the Night Chant, a six-day curing ceremony. To impersonate the female Yebachai a square piece of stiff leather is worn to cover the face only.

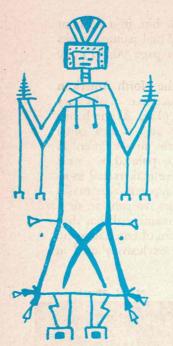
One use of the mask is in connection with initiating young girls and boys into the tribe. Another, and rather interesting use of the mask in the Night Chant is in the tree and mask rite. A sapling is ceremonially set in the ground and held in a bent position. A string leads from the sapling to the mask on the patient's face drawing the disease out of his head.

The majority of the masks are the permanent possessions of the priests,

but some are made only to be used once. In the rites of the Evergreen Dress of the Night Chant, for example, the masks of yucca leaves are destroyed at the end of the ceremony by being cut in half from the patient's face, and further cutting of the two halves.

Turning now to the third masking area, the Pacific Northwest, we encounter a series of tribes, particularly in British Columbia, who made extensive use of masks. In contrast to the







NAVAHO MASK OF HASTSEYALTI

Courtesy, Brooklyn Museu

Southwest where the leather mask predominates, these coastal Indians were expert woodcarvers and made their masks of cedar.

The masks were used primarily in clan ceremonies. Among the Haida, for example, there were two clans, the Eagle and the Raven. Each family within a clan had a crest, a totemic emblem which denoted its rank and social position. A family owning the killer-whale crest, for example, believed that it was descended from that animal, and could achieve certain power and favors from it. The crest was inherited through the female line.

Among the Haida and Tlingit Indians a medicine man had a mask to represent each of his spirit helpers. When he felt in rapport with a particular one he would don the mask representing that spirit and perform the cure.

The masks were carved by the men and painted in black, red, and bluegreen. They were highly conventionalized human and animal forms. One symbol could designate an animal. For example, a flat, cross-hatched tail represented the beaver no matter what the rest of the carving was like; and the large dorsal fin of the killer-whale was all that was needed to portray that crest. Some of the masks were quite elaborate, being equipped with movable parts so that the lower jaw of an animal mask could be opened and shut by manipulation with a string. There were also double masks, such as the one representing a clan ancestor of the Kwakiutl in an angry mood, the face of which could be swung open to show him in a pleasant one. Needless to say these artistically carved and painted masks of the Northwest Coast Indians (masks on page 90, 91) are collectors' items today.

In this quick visit to the mask areas of the North American Indian we have tried to demonstrate the fact that masks vary greatly as to art style and use from place to place. As the habits and ways of life of the Indian differed from area to area, often radically, so did the form and function of the masks differ. A few similarities in masking patterns could be pointed out, such as the fact that men were almost the exclusive makers and users of masks rather than the women. It is also apparent that masks were predominantly used in religious or curative context, or a combination of the two, but it should be remembered that they might also serve as a serious or humorous form of entertainment. It is also apparent that masks were almost exclusively used in group rather than individual activity.

TLINGIT INDIAN DANCE

M.P.M. Mural



MONARCH MIGRATIONS

by KENNETH MacARTHUR

Assistant Curator of Lower Zoology



In late summer one of Wisconsin's largest and most attractively colored butterflies, appropriately called the Monarch, is subject to some strange instinct and bands with others in large numbers, finally flying south in a great seasonal migration. The flight originates in Canada, usually about the last week in August, when the occasional nightly frosts warn that summer in the north country is drawing to a close.

As the monarchs wing southward, additional members join their ranks from the local butterfly populations along the way. During the migratory flight, the monarchs hold to no definite formation as do the wild geese and ducks. The butterflies fly in scattered fashion, usually several hundred feet in the air. In 1888 one Maryland observer wrote of the monarch as follows: "The whole heaven was swarming with butterflies. There were an innumerable multitude of them at all heights from say 100 feet to a height beyond the range of human vision except by the aid of a glass. They were flying due southwest in the face of a stiff breeze."

The flights through southern Wisconsin occur usually during the first week in September. The monarchs seem to prefer following the edges of the Great Lakes; perhaps they are hesitant about going out over large bodies of water, at least during the pre-migration period when they are feeding and gathering in groups. In certain years of exceptional abundance they may be observed in this area clinging to trees and shrubs in great numbers, particularly near the shores of Lake Michigan.

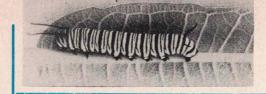
The abundance of the monarch under such conditions is indicated by the experience of the writer who in one instance helped pay a good share of his expenses during his first year at college by taking full advantage of this butterfly's social inclinations. On a single Saturday early in September, in the fields north of Milwaukee where the monarchs were observed assembled in masses preparatory to launching themselves into the air for a continuation of their southward flight, many thousands of the insects were easily gathered, in gallon-sized killing jars. After the insects had been carefully placed in small manilla envelopes, they were shipped to the large biological supply houses in Chicago and New York, and ultimately served a useful purpose in schools as biology study material. That same year one of

the largest insect supply centers in the country, Ward's Natural Science Establishment in Rochester, New York, had a serious fire that destroyed its vast stocks of stored insects. The need for replenishing their supply provided an additional outlet for several thousand specimens. After the above transactions, that particular commodity became a drug on the market. At the time of the above episode it had been the writer's intention to dispose of a sizeable share of the "papered" specimens to the Southern Biological Supply Company at New Orleans, but when the letter offering monarchs in wholesale amounts finally reached that southern city, the migratory monarchs had also arrived in such great force that the company's own men were sent out into the nearby fields, collecting a quantity more than sufficient to meet their needs.

The butterflies arrive in the area bordering the Gulf of Mexico early in November. In September, 1949, an unusually large migration of monarchs occurred here in Wisconsin. I had been corresponding with Mr. P. Viosca of New Orleans at the time and thus had the opportunity of comparing observations of the insects' activities at two widely separated points along their flight route. Mr. Viosca witnessed the flight as it arrived on the Gulf area later that fall. On the 15th of November he wrote me, as follows:

"Thursday November 6 great numbers of milkweed butterflies flew southward across Lake Pontchartrain. For more than a week they had been gathering their forces along the northern shores of the lake, where they clustered on live oak and wax-myrtle. Then suddenly one day, as if by signal, they arose almost in unison and made the long flight across the water. Late that same afternoon they arrived on the New Orleans shore. I could see them flying over my house by ones, two and threes. When they reached the rear of the house, many of them dropped suddenly and alighted in a fig tree. By nightfall the tree was covered with so many of the large brown butterflies that it gave one the impression that the leaves of the tree had suddenly changed color. They fed during the following days on the nectar of golden rods and asters (as they do in Wisconsin) quickly building up the energy lost in the long flight over Lake Pontchartrain. At night they roost in trees conveniently located with respect to their feeding grounds. Strangely their favorite roosting trees in this area are the imported Asiatic camphor tree





MONARCH CATERPILLAR

and the introduced China-berry. When the mercury dips still lower, heralding the approach of winter and both wild and garden flowers of south Louisiana fold up for the season, some of the butterflies again take wing and move southward toward the Gulf of Mexico. Both individual monarchs and large flights have been seen out over the Gulf. Whither do they go and whence if ever do they return?"

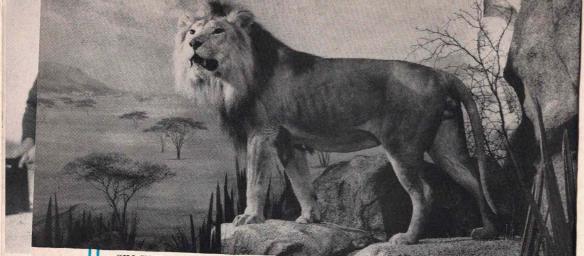
The butterflies usually pass the winter in the Gulf area, resting quietly in a semi-torpid state high up in the trees. On warm sunny days they flutter about a bit, but in cold weather they remain motionless in the limited shelter afforded by their arboreal haven.

In spring the aggregations of butterflies disband and they fly northward individually, the females dotting their eggs on any convenient milkweed plants along the route. The monarchs begin their northward push sometime in March. They or their progeny reach the latitude of southern Wisconsin in late May, and Canada in early June.

The powerful flight of the monarch is attested to by the fact that during the past several decades this winged traveler, diverted from its normal course during the autumnal migration, has apparently spanned vast bodies of water, for it has been taken alive on quite a number of occasions in Great Britain and some of the nearby countries on the Continent. It has never survived there to reproduce its kind because the milkweeds which serve as food for its caterpillar do not occur in Europe. The monarch has spread during the period of recorded history into the South Pacific area. It reached New Zealand in 1840 and was taken in Australia for the first time in 1870.

How does one account for this insect's behavior? A few moments of reflection may provide a possible clue. We are here confronted with a form incapable, apparently, of surviving the rigorous winters of the more northerly regions, but one that seemingly escapes race suicide by undergoing a seasonal migration with the approach of unfavorable weather. This situation is very unusual among the insects. Most other cyclic mass migrations of insects result in wholesale death to the participants because, for reasons unknown, they instinctively move into areas in which they cannot survive.

Many important questions regarding this phenomenon of the monarchs remain to be answered. Are some of the individuals that return to Wisconsin and Canada in early summer the same ones that winged their way southward the previous fall? Do some of the monarchs flying into the prevailing winds travel extensively in directions other than south? The writer hopes to initiate a project of marking or banding this migratory form, at least on a limited scale. A brilliant, eye-catching, fluorescent dye would be used for the purpose, with the words "RETURN MILW. MUSEUM" stenciled on the insect's wing surface by means of an atomizing paint dispenser. Perhaps the answers to the above queries may one day be stated with certainty.



SIM IN AFRICAN LION DIORAMA, M.P.M.

of your car, just as if I were a lap dog instead of a pet pussy. Wherever we went the people gathered around to stare at me, as if a lion were something new in East Africa. I remember one occasion when some natives seemed sure that I was some kind of a hyena. I presume that my spots fooled them, but every young lion has spots.

"A lion cub, like a human cub, gets his greatest pleasure in playing at the way of life of his elders, so when I had reached the age of five or six months, I just naturally played at stalking and catching whatever moved. I had developed strong teeth and powerful legs. My fore legs ended in heavily padded paws which sheathed very sharp claws. Now, this equipment could do a great deal of harm to whatever I caught, but, as I played with my human friends, I did so most carefully. I would crouch behind a box or a bush and watch you or someone else coming along. Just at the right moment I would pounce upon you and clutch you in my powerful forepaws, but never clawing or biting hard enough to do serious harm. Now and then a shirt sleeve or a trouser seat might give way, but everyone understood that it was all in play and that I was really only practicing the arts and crafts prescribed for me by nature.

"Life with you all in our various camps out in the veldt was one round of pleasure for me, but finally a day came when we all took a long journey into Nairobi, and I knew something was amiss. I groaned and worried in anticipation of some impending catastrophe. Sure enough, I soon found myself locked inside a large box with iron bars at the front. I was hoisted aboard a big ship and I hate to think what the next seven weeks at sea might have been if I had not found a good friend in the Chief Steward. He let me out of that cage and took me to live with him in his own stateroom. In fact, I had the run of the ship much as I had been free to roam about our various camps out in the veldt.

"At last we arrived in New York and I had to go back into that cage. I shall never forget my delight at again seeing you when I got ashore. There, in the express office, you unlocked my cage. Do you remember how the express agent objected to my being freed, and how he sputtered as he clambered to the top of the highest stack of boxes in the place? He talked as if I might hurt someone, and he certainly was taking no chances himself. Far from hurting anyone, I threw my arms around your neck and licked your face for sheer joy at seeing you once more.

"Then there came that long train ride to Milwaukee and our final reunion at the Museum. Here I enjoyed life for some months, and here I found not only all of my old friends of our days on safari, but also many new friends. Everyone was kind to me but I was growing so big now that some people seemed uneasy when they came to see me.

"Finally you took me out to the Washington Park Zoo and there I remained for so many years that I almost lost track of time. I had always the best of treatment there and I saw great numbers of people every day. I always looked for familiar faces and once in a while one of my old friends would greet me from the crowd. Upon various occasions you came into my cage, stroked my head, and talked to me as in the old days. But, during these latter years, I have seen fewer and fewer of my old friends and have always looked forward to the day when I might come HOME AT LAST, back to my old kopje on the Serengetti Plains, and to my good friend at the Museum."

Note: The life span of a lion out in the wild is but a few years at most. Sim's sheltered existence stretched out to a full seventeen years. The kind treatment accorded him as a cub developed an exceptionally genial disposition which he kept throughout his entire life. The same result may be expected in rearing almost any wild creature.

The cheetah speeds at seventy, The fastest thing by fur. His dashes for short distances Leave but a spotted blur.

The fastest man can hit a pace That equals twenty two. A horse by going forty miles Will win the race it's true.

If speed is what one's looking for You'd settle on the Cheetah. He'll win the race hands down because There's really nothing fleetah.



EYES OF THE PEOPLE



In this column are contributions from people who, regardless of their vocational interests and occupations, have eyes and use them, have interests and cultivate them, have ideas and express them. Many eyes cover more territory than a single pair, and many people other than specialists contemplate and appreciate the phenomena of nature at work. Here we record glimpses of the earth and man on the earth as seen through the eyes of the people.



The HUMMINGBIRD

Elsie was picking raspberries in her garden late one afternoon in July. She was a plump matron, and she was wearing a singular dress. The ground color was navy blue, with large dots almost the size of a quarter in bright yellow, green, and vivid red. Suddenly from the neighboring forest whisked a tiny object. It was a hummingbird and appeared about to land on one of the dress's attractive colored splashes. Elsie waved her hands and arms, but it returned again and again. Finally she became frantic for that little bird looked as though it would pierce her body

with its long needle-like bill. She waved her arms again and screamed. Away it flew, only to return in a few moments and perch on a small tree near her. There it sat and peered at the gay dress in seeming disappointment, for evidently it thought it had found a beautiful flower box and it still didn't appear to be altogether convinced of its mistake.

Elsie picked up her raspberry pail and went into the house. It was too hot anyway, she decided, to make a berry pie.

EMMA TOFT, Baileys Harbor, Wis.

FACT or FABLE?

by
W. E. DICKINSON
Curator of
Invertebrate Zoology

A digest of an article on the Horn of the Unicorn with a discussion of the horn, which is not so legendary, by John Tyler Bonner, Assistant Professor of Biology at Princeton University, Scientific American, March, 1951, pp. 42-43.



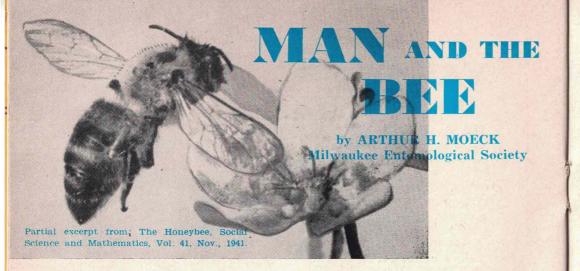
The legend of the unicorn is presented in the article with references to previous works. Its fabulous origin was prior to the Christian era, but the more clear accounts seem to come fairly late. This mythical creature resembled a horse, but had a single, spirally-grooved horn on its head. Many living animals have characteristics that seem to lend themselves to parts of the description, such as the rhinoceros with a single horn and the oryx with long, straight, laterally grooved horns.

Attention is called to the existence of horns in collections, such as that of St. Denis in Paris, San Marco in Venice, and many royal collections, where their existence seems unquestionable. Records place the length of the horns at 3 to 8 feet, 15 pounds in maximum weight, and always spirally-grooved. These horns, called alicorns, were very valuable and used by royal persons as medications.

As early as the 16th century, experiments were carried on to disprove these medical properties. The records show that in 1638 investigations indicated many counterfeit alicorns, but also that many of the horns were actually the tusks of the narwhal, one of the smaller Arctic whales. Mr. Bonner reviews the appearance of the narwhal and its methods of capture, showing that the spirally-grooved tusks (there are sometimes two) attain a maximum of 18 feet in length.

There is a theory as to how the narwhal's tusks may get this spiral twist. The formation of the animal's head shows that it starts to swim with a slight twist due to its tail action. This might be compared with the "torque" of our auto, boat, or plane engine.

The account is closed with an illustration of one of the 15th century tapestries in the New York Metropolitan Museum of Art, "The Hunt of the Unicorn."



he story of honey, a "food fit for the gods," is inextricably interwoven with the ancient rituals and folklore of numerous peoples, extending from central Europe to India, finding its greatest expression among the early Mediterranean and Asia Minor civilizations. Among the Persians honey was a sacred food. In the hieroglyphics of the ancient Egyptians the symbol of the bee stood first, as the symbol of royalty. The cuneiform tablets of the Sumerians and Babylonians, as well as the Vedas, sacred writings of India, abound with references to the bee, its honey, its wax, and the various rules and regulations governing the same.

Honey, as a tribute in warfare, is referred to time and again in the pages of history. Alexander's triumphant march into India brought forth a tribute of "honey and wax," and the Romans, we are told, required the Corsicans to pay 200,000 lbs. of wax yearly over a long period. According to old Saxon law, the theft of a swarm of bees was punishable with death. On our side of the Atlantic we read of the ancient Mayas and Aztecs placing a tribute of honey on conquered tribes.

Of like interest appear the stories, reaching back into history a thousand years, of bees being used in warfare. That a hive of bees, dropped from some high castle wall upon a group of courageous horsemen about to force the heavy gates below, may cause consternation at the critical moment might well be imagined. The Turks, a century and a half ago, are credited with a similar technique. They carried hives up on the masts of their ships, ready to be released should the ship be forcefully boarded by the enemy. As late as the World War, we find the Germans employing colonies of bees against the British attackers in the African campaigns.

Since Biblical times the honeybee has been a symbol of industry, and its honey a symbol of plenty. We find Canaan referred to as the "land flowing with milk and honey," and one of the earliest references to honey as an article of commerce and trading relates to the Jews engaging in such a trade at Tyre in Phoenicia. When the sons of Abraham were sent to Egypt to



buy corn, they took to the rulers of Egypt some of Canaan's famous honey. So deeply seated in folklore have the references to "milk and honey" as man's earliest foods become that some authors feel such references do not necessarily apply to the presence of apiculture, but rather are synonymous with fertility, plenty, and contentment. It is of interest that some

authorities hold that the Bible itself makes no direct reference to beekeeping as such. On the other hand, the ancient Jews were wont to place honey before a guest as a sign of welcome, extending to him the land's greatest luxury. In fact, the word honey itself is derived from the Hebrew word "ghong," meaning "delight."

As Maeterlinck points out, Virgil, in his writings, has probably best summed up the early traditions of the honeybee. Aristaeus, one of the ancient Greek divinities, is credited with having introduced the cultivation of bees. And, we are told, it was Ceres, regarded as the "honey-dispenser," who, through her union with the rain god, Zeus, brings us our fruitful seasons.

Another angle of interest is the traditional reference to the honey and the sting of the bee as a cure-all. As has already been stated, early writings abound with elaborate rituals involving the use of the bee and its products, all the way from scaring away an evil spirit to the ceremonies involved in reincarnation. The Christians of Ethiopia are said to smear honey on the baby's lips as part of the baptismal ceremony. The Greeks and Romans used honey in embalming. The Syriac Book of Medicines mentions honey in over 300 prescriptions, and wax in over 50. A recent writer on apiculture refers to honey in its various preparations as a remedy for:

1. coughs and colds 2. dyspepsia

3. erysipelas

4. frostbites 5. burns and scalds

6. sore eyes

-7. consumption

8. tapeworm

9. asthma

10. constipation

11. cancer 12. worms

13. freckles

Much is written of the bee sting as a cure for rheumatism. One British hospital claims that the formic acid content has been suc-

cessfully used in this respect. The French scientist, Lautel, refers to his success in using the sting in the treatment of rheumatism, eczema, and leprosy. A relative of mine, suffering severely with rheumatism, claims to have cured himself by releasing a handful of bees under the bed covers from time to time. And finally, one rather realistic author states, "Facts already brought to light show that an intoxicated person is quickly sobered by a beesting. . . ."

Statistics on the extent of apiculture are rather variable. There are perhaps 800,000 beekeepers in the United States, involving about four and one half million colonies. The total marketable output is probably about 100,000 tons of honey annually, worth about \$20,000,000, with another \$2,000,000 for marketable wax. It has been said that honey and beeswax are produced over a wider geographical range than any other agricultural crop. Bees are kept in the tropics as well as in the temperate zones—from New Zealand in the south to Alaska in the north. We find these little winged laborers toiling in the deserts and in the swamps, up on the mountains and across the open plains.

Little do we realize the labor involved as these insects gather in man's oldest sweet. Each pound of honey involves about 75,000 miles of flight, or three times the distance around the earth. The average bee probably produces less than a quarter-spoonful of honey all her life. Were she to undertake to gather a pound, she would have to labor every day for a period of eight years. It has been estimated that our total honey output may involve several hundred billion little workers a year.

It is, however, generally recognized that the value of the bee is far greater than is measured by the honey she produces. Authorities tell us that our annual fruit crop, valued at about \$600,000,000, would be negligible without the various pollen carriers, chief among whom is our honeybee. Experiments with apple trees showed that trees exposed to bees produced from 40 to 50 times the apples that unexposed trees did. Darwin noted that 20 heads of white clover visited by bees produced 2,290 seeds, while 20 heads so protected that bees could not visit them produced not one seed. Biologists estimate that were we to eliminate all bees, the varieties of plants to disappear from the earth might well run into the thousands. Verily, these tiny creatures have justly been named "the priests of the flowers," and pictured through the ages as a symbol of fertility.



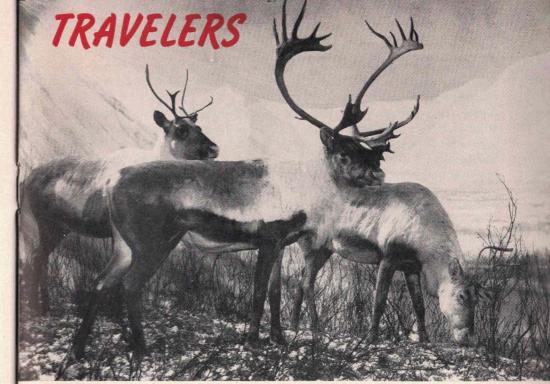
Nope!

The prickly, stolid porcupine

Can't THROW his quills at will,

'Cause Will would have to CONTACT him

Which makes the notion nil.



DETAIL OF CARIBOU DIORAMA

of the TUNDRA

by WALTER C. PELZER, Associate Taxidermist

he Museum has recently completed a habitat group of Stone's caribou, the specimens for which were collected in the Rainy Pass region of Alaska by the Milwaukee Journal - Public Museum Expedition in 1947.

The group consists of two fighting bulls, their antlers locked in a death struggle, while three members of their kind stand by, showing only a mild interest in the combat. During October these contests for the possession of cows are common and they range in intensity from sparring matches to death battles. The members of the herd as well as the cow in question are quite indifferent to these battles, usually only raising their heads to see what is causing the noise and then resuming their feeding.

The Ptarmigan Valley in the interior of Alaska is the actual setting of this group. A panorama of mountain peaks surrounding the valley is the background. The foreground is the partially snow-covered tundra, consisting of scattered clumps of bog birch, growing from the moss and lichen-covered ground.

The background has carried out the mood of the subject matter. An overcast, threatening sky hovers over the fighting bulls, while on the left the clear mountain peaks reflect the serenity of the onlookers. The mosses and

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lichens are the main diet of the caribou and the only food which they eat in winter. During the summer they supplement this diet with grasses and other low-growing vegetation.

Much has been written about the annual migrations of these animals. Prior to 1925 it was not uncommon to see herds moving in almost endless strings for days at a time. It is reported that a paddle wheel steamer, traveling between Dawson and Tanana, had to tie up to the bank for several hours to allow one of these herds to cross. The river was literally filled with animals from bank to bank and, as the vanguards climbed from the river, others crowded into the water from the opposite shore. In areas where hardly an animal can be found a herd may appear and pass through, or stay for a few days, and then disappear, leaving only their tracks as proof of their passing.

The cxact pattern of these migrations is not definitely understood. Some years the migrations were much heavier than others and the directions were not always the same. In fact, in certain localities they were observed to have moved in the opposite directions from their usual pattern as followed in previous years. Generally speaking, with a few exceptions, the caribou winters in the Hudsonian belt and spends the summer in the Arctic regions. Wind, food, insect pests, and harassing by wolves are the chief factors governing their movements.

With the summer come the hordes of mosquitoes which hover over each animal in clouds. They harass the caribou to the point where they are continually on the move, always working into the wind, hoping to lose their tormentors. This constant traveling against the wind accounts for much of their summer movements. The warble flies also annoy the caribou. They lay their eggs on the hair of the legs and sides of the animals. During the egglaying periods, which occur periodically from June to September, the caribou are very restless and run and mill about. Within a week the eggs hatch and the larvae penetrate the skin and proceed to migrate to the back where they cut breathing holes. When they are fully developed they cut through the skin and drop to the ground where they pupate and finally hatch into the adult flies. These warbles give the caribou no end of annoyance, and some animals, after having been killed, have been found to have more than a thousand grubs under the skin.

Bears occasionally kill a caribou, and wolverines, lynx, and eagles account for the death of some, especially the young, but the total kill is almost negligible. Wolves are their greatest natural enemies. They run in small packs, usually a family group of father, mother, and pups working together as a team to run down and kill their meal. They howl on the trail and set the herd on the run, and finally single out a weaker animal which has cut to one side of the herd or fallen behind.

As is the case with most of our species of wild game, the caribou was able to hold its own against its natural enemies and primitive man. The

coming of the white man soon depleted their numbers, for practically every settler or traveler of the far north depended on caribou venison to feed himself and his ever hungry dog team. Now, with the advent of the airplane, sportsmen find it quite a simple matter to fly up and get themselves a "head."

Because of necessity the caribou is a restless, roving animal and must travel in its wanderings through all types of terrain. Nature has adequately provided the caribou with proper equipment for its travels. The hoof of the beast is large and spreading which allows it to walk with ease over snow or swamp without sinking. Also the sharp edges of the hoof act as a nonskid support when running over ice and slippery rock. This same spreading hoof is also a wonderful paddle in the water, as well as a hoe for uncovering its favorite food, the lichens. Caribou readily take to water and are almost as much at home in that medium as on land. The buoyant quality of the hair enables them to swim very high in the water. Each hair is a small enclosed tube of air, and the total equipment of hair acts as a life preserver.

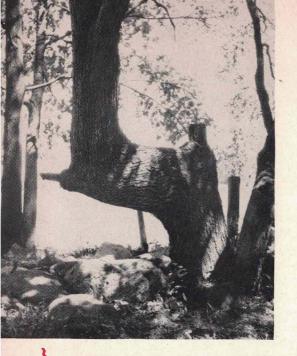
One of the most peculiar features of this nomad of the north is the antler growth. Each year the bulls grow and shed their antlers as is true for other members of their tribe, but pound for pound they are much larger. The actual growth of antler each year amounts to over half, and occasionally two-thirds the weight of the animal's skeleton. Caribou cows, not to be outdone by the bulls, also wear racks, but of much smaller size. This antler growth in females is peculiar among the deer to the caribou and its cousin, the old world reindeer.

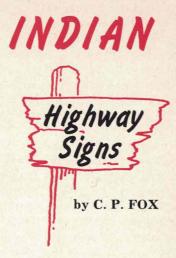
Whereas the caribou and reindeer of both continents have been used for food and clothing by the peoples of the north, the caribou have never been domesticated. The Laps of Europe, and others, have herded reindeer for centuries and used them as milk animals and beasts of burden.

There is little difference between the caribou and the reindeer except for size and color. The reindeer is a smaller animal and, as is the case with so many domesticated animals, its color is variable, ranging from dark brown to white, with various solid and blotched shades in between.

DETAIL OF CARIBOU DIORAMA







In bygone years the Indians, as well as our own pioneers, used trees as a means of marking certain trails and pathways so that they could easily be retraced or followed by others. The trees were nicked and then broken at right angles to the vertical direction of growth, the broken ends pointing in the direction of the trail's continuation. After the trees peeled and began to grow in this new position, they tended again to assume their upward direction of growth. The trees selected in this procedure were usually small saplings, often of varieties which are long-lived.

The accompanying photographs show two oak trees that were bent as directional markers and which survived their injury to attain large size. Both of these trees are in excellent condition, showing no serious effects from the operation which was performed on them. In both instances the broken sapling points to the west.

The trees are on the slope of a large hill south of Delafield in Waukesha County. This hill is now known as Government Hill; years ago it was called Lapham Peak. It was on this hill that Increase A. Lapham is said to have established the first weather bureau in the state of Wisconsin, although the location is a controversial matter, some identifying Holy Hill as the true Lapham site.

There are trees like this on the slope to the north, and similar trail markers have been reported elsewhere in the state, although they are of rare occurrence. They, too, stand as living evidence of this Indian procedure, copied by white settlers who had to compete in the same wild environment and so copied Indian methods. Thus we have a very interesting bit of evidence re-



Photographs by the Author

lating to Indian lore within thirty miles of Milwaukee.

Although there are a few isolated specimens of trees of this type around the state, it is unusual to find two of them within a few feet of each other, as in this case. Their close association poses a question. Why would the trail maker establish two markers so close together? Would not one serve as well as two? Perhaps two men were marking the trail, and each one acted at the same time unaware of the other's action. Or the double marker may have had significance which it is now too late to determine. The fact that both trees point in the same direction supports their identification as trail markers.

The story of struggle for survival is quite apparent to the observant viewer of these specimens. In the case of one tree, a bud near the point of breaking produced a vertical growth from that location, appearing as an upward continuation of the original trunk. This secondary shoot continued to grow for quite a few years, as evidenced by its diameter, before it died and, eventually, was broken off. In the case of both trees, the broken props continued to grow out horizontally for sometime before dying and leaving the new vertical branch to represent the entire growth of the tree.

There is also the question of age. These trees are not as large as might be expected of trees that were even saplings in the days when either Indians or pioneers were engaged in marking trails in this area. However, the growth of oak in the gravelly soil of this region would be a very slow procedure, and the size of the trees may be wholly in line with our theory of their origin. Some of these days, the Milwaukee Public Museum may send out a man to secure borings of these and similar trees and so determine their actual age.

Famous American Indians: *PONTIAC*

This is the first of a series of brief historical sketches of some of the more famous and historically important North American Indians.



Pontiac, a chief of the Ottawa in the early part of the 18th century, is considered by some historians as the greatest Indian leader of any North American tribe. He earned immortality in the annals of history by an achievement unique in Indian warfare.

It was largely through the genius of Pontiac that a master plan was conceived for a concerted attack on the settlements and forts of the British. To set his scheme in motion, Pontiac sent messengers to the various tribes northwest of the Ohio River as the first step in his plan for a vast confederation of Indian tribes to be mobilized for the purpose of driving the white settlers into the sea.

This task sounds not too difficult to whites who are used to organization and order, but with the Indian it was another story. Confederation was not natural to the aboriginal; he was an individualist; he joined and left battles at his own discretion; he fought a simple battle with no formations or march, and no set rules. With these weaknesses of the Indian in mind, one can see how remarkable was this man, Pontiac, who could unite all these diverse and untamed elements and fuse them for a single purpose, solely by weight of character and ability.

Completely out of character was the year-long siege of Detroit. Never before had Indians resorted to tactics such as this, but under Pontiac's firm hand they were kept together until the task showed itself to be hopeless and the Indians were forced to raise the siege.

A clever ruse was used to take Fort Michilimakinac. During the celebration of King George's birthday at the post, the Indians staged a riotously happy game of la-crosse. As the unsuspecting soldiers watched the game, suddenly one of the players threw the ball over the fort wall and the Indians swarmed through the open gates as if to retrieve it. In an instant they turned from play to slaughter. An officer and fifteen men were killed, and the rest taken prisoners before they were completely aware of what was happening.

Pontiac was cruel and treacherous, but that he was a great leader no one can deny. He was capable of making far-reaching plans and had the strength of mind and comprehension to carry them out. Although the British finally defeated Pontiac, he somehow never seemed to be the loser. Peace was made at Detroit in 1765.

Four years later, at Cahokia, Illinois, he was murdered by a Kaskaskia Indian. Some historians claim that the revenge taken by his fellows for this act caused whole tribes along the Mississippi and Illinois rivers to be wiped out.

Robert G. Lietz, Assistant in History.

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QUERY QUADRANT

Conducted by the Museum Staff

QUESTIONS? When you were six years of age you were so full of questions that your parents were quite sure that they had the original walking question mark. We hope that even if your years have reached the traditional "three score and ten," that you are still interested in asking questions. This department depends on you. You ask the questions; we will do our best to answer them. You may have had unanswered questions which have been haunting you for years, or you may have some brand new ones.

The questions should be of popular interest and restricted to Nature and Man in Nature. Send your questions in at once. Be sure to sign your name.

I got a chameleon at the State Fair and now I can't get any more flies to feed him. What will he eat?

David Dettmann, Milwaukee

Don't expect him to live on sugar water; plain water is better. They will eat meal worms (General Biological Supply House, Chicago, Illinois) or hamburger, if balled onto the end of a string and dangled in front of them. Write Museum Reptile Department for leaflet.

W. E. Dickinson, Curator, Lower Zoology

My cat has fleas. Can I use DDT to rid my pet of these pests?

Margaret Ritter, Waukesha

If you want to assure the continued good health and well being of your feline friend, it is advisable not to use DDT in any form. DDT sprays usually contain an oil base that allows the insect killing agent to be absorbed into the animal's system by way of the skin, with toxic and sometimes fatal results. If this agent is used in powdered form, some of the poison will find its way into the stomach due to the animal's habit of licking its fur. Taken internally, DDT is poisonous.

An ideal method of control is to place your pet on an opened newspaper and then dust its fur thoroughly with a substance known as pyrethrum powder, an insecticide derived from the finely ground, dried buds of a certain species of Chrysanthemum. This material has the desirable combination of being decidedly effective against fleas and many other insects, yet harmless to man and higher animals, even when swallowed. Be sure the pyrethrum is of fresh stock since it is known to deteriorate on continued exposure to heat and air.

After the powder has been applied, the animal's fur should be combed or otherwise worked over to dislodge any stunned fleas which have not already fallen onto the paper beneath. The corners of the newspaper should then be lifted to enclose the parasites, and the whole saturated with kerosene or destroyed by burning.

Kenneth MacArthur, Lower Zoology, Division of Insects

LORE is the official magazine of the Milwaukee Public Museum membership: FRIENDS OF THE MUSEUM, and it cannot be purchased or subscribed to excepting through membership.

There are three classes of adult annual membership: Active Contributor, awarded for a contribution of not less than \$5.00; Sustaining Contributor, awarded for a contribution of not less than \$25.00; and Associate Contributor, awarded for a contribution of not less than \$3.00. An applicant of not more than 21 years of age may be awarded the classification of Student Contributor for a contribution of not less than \$2.00. The fee for library membership is \$2.00.

There are three classes of life membership: Fellow, awarded for a contribution of not less than \$100; Patron, awarded for a contribution of not less than \$1,000; and Benefactor, awarded for a contribution of not less than \$10,000.

THE EXPLORER'S CLUB is the membership for children. For \$1.00 a year, our young explorers receive 52 copies (one each week) of the Explorer's Log, a quiz-fun sheet.

Address all communications to Mr. Ambrose Bauernfeind, Milwaukee Public Museum, 818 W. Wisconsin Avenue, Milwaukee 3, Wisconsin.



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