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**THE
NEW MUSEUM**

**A LOOK AT THE FUTURE
OF OUR NEW MUSEUM**

by
ROBERT RIORDAN

This article originally appeared in LET'S SEE, Vol. 8, No. 2, Feb. 1963. In the opinion of Dr. Borhegyi and the editors, Mr. Riordan presents a good concept of our new museum. We have therefore decided to reprint it for LORE with permission of the publishers.

AT very long last, the new Museum is up. It took quite a while (euphemism for decades of *Drang und Sturm*), and it may try the patience of the community to contemplate the fact that the end is not yet. From Wells, Kilbourn, 7th and 9th, the structure appears complete—but the truth of the matter lies in a paraphrase of that familiar line from the literature of Madison Avenue: "It's what's inside that counts."

What's inside, at the moment, is a blank slate—bare, ready and waiting for the Museum staff to write upon it the history of man and his little round ball. The inscriptions will take yet another while; the building, decorating and moving of the exhibits which will occupy the new Museum's three floors and 148,178 square feet of showplace are tasks that will not be finished within a few weeks. It will be one year, and perhaps two, before any public use of the building is possible, and the completion of all three floors is tentatively scheduled to run at least through 1970. History, geology, botany and the African Hall are scheduled to move out of the old building during 1963. Mammals, fish, reptiles and insects will be on the move in 1964, the Bird Hall and the South Seas exhibits in 1965. Like their old friend, Custer, the Indians will make the Last Stand in the old building. The woodland Indians and those of the plains and the northwest coast—and the Eskimos—will move across Wells Street in 1966, if all goes well.

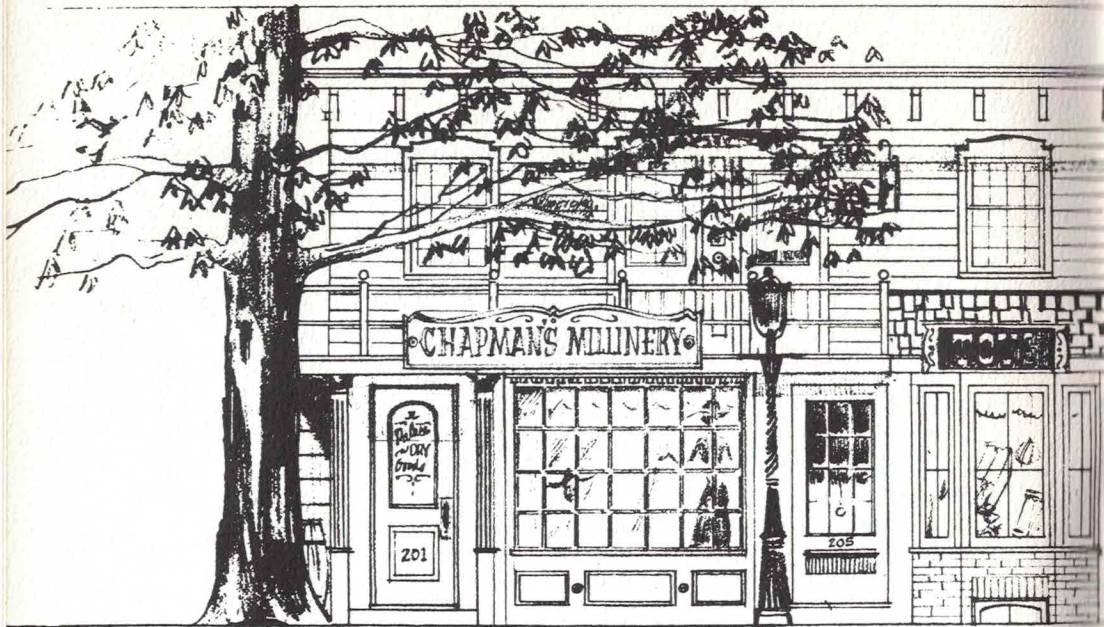
Another three years—but the planning has jelled, the work has started, and the vision is exciting.

The story that Director Stephan F. Borhegyi and his curators and their staffs want to tell in the new building begins far out in space, with a view of the earth from the far side of the moon. The story sweeps forward through the silent vastness of the earth's lifeless period, enters the noisy era signaled by the appearance of man, followed by his gropings toward expression and literacy, traces his wanderings and searchings, examines his impact upon other creatures of the earth and theirs upon him, and focuses finally upon men as they have lived in Wisconsin and Milwaukee, as well as Borneo and Chichicasteango.

As planned by a committee of curators and staff people under the chairmanship of Museum Artist John Luedtke, the story will flow. There will be no "bird hall" or "mammal hall" or other fief-for-an-ology. Thanks to the inter-disciplinary cooperation and vision of the committee, prairie dogs will peek from their burrows as the buffalo hunt thunders through the sage, and the birds of a region will screech from the treetops as the regional beasts prowl through the underbrush. The over-all story will flow through a logical, chronological and ecological sequence, and the exhibits and materials used to tell its individual parts will flow together as they are actually related in fact and in history—and as men, mammals, birds, fish and flora are related in bionomics.

The story will be told through new uses and new arrangements of many of the familiar collections and features of the present Museum, fortified by the addition of some imaginative new ones designed to draw the Museum visitor right into the story in person. A few examples under consideration:

- A walk-through street in Old Milwaukee, circa 1900.
- A crawl-through igloo where controlled groups, such as visiting classes of school children, can get the inside story on Eskimo life.
- A Japanese residence and garden, where a visitor can sit down and rest while absorbing the Oriental atmosphere.
- A path through an African jungle, with the sense of turf underfoot and trees overhead, and the sensation of wandering among herds of wild animals.
- A "Marine Hall" in the round, with the visitor outside looking in, starting at the top of a staircase where fish of the warm surface waters can be seen, winding down a ramp with periodic portholes through which the denizens of the deeper and deeper may be examined, and ending with a visit to the conning tower of a submarine and the chance to look through a genuine periscope.
- A three-quarter arena style diorama of the Plains Indians on a buffalo hunt, 40 feet in diameter and arranged so the visitor can walk nearly all the way around. It will be a headlong tumble of bulls, cows and calves in amazingly life-like, full-gallop attitudes, made possible by new developments in lightweight taxidermy materials. It was never quite safe, before, to poise a buffalo bull on one hooftip and expect him to stay there.



Milwaukee period street about 1900.

Drawing by Ed Green.

There will be strategically located areas for variable exhibits, and rotating displays in the showplaces flanking the main entrance, as well as in the special exhibits adjoining the lounges on the second and third floors (Yes, lounges, and rest rooms and drinking fountains on each floor; the old Trip to the Basement is a thing of the past, or will be). These exhibits will be changed often enough so that it will not be possible to say "Oh, the Museum—I've been there."

Right now, the whole vision lies in pieces—the clean slate lies on one side of the street, the images it will bear lie on the other. In the old building, the vision is still in the form of blueprints, clay models, sketches, scale mockups of this wing or that, and in the minds of the men who will have to do the designing, the taxidermy, the carpentry, and the moving. But if you chat with the men, and look at the prints, the models and the mock-ups, you glimpse what it will be like the first time you pass beneath the Indian and the four swans over the Wells Street entrance and set foot for the first time in the lobby of the new Museum.

You turn to the right, to begin. And you begin in a velvet black chamber with an eerie sense of suspension in space, looking over the shoulder of the moon to see, far off in the middle distance, a faintly familiar sphere twirling slowly in a void prickly with galaxies. This introduction, says Elmer Nelson, curator of geology, will "orient people as to space and time—give them the impression of the earth in space, in a solar system."

A winding path leads away through the southern half of the east wing. On the left, exhibits will show what the physical earth is made of, what rocks are, how "faulting and folding" makes Alps and shifts seas, how



North side of Reed Street.

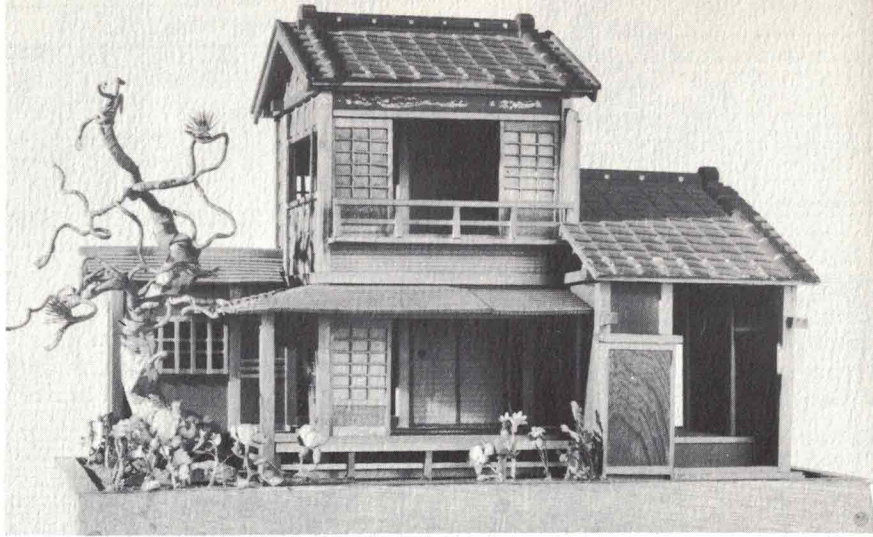
wind and snow and rain carve and sculpture upon the face of the earth. On the right, the chronological story of the earth's development will be told in terms of one year on the calendar of man.

"The first known life will appear about August, and mammals in October," says Nelson, "and man will come upon the earth about 6 p.m. on December 31."

The geologist's method of telling time will be explained—how he knows a fossil is 300 million years old because minerals in the bed where it was found have ticked away that much of their measurable radio-activity . . . and how he knows another similar fossil is the same age because, as Nelson says rather somberly, "no form of life persists for a very long time, and fossils become the page markers in the book of earth history just as the movements of seas upon the land, as the results of mountain building, mark the chapters."

Man comes upon the scene just as the path reaches the end of the east wing and doubles back—into the jurisdiction of Eldon Wolff, curator of history. From here to the lobby, Wolff says, the path will be lined with elucidations of man's developments from mere appearance on earth to literacy and world-ranging . . . through the bronze age . . . the use of tools . . . the emergence of the written and spoken word . . . and eventually the telegraph, the telephone, radio and TV.

One of the first expressions of man that Wolff wants to illustrate here is religion, since it was one of the first expressions that man himself put on the record . . . "the fundamental attitudes of creature toward creator



Model of Japanese house for third floor, new building.

. . . the concept of the presence of God in a 'possessed' person . . . the concept of a bridge, a priesthood, a dedicated and set-aside group functioning in a known way to communicate between creature and creator . . . and the concept of direct communication between the individual and God, as in the Islamic culture."

From here to the lobby, Wolff says, the effort will be made "not so much to tell what happened in ancient Egypt as to build and illustrate the concept of heritage . . . how contributions passed from the ancients to us . . . the horse, from the areas north of Persia . . . wheat and animal husbandry from the Near East . . . the fruits indigenous to Europe and eastern Asia." The channels of heritage will be outlined in the historic movements that dug them . . . the trade routes of the Phoenicians and their wealth and metal-seeking voyages . . . the tin routes across Asia . . . the importation of silk from China . . . the Danube trade route and the economics that produced the drama of Troy.

The story will come up to the brim of the Ocean Sea and, in the age of exploration, spill over into the New World, and—step across the lobby, please.

In the west wing ("Now we're home," Wolff says), you may bear northward for a course in the archeology and geology of Wisconsin demonstrating how glaciation created many of Wisconsin's most interesting scenic effects, showing the economic importance of the glaciers' gifts of sand and gravel, the iron ores of the north, the clays for brick and tile, the lead that boomed southwestern Wisconsin for three decades before the Civil War.

Or you may bear to the south and land on the New World's shores, as the earliest colonists did, to search for "rubies on the beach" or to establish new religious beachheads. The story of North America's development

in modern times will be told as it was reflected in the development of Wisconsin. The significance of Mackinac Island as the gateway through which the French fur trade poured into the Wisconsin territory will be told here, with such exhibits as a diorama of the island and a representation of Solomon Juneau's trading post. Wisconsin's involvement in the War of 1812, and its stake in the outcome of the struggle for Great Lakes control in the Battle of Lake Erie will be dramatized here. Wisconsin's Own War—the saga of Black Hawk—will be followed by the Galena lead boom ("Did you know," inquires Wolff, "that sheets of Wisconsin lead lined the tea cases brought from China in the clipper ships?").

Along the way, changes in Wisconsin's way of life and architecture will be noted (the impact, for instance, of the 2 by 4 and the machine-made nail), and its relation to the southern plantation system will be illustrated. There will, of course, be exhibits on Wisconsin's part in the Civil War—and the industrial expansion which followed it. Near the end of the west wing swing, more exhibits will treat of the logging off of the north and the role of the timber barons, the development of agriculture, conservation, manufacturing—and the arrival of the immigrants who brought brain, brawn and the skills of the Old World to the building of Wisconsin.

Now we are on the threshold of the piece de resistance of the first floor: the Street in Old Milwaukee. This will be a place where you can lose yourself in the "feel" of our town six or seven decades ago, or amuse yourself in an authentic nickelodeon. There will be evocative features here, to touch upon many a memory or to lend form to the things Grandpa used to say about the old days.

(We all have some "set piece" that comes to mind in glorious Psychocolor, a mental image burned in by some top-drawer experience of childhood, or by the descriptive skill of some really articulate elder; one of Wolff's most vivid and persistent images, he confesses, is the roll-down curtain favored in old-time theaters, gaudily embellished with ads in the baroque style, and reassuringly labeled across its very center, "ASBESTOS.")

Somewhere along the Street in Old Milwaukee, with its torn kite lodged in a tree and wire wrapped around the telephone poles to keep the horses from browsing right through them, a familiar old image may easily materialize for you.

"We already have the materials ready for a drug store, a complete country store with departments, a barber shop, a blacksmith shop, a residence that people can look into, a doctor's office perched up on a second floor," says Wolff, "and we're trying for a saloon. The Redevelopment Authority is going to let us know when some of the older places in town come down, and we ought to be able to pick up some really fine old doors, and things like that."

You will leave the Old Street through a display that points Milwaukee to the future, and points you up the escalator to the second floor.

The second floor will take you back to a beginning again—this time,

the beginning of life. A biology sequence in the west wing (turn left, please) will explain the cell and the meaning of genetics. It will describe the structure, function and classification of all living creatures, ending with man as a biological entity.

Next, the associations of living creatures with each other and their surroundings will be explained in displays treating of such matters as protective coloration, locomotion, and the similarities and differences between man and other living things. There will be, for instance, a three dimensional display showing the effect of habitat at high altitudes, and other levels down to the sea. There will be some reference to space, but this is to be treated in detail in the planetarium. Man's use of natural resources and the significance of conservation will close this sequence.

The introduction to the American Indian will be that smasher, the new 40 foot diorama of a Plains buffalo hunt. Associated with it will be tipis and other illustrations of the way of life of the Plains Indian—his religion, the ecology of the plains, the importance of the buffalo. Moving eastward in fact as well as theme, you will come upon the woodland and prairie peoples, with many familiar Wisconsin references and three dimensional displays combining the people and the animals of the regions in lifelike fashion. The tour winds on to the northeast and the Iroquois and their neighbors, to the Seminoles of the southeast, to the Hopi of the southwest—and here there will be steps leading upward so that visitors can get a Hopi-eye view of a typical full-scale dwelling.

The ascent of the Rockies will be suggested by a ramp leading up to displays illustrating the northwest coastal areas (goats and grizzlies, plank houses and ceremonial masks will be found here, among other things), and the downward trip on the ramp will be enlivened by sea lions and totem builders characteristic of the Pacific northwest.

In the transition from this point to the escalator leading up to the third floor, the "Museum Story" will be told—the inside story on the taxidermy, artistry and show-biz instincts required to make Museum displays come alive.

The third floor will pick you up about where you were last (poised at the northwest tip of the United States), and launch you on a trip around the world—first stop: The Arctic. Here, integrated with the caribou, the

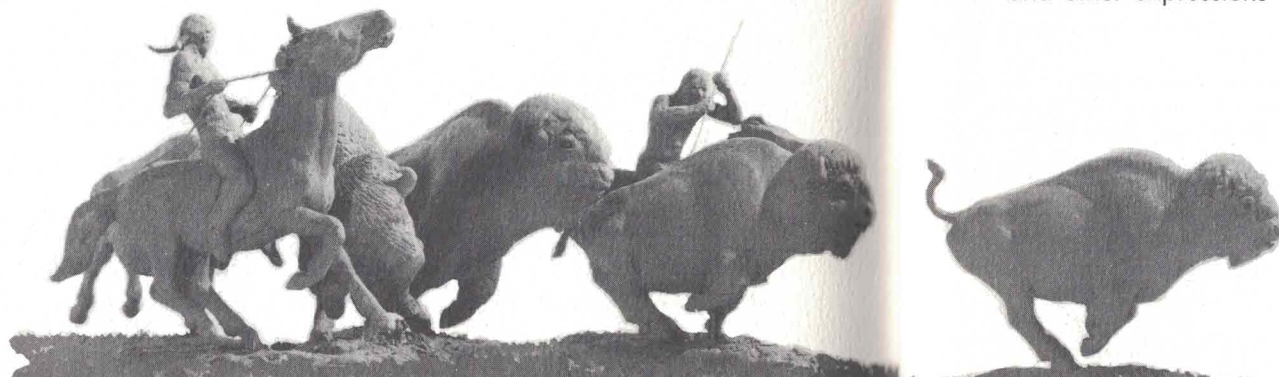
moose, the polar bear and the walrus, will be that crawl-through igloo mentioned earlier, with a crew of the Eskimos who call it home tally-hoing in from the hunt. As it would be natural to do in fact, you move from here down-globe and across the Strait to a choice of treatments: either a sequence on the people of Asia as groups (there will be a bazaar display here in which many Museum materials will be brought together in the same kind of potpourri they shared in "life"—religious objects, the tigers and gaurs of Pakistan and India, the snake charmer and his trappings, that big Indian elephant who greets you now at the elevator on Two in the old building), or you may take a geographical tack. This will lead you first to Japan and that house-and-garden where you can sit down for a spell. Passing by displays on Japanese drama, armor and other cultural manifestations, you pass through Korea as a bridge to the Chinese collection, featuring a joss house and, again, many objects displayed as they were and are used (rather than entombed under glass in a string of cases). The tour moves on to Tibet, shows the Chinese influence in Vietnam, the Indian influence in Burma and Thailand, and brings you to the shores of the island world of the South Pacific.

The introduction to Borneo, Australia and the Esias (Melanesia, Micronesia, Indonesia, etc.) will be the aforementioned Marine Hall. From the strange and colorful exhibits on the island people you may choose a route to Central America (and a market scene a la Chichicastenango) and South America (where a mezzanine will give you a tree-top view of life in a rain forest), or you may prefer to pass through Madagascar on your way to the Dark Continent.

The African tour will be keyed by big maps locating the animals and the people, and the introduction will be dramatized by the striking group of Masai and Kikuyu sculptures now on display in the African room of the old Museum. The Mediterranean and desert cultures will be suggested by Moorish rooms authentically furnished and set against typical backgrounds.

The trip down the east coast and through the Congo will be a riot of leopards, bush bucks, bongos, African elephants, pygmies, gorillas—and there will be some effective wide-canvas treatments of the lion hunt and the doings of the giraffes, the cheetahs and the other fauna of the plains areas. All of this will be enhanced by a you-are-there sensation stimulated by trees and sky overhead and the taped screeches, grunts, whistles and other expressions of the jungle community.

This is the vision.
It sounds wonderful.
And we can hardly wait.



Scale model of buffalo hunt by Walter Pelzer.



ARM AND LEG CHAINS. In order to walk, the wearer was forced to pick up the chain, the idea being to give limited movement, but no chance for escape.

Persuasion Instruments Of ASION

by LEON W. WEISSGERBER, Radio and Television Producer

Photos by Leo Johnson.

The first written law was the code of Hammurabi, and it meant what it said—an eye for an eye, a tooth for a tooth, and a life for a life. The criminologist and penologist of today do not subscribe to this ancient law as either preventative or rehabilitative. Our grandfathers, however, were not quite so squeamish. On these pages are some notable examples of historical instruments of persuasion. Many of the devices shown here were used on the "common man" or the peasant, whose testimony in centuries past was not legal unless he had been subjected to various forms of "persuasion." The gentry and nobility were excluded from such procedures, as a gentleman's word was presumed to be the truth. Be it through actual punishment or fear of punishment, instruments such as these were intended to "persuade;" either to produce legal testimony or to correct improper conduct.

Instruments of persuasion were not always used on lawbreakers. Religious penitents also inflicted persuasive methods on themselves; if the spirit was weak, the flesh was weaker, and the flesh was mortified in an effort to repent and salvage the spirit. Three examples of instruments used in this manner are shown on page 89.

The thumbscrew was a simple device. A turn of the screw forced the movable bar against the thumbs. How many turns were required for rehabilitation or the extraction of an admission depended on the individual's resistance to pain.

Branks or scold's bridles are hoods of enclosing metal devices with projecting metal tabs, which were applied by the authorities as punishment for malicious gossipers or nagging, abusive wives. The metal mouth-piece was so situated as to be placed in the mouth of the wearer, not only making speech impossible, but in some instances, causing serious injury to the tongue. Branks were used up to 1824 in England.

Stocks which limited bodily movement or held a prisoner immobilized for certain periods were either portable or fixed. The Schandgeige (German for "fiddle of shame") held the head and arms in an uncomfortable position. Fixed stocks or pillories held the prisoner in a definite position. The sentence varied from a few hours to several days. In all instances prisoners were not only put to shame by exposure to the elements, but from abuse by the public—in the form of uncomplimentary words, rotten fruit, eggs, and other items. The specimen shown on page 90 was last used in Bavaria in 1782. A butcher's daughter was punished for giving short weight with a meat purchase. She weighed the knife with the meat.

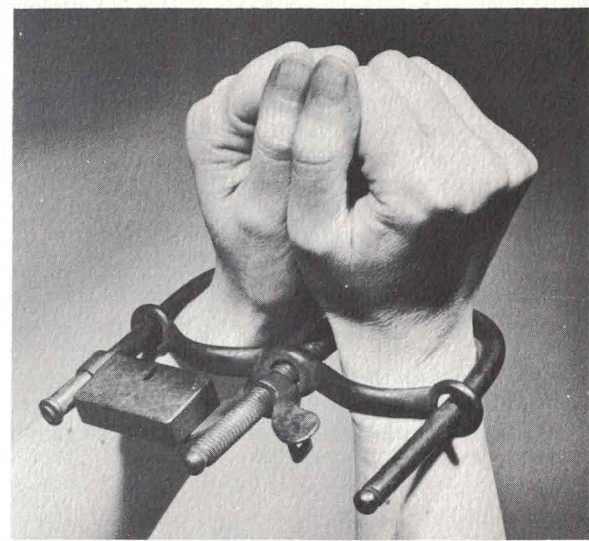
Other instruments shown were primarily for restraint, but could in some instances inflict injury.



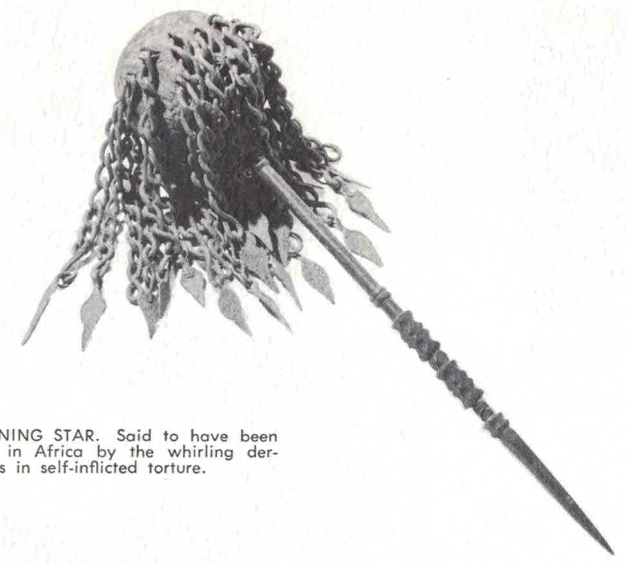
SHACKLES. These would limit movement but not cause harm to the wearer.



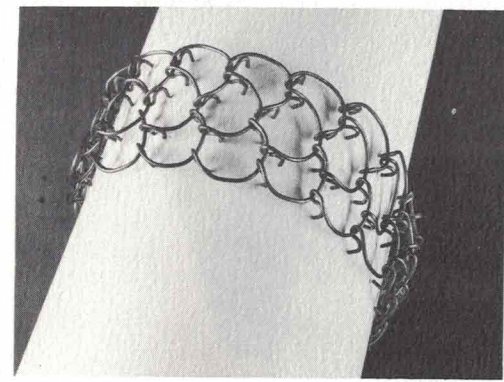
LEG IRONS. Irons with spikes lining the inside would prohibit any but the most cautious movement.



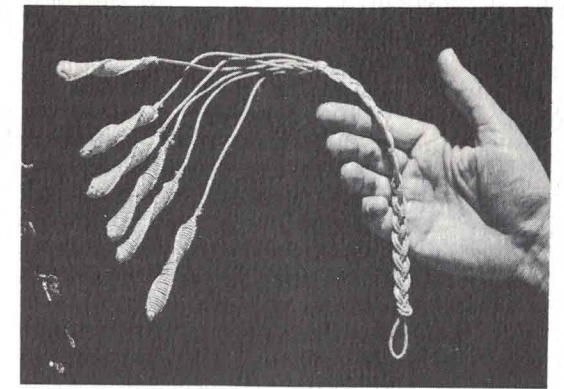
WRIST SCREWS AND CUFFS. Forerunners of our present-day hand cuffs, these cuffs also could be adjusted with the screw for application of pressure.



MORNING STAR. Said to have been used in Africa by the whirling dervishes in self-inflicted torture.



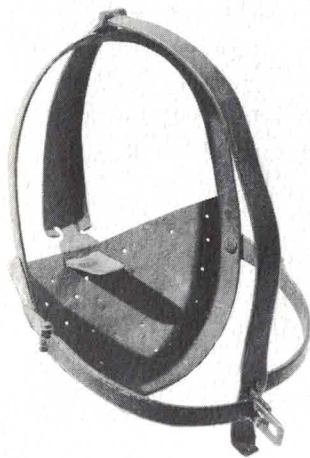
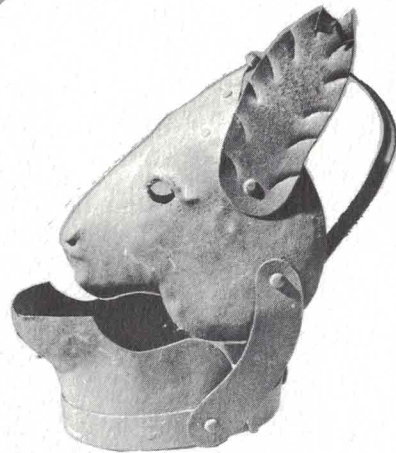
WIRE NECK BAND. This band was self-locking; the band edges were sharp ended and pressed into the flesh. After wearing for a short period the slightest movement would cause irritation.



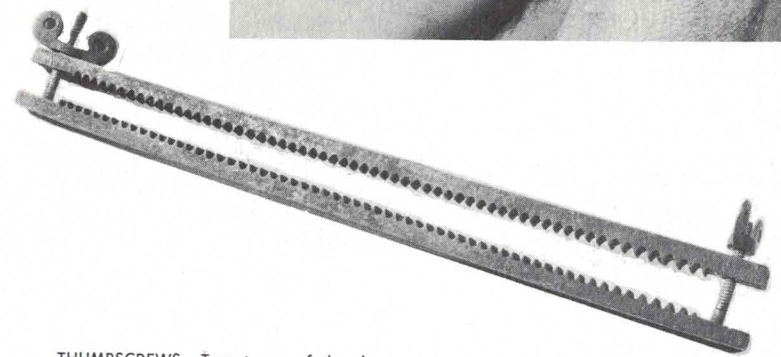
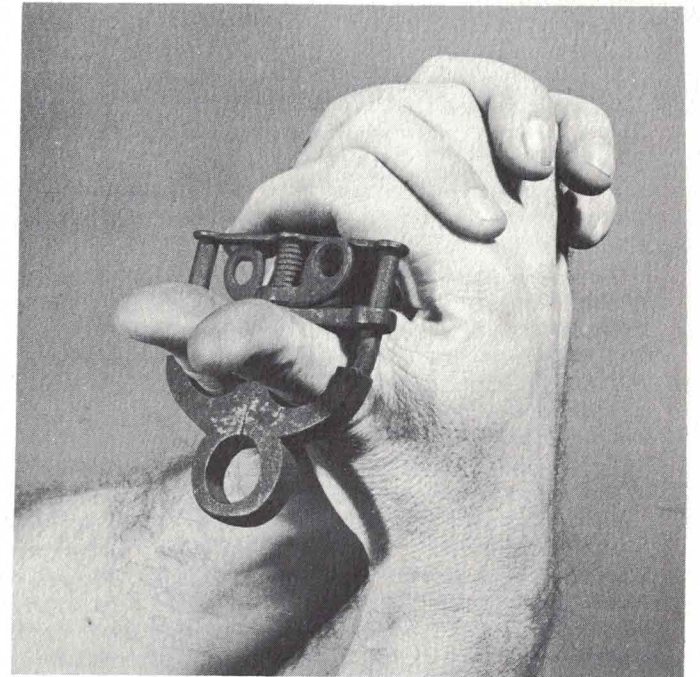
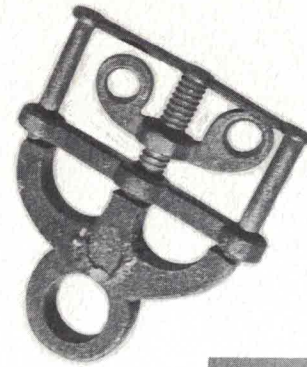
CAT O' NINE TAILS. Used by religious penitents as penance for the commission of sin.



The SCHANDGEIGE. A portable stock.

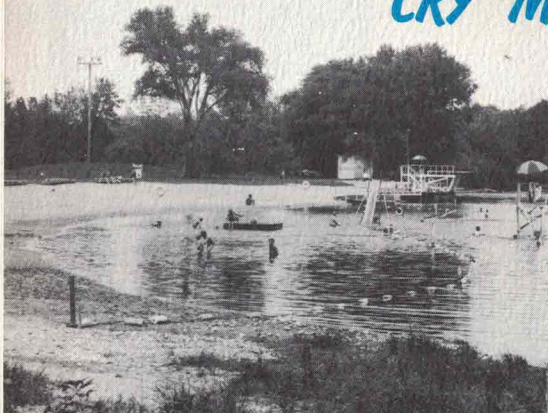


BRANKS. There were two types, one designed to cause pain and humiliation (note the tongue depressor), the other simply to cause embarrassment as it is in the shape of a donkey's head.



THUMBSCREWS. Two types of thumbcrews are shown here—the larger of the two could accommodate both hands.

CRY ME A RIVER



Remember where?—Lincoln Park was once used for swimming.

East of Eden, in southern Fond du Lac County, the moist meadows of the rolling Kettle Moraine give birth to the Milwaukee River. Spring-fed brooklets merge to produce a stream which is destined to flow over eighty miles and affect the lives of a million and a half people.

Historically, the Milwaukee River has played a vital role in southeastern Wisconsin. Most of the communities from Kewaskum and West Bend down the river to Thiensville grew around the grist mill. Water wheels have been replaced during

the era of modernization. Alarming, however, the newer industries have been less kind to the river.

An early Milwaukee settler, Solomon Juneau, built his trading post within view of the river's mouth. Records tell us that Indian and settler trapped beaver and muskrat in marshy areas of the Milwaukee River. But 143 years make a great difference in the life of the landscape. The last eighty years have proven especially heartbreaking for the "health" of the river. Cities, in varying degrees, have dumped their domestic and industrial wastes into the once clean stream.

Today only the upper stretches of the Milwaukee River offer any appeal to trappers, swimmers, fishermen, particular homeowners, or even the selective industrialist. With the exception of larger game animals and the forest, most of the river life in the upper watershed area remains. As the river meanders in a southerly direction, larger communities impose more complicated wastes upon the river. She is usually able to purify herself rendering most of the waste and noxious products harmless or, in many instances, converting them into materials useful in the economy of the river. But when the burdens become too great, her natural mechanisms for purification stagger and fail.

Inadequate treatment of industrial and domestic waste, faulty plumbing connections to existing sewers, flooding, and increased concentrations of detergents and other non-biodegradable chemicals add to the hazards of water pollution in the Milwaukee River drainage basin.

The ultimate tragedy of the pollution problem, besides rendering the river unsightly and less usable, is damage done to Lake Michigan near the mouth of the poisoned river. Wastes from homes, farms and industries, as well as effluent from sewage treatment plants, provide water plants with a bountiful food supply. Under optimum summer conditions the algal growth (often improperly called seaweed) displays a population explosion. Swimming beaches for several miles from the mouth become clogged with the living and decaying plant material. The fertilization and excessive alga growth along the beaches is directly attributable to the pollution and siltation of the Milwaukee River and its tribu-

aries. Actually hazards to human health and swimming may have no direct correlation to the amount of algal "bloom" that clouds the lake water and forms scum on the beaches. The amounts and kinds of bacteria in the water are used as criteria for opening or closing beaches for public swimming. During the summers of 1963 and 1964 the Health Department hopes to monitor the levels of water pollution in a manner that will enable officials to predict whether the beaches can be used or not.

The Milwaukee River herself has indicators of pollution carried in the water and attached to the bottom. Certain forms of plant and animal life are very sensitive to man's waste products and chemicals. In the absence of pollutants certain forms of life thrive. As contaminants are added to the river particular animals and plants may be eliminated from the river community. Also heavy siltation and warmer water begin to control the presence or absence of kinds and numbers of animals. As the quality of the river water changes during its journey to Milwaukee and Lake Michigan, the animal life of this river changes in quantity and quality as well. For example, game fish are replaced in the lower miles of the river by rough fish and scavengers which often have a greater tolerance for polluted conditions. The stream limnologist, after studying the change in river life along the length of the stream, can postulate locations, amounts, and kinds of pollution.

Though the Milwaukee Public Museum sponsored the author's study of the ecology of the Milwaukee River and its pollution by man, a dead and useless river is one collection of public property that a museum cannot preserve for posterity. A plea is simply being made that people acquaint themselves with the necessary programs which will draw the line on pollution and strive to abate the misuse of water. One of our most valuable natural resources must no longer be taken for granted even in a state of such apparent supply. The anxiety is about future water *quality* in southeastern Wisconsin rather than quantity.

Situated on the shore of one of the world's finest inland lakes, Milwaukee must begin to show more concern about a river which is changing the excellent quality of Lake Michigan water. Willows have been poetically "weeping" along the banks of the Milwaukee River for generations. In recent years many citizens have seen the elimination of canoeing, boating, fishing, and swimming. Today the river is crying for help.

SPENSER W. HAVLICK, *Associate Curator of Education*

Canoe contests attracted thousands to the once clean Milwaukee River. This could happen again!



THE SOLAR ECLIPSE OF JULY 20, 1963

by **HERBERT W. CORNELL**
Honorary Curator in Astronomy

A Total Eclipse of the Sun has been called the most awe-inspiring sight in the whole realm of nature, but aside from glory as a spectacle such eclipses are of great historic and scientific importance. Battles have been stopped because of them. Dates in ancient history which otherwise would be known only approximately or not at all have been determined with precision because of references by ancient writers to eclipses which occurred at the same time as other events. Their great scientific importance is of modern realization, and the scientific possibilities involved are by no means exhausted.

Such an eclipse will occur July 20, 1963, with a totality path (for the most part from fifty to sixty miles in width) running from northern Japan where the moon's shadow strikes the earth at sunrise, across the Pacific Ocean, Alaska, Canada (in the northern wilderness region except for a short distance in the St. Lawrence Valley), and Maine, ending in the Atlantic Ocean at sunset when the moon's shadow will leave the earth. In Milwaukee it will be seen as a partial eclipse, about three-quarters of the sun's disk being covered by the moon at maximum. As a partial eclipse it can be seen over all of North America and nearly all of the Arctic regions; however, in Mexico and Central America the eclipse will appear as merely a small inconspicuous nick on the upper (northern) edge of the sun.

Whether the eclipse be viewed from a point within the totality track or from a location where the eclipse is a partial one, it is extremely important to give the eyes proper protection. Ordinary dark glasses are utterly inadequate. The lessened area of solar disk gives a deceptive impression to the effect that only a little protection is necessary. This may lead to very dangerous results. Although the total amount of light from the sun is reduced during the partial phase, the intensity on each square millimeter of the retina of the eye where the illumination strikes is not reduced at all. Use an exposed photo film which has a very dark area such as is produced on a photo containing an abundant amount of bright

sky. It may even be found necessary to use two or three thicknesses of such film. Smoked glass may be used but exposed film will usually be found to be more satisfactory.

Partial eclipses are interesting to watch, although they do not have the scientific significance or the beauty of total eclipses. The accompanying diagram shows the progress of the moon across the sun's disk on the afternoon of July 20 as seen at Milwaukee. The first contact of the moon on the right hand edge of the sun will be at 3:22 P.M. (Central Daylight Saving Time) and about two minutes later the nick in the sun's edge should become visible. The maximum of the eclipse will be at 4:32 P.M. at Milwaukee, while the last nick should be seen on the upper left edge at about 5:40 P.M. The moon will be entirely clear of the sun at 5:42. The moon's motion relative to the sun (due to the moon's orbital revolution around the earth) will be from right to left and upward as we view it, but the rotation of the earth on its axis will make the sun and moon appear to move at a much faster rate to the right and downward, this being the normal apparent motion of the sun during the middle of any afternoon. Sunset (as seen at Milwaukee) will be at 8:26 P.M. Daylight Saving Time.

It is not probable that any Milwaukee amateur astronomers will go to Alaska to see the total phase of this eclipse (although the American Astronomical Society is holding its summer meeting at the University of Alaska) but quite a number expect to attend the convention of the American Astronomical League, an association of amateur astronomical societies of which the Milwaukee Astronomical Society is a member, to be held at the University of Maine at Orono, near Bangor.

The totality path in Maine and in the readily accessible part of the Province of Quebec averages about 52 miles in width. Bangor is the largest city within the totality path, downtown Bangor being about eight miles from the central line. The cities or villages of Bar Harbor, Ellsworth, Corinna, Cambridge and Caratunk in Maine, and Lambton, Black Lake, Plessisville and Gentilly in the Province of Quebec lie very close to the central line, but any place within fifteen miles of that line, if local conditions are right, should be found to be satisfactory. A point fifteen miles from the central line will have totality shortened by about 20 per cent; any further from the central line will result in much sharper time-shortening. At six miles from the central line the shortening of time for the total phase is only four per cent. With an altitude of the sun of only 25 degrees at totality, care must be taken to select an observing spot free from obstructions such as trees or buildings.

The moon's shadow will race across the landscape of Quebec and Maine at a speed of 55 miles per minute. Totality will last just about one minute on the readily accessible part of the central line (59 seconds at Bar Harbor on the Atlantic Coast; 63 seconds at the Maine-Quebec boundary; 66 seconds at Gentilly on the St. Lawrence River). The longest totality duration will be a minute and forty seconds at a remote point in Canada's Northwest Territory west of Great Slave Lake.

With more favorable conditions a totality can last as long as seven and a half minutes. This eclipse has a totality, therefore, of less than average

duration. Length of totality depends principally on the relative diameters (measured angularly) of the moon and the sun. For this eclipse this ratio is 1.00000 to .98993 so that the moon will cover the sun completely but with very little margin to spare.

In recent years total eclipses have been used to test Einstein's relativity theories by noting the displacement in position of stars which appear close to the sun, due to the bending of their light rays under the influence of the sun's gravity. Unfortunately there will be no bright stars within five degrees of the sun's position at the time, and this is generally considered the greatest distance for determinations of any reliability. Kappa Geminorum of 3.7 magnitude will be about six degrees distant, and Beta Geminorum (Pollux) of 1.2 magnitude about eight degrees. At several previous eclipses there have been bright stars much more favorably situated, so that it is not probable that any corrective results can be obtained from this eclipse. There may, however, be results of high scientific value regarding the temperature and physical structure of the sun's corona, that beautiful halo which surrounds the sun and extends into space for possibly several million miles. Up to a few years ago the corona could be viewed only at a total eclipse. Modern invention has made it possible for the brighter portion (the "inner corona" close to the sun's surface) to be seen and studied at any time, but for the outer corona we are still dependent on total solar eclipses. Some further information about the earth's upper atmosphere may be obtained at the same time.

The shape of the corona varies with the eleven-year sunspot cycle, as has been known for more than a century, but the physical relationship is not completely understood. When sunspots are at a maximum the corona is fairly round in shape though with many irregularities in outline. At sunspot minimum there are streamers (sometimes several millions of miles in length) stretching out from the sun's equator with short "brushes" projecting from the sun's north and south poles. Just how this interaction of sunspots and corona takes place is still not established though many theories have been advanced. The question is of practical importance because of the relationship of sunspot changes (and possibly also of corona changes) to radio reception, to static interference, to the accuracy of the magnetic needle (especially in ships' compasses) and to the aurora borealis.

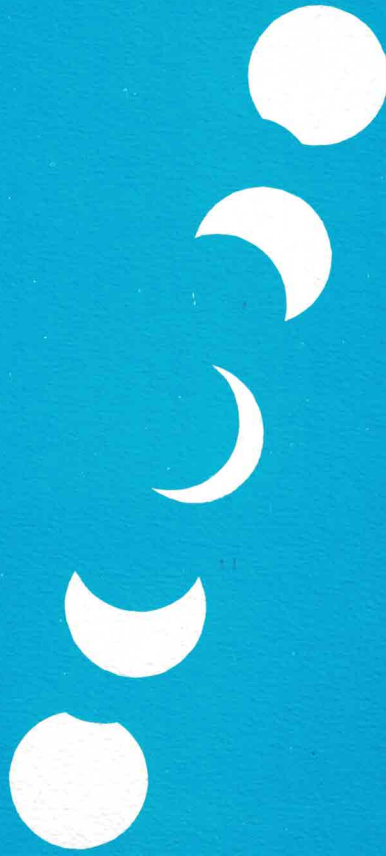
The next sunspot minimum is expected late in the year 1964, although the date cannot be predicted within several months. This eclipse may, therefore, show the general characteristics of the corona at sunspot minimum (the most interesting time to see it) though not completely so.

It is unfortunate that most of the phenomena associated with a solar eclipse can be seen and studied only when and where the eclipse is total. Actually there are more total eclipses of the sun than of the moon, but a total eclipse of the moon can be seen from half the earth's surface (the entire hemisphere turned toward the moon at the time) while a total eclipse of the sun is visible (the totality feature, that is) from only about one half of one per cent of the earth's surface. Most people have opportunity to view many total eclipses of the moon without traveling for the purpose, but very few, if any, total eclipses of the sun.

Only two more total eclipses of the sun will be seen in the United States in the present century; on March 7, 1970, with the totality path crossing central Florida, and on February 26, 1979, with the totality path crossing Washington, northern Idaho, and northwestern Montana.

It is proper, though discouraging, to state that weather observations in Maine indicate only about a fifty per cent probability of clear sky for this eclipse. Nearby, in the Province of Quebec, the prospect is at least no better. So be prepared for disappointment if you make the journey!

Road maps showing the totality path in Maine and nearby Quebec have been prepared and may be obtained on request at the sales counter of the Milwaukee Public Museum. The supply, however, is necessarily very limited, and it is requested that they be not asked for unless there is reasonable probability of their use.



A B C D E

SOLAR ECLIPSE OF JULY 20, 1963

- A — Sun at 3:24 P.M.
- B — Sun at 4:00 P.M.
- C — Sun at 4:32 P.M. (Eclipse Maximum)
- D — Sun at 5:00 P.M.
- E — Sun at 5:40 P.M.

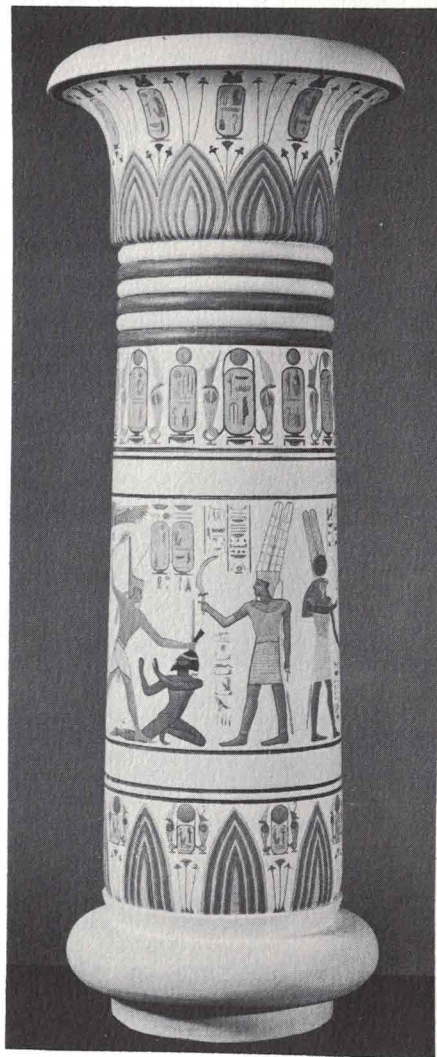
(Appearance as seen at Milwaukee. Central Daylight Saving Time).
(Moon's apparent motion relative to the sun, to the left and upward.)
(Sun's apparently more rapid motion, due to the earth's rotation on its axis, to the right and downward.)

A Little Bit Of Egypt

It was shortly after his accession to the throne of Egypt that Pharaoh Rameses III commenced the building of his mortuary temple at Medinet Habu, in his day the necropolis of Nu(t) Amen. The surviving ruin is located on the western bank of the Nile River, across from Luxor, near ancient Thebes. The date of building was shortly after 1200 B.C. and followed the custom of Egypt's Pharaohs of providing a temple for the perpetuation of ceremonies for him after death. Its size is also remarkable, being 450 feet in length and 165 feet in width.

The temple and its surroundings ultimately became the location of a Coptic village and not only were stones removed for building dwellings in the vicinity, but certain homes were actually built within the temple itself and original walls used as such in the small homes built there. Refuse accumulated and the evidences of the great temple of Rameses were almost obliterated. It was not until 1927 that the excavation commenced to uncover the ruins of this great temple.

The results of the extensive work consist of ten volumes and an assortment of pamphlets which develop in great detail the features of the ruins. The volumes, which have aided immeasurably in the project as proposed for our Museum, were the gift of Mr. William M. Chester of Milwaukee. (See LORE, Vol. 12, No. 2, Spring 1962, p. 42)



Completed column
one of eight

The idea and proposal to build a model of an Egyptian Temple came from our Director, Dr. Stephan Borhegyi, and at his suggestion I visited Dr. Wilson of the Oriental Institute to talk over the possibilities of finding enough material to produce an accurate model. It was here that I was to find our answer, these ten volumes.

When he realized what I had in mind, he said he did not know what to say, should he offer his congratulations or condolences, as he was quite sure that I did not know what I was getting into in attempting a project of this kind. He also told me that the only possible way that I could complete this project aside from having the proper information, was by having a large quantity of one particular ingredient at all times, so upon inquiring as to what it was, he replied, "patience."

Aside from published material, nothing by way of reproduction has ever been attempted. Such a reproduction, obviously in miniature, now became a bold dream for our new building. It now appeared reasonable, and basic details were projected. Then came the problem of scale. One inch to the foot was deemed acceptable for the portion envisioned, which meant an overall model which would be 14 feet by 17 feet.

With the scale in mind, actual dimensions were projected, using the drawings in the volumes. Here it was determined that the scales of the drawings were not precise. Architectural features and ornamental scenes did not agree and had to be reconciled in one way or another. The final projection was accepted and work on the temple commenced.

Inasmuch as it is possible to do many parts of the work in relatively small units, the pillars were chosen as a start. Each pillar was cast as a basic unit and then a number of inserts were applied, making nine pieces per pillar. Photo negatives of the carvings pictured in the volumes were enlarged to the proper size and transferred to the scale columns by the use of non-smearing carbon paper beneath, and the outline of the bas-reliefs cut. Additional surface treatment, consisting mainly of cutting certain areas into correct curves and planes, followed.

When the pillars are completed, they will be painted to match the colors originally applied when Rameses built his temple.

The finished scene will reproduce the first court of the temple, the one where the Pharaoh made his public appearances on the occasions of honoring outstanding persons and distributing his royal gifts. The time will be that of completing the art work. Workmen will be seen on scaffolds working as they did so many centuries ago. It will be a scene of great activity illustrating a cross-section of this portion of Egyptian life in the year 1200 B.C.

EDWARD H. MOLL, Artist

Mr. Moll's ambitious project will be many months in finishing. From time to time reports will be published and our Friends kept aware of developments. Inasmuch as no work of similar magnitude has ever been attempted before, this Museum will ultimately display a most unique feature of which we will all be justifiably proud.



Chicory

BIOGRAPHY OF A BLUE GYPSY

by EMIL P. KRUSCHKE
Associate Curator of Botany

Photos by the author.

The blue-flowered chicory, like the dandelion, is one of our most common wildflowers. From early July until the killing frosts of autumn, people traveling along outlying streets and country highways are greeted by millions of light blue showy flowers on rather tall wiry-stemmed plants that literally cover acres and acres of the bordering countryside. Most abundant of all our blue-flowered summer wildflowers, strange it is that so few people know it by name or know of its colorful past history and its practical significance to man. Though a vagrant or gypsy by nature, over the centuries man has at one time or another and in various places grown it for personal or commercial use—and even upgraded its quality by selective breeding—as a substitute for coffee. Though its economic use helped it to spread to several continents, its weedy ways, prolific reproduction, and great adaptability enabled it to escape and become naturalized wherever it was grown. Today it is a cosmopolitan weed.

Chicory is a native of Europe and Asia. It has been used by man throughout recorded history. Like its close relative endive (*Cichorium endivia*), it has been cultivated for over 1000 years. It was part of the diet of Horace. The Egyptians, who called it "chicouryeh," used quantities of it. The Greeks, who learned about it from the Egyptians, called it "kickory." The Hebrews likewise were well acquainted with it.

Chicory was introduced into the United States by the early settlers, particularly by those who settled in the eastern and southern states. It was grown in gardens as a food plant, the leaves being used as a salad or potherb and the roots, ground and roasted, were used as a substitute for coffee. It was not long, however, before it had escaped to nearby fields and roadsides. Hence, over the years, it has become naturalized as a weed in fields, waste lands, and along roadsides throughout most of the country. As a naturalized weed it thrives exceptionally well on hard red clay soils and even on the poorest land and on extremely dry soil.

When the first settlers came to Wisconsin, chicory, like the dandelion, was not present to greet them. It was not until the time of the Civil War that it was introduced into Wisconsin. At that time, Camp Randall at Madison was used as a prison camp for captured Confederate soldiers. Coffee was scarce in those days and prisoners of war especially had little of it; the roasted barley used by many northerners was a substitute for coffee did not appeal to them. Hence, in their letters to kinfolk in the South, they sent for seeds of the chicory which had long been used as a coffee substitute among the poor people there. Soon the Confederate prisoners were growing it at Camp Randall. It is from there that the seed supposedly spread to nearby places from which its subsequent dispersal to more distant places was merely a matter of time.

The chicory plant (*Cichorium intybus* L.), sometimes called wild succory or blue-sailors, is a perennial with a long fleshy tap root, a coarse-branching stem, and numerous basal leaves. The leaves are nearly all at the base of the plant and form a rosette like that of the dandelion. The leaves, varying from 3 to 7 inches long, are spatulate with cut, lobed or toothed edges, often curled. The stem leaves are very small, inconspicuous, and clasping. The stiff-branching plant with rigid, angular branches and numerous branchlets grows from 1 to 4 feet tall. It often grows in dense colonies but usually it forms solid stands in fields and along roadsides.

Often fifty to a hundred or more "flowers" (flower heads) form on the numerous branches and branchlets of a single plant in the course of the season, but only a comparatively few open at one time. The flower heads are sessile, often clustered but usually two flowers at a place; sometimes the flowers are borne singly. Close examination of the flowers readily reveals the fact that the chicory is a member of the sunflower family (*Compositae*). Like the dandelion the flower head is composed entirely of strap-shaped ray flowers; there are no tubular flowers as one finds in the inflorescence of the thistle and sunflower. Each composite flower, mostly from an inch to an inch and a half across, consists of a dozen or more strap-shaped perfect flowers or rays which are squared off and toothed at the ends. Because of the tissue-thin character of the rays, the

delicate and fragile flowers wilt very quickly, almost immediately, after they are picked.

The flowers are a beautiful pale blue color, or as Emerson so aptly described—

Grass with green flag half-mast high,
Succory to match the sky.

Because of this color of the blossoms the plant is often referred to as blue-sailors. Occasionally one will find a few plants with white or pinkish flowers. When the flowers are picked the blue coloration is very ephemeral. When pressed as plant specimens, the soft thin rays fade and quickly lose their shade of blue color. The flowers open fully on bright sunny days, but on hot sunny days the flowers usually close by noon or early afternoon. The flowers also open fully on dim or cloudy days and then usually remain open throughout the day. The blue color is deeper and brighter and the flowers are the prettiest on cool sunny days especially in the morning before ten o'clock. Later in the day when the sun is higher, the blue seems fainter and the flowers appear less showy. This fact is important especially for those who wish to photograph it in color.

In spring, especially in May and even the first week of June, the young leaves forming the compact rosettes that closely hug the ground, much like and often readily confused with the dandelion rosettes, are gathered by children and adults and eaten raw as a salad with or without seasoning, or boiled as a green or potherb. Both have an excessively bitter quality which some people desire in a potherb, but this bitterness is reduced considerably by boiling in the course of which the water is changed once or twice. The cooked green or potherb is then served like spinach, either with or without a little vinegar or lemon juice added.

The young, small, tender roots may also be boiled and eaten much like we do carrots and parsnips.

The roasted root when ground or pulverized is used as a substitute for or as an adulterant or blend of coffee, especially in Europe and in southern United States. Chicory has also been used by manufacturers of soybean, chocolate, and Worcestershire sauce for the purpose of adding color, flavor and body. It was also at one time used as a humidecant (to keep moist) by the tobacco industry.

Several cultivated forms of the chicory have been developed, some used solely as vegetables or as a salad plant. However, in the manufacture of chicory for use with or as a substitute of coffee, special forms or varieties of the chicory have been developed and are grown just for this purpose. The roots of these cultivated plants are larger than in the wild and they show considerable resemblance to the sugar beet, except that in the chicory they are longer and more slender. In several places in this country it has been grown as a farm crop much like sugar beets. In fact the two require quite similar climate and soil, and are planted and harvested in much the same way. When cultivated, the procedure is as follows:

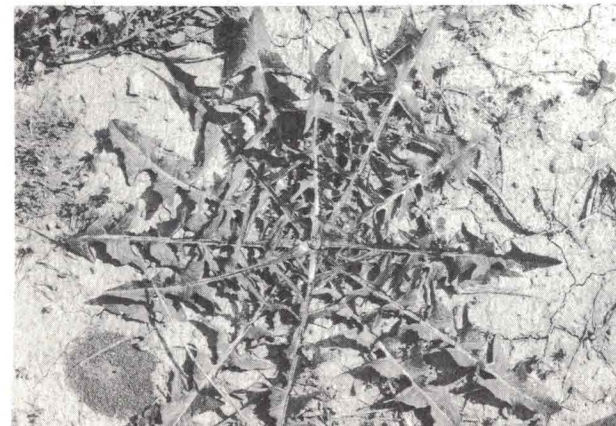
In the spring the seed bed is prepared and the seed is then planted in rows. During the early part of the growing season the rows are cultivated

to remove the weeds, and the plants are thinned out so that the individual plants are about eight inches apart in the row. This gives each plant plenty of room for growth and for maximum development of the root. Since chicory, like sugar beets, is almost free from disease and insect pests, little attention is needed in this respect to keep the plants healthy during the growing season.

The chicory roots are harvested in September and early October just before the first killing frosts. The roots are loosened with a lifter, then removed and freed of soil, and placed in piles. The leaves are then topped off with a sharp knife. The topped roots are then hauled by trucks to the drying plant where they are washed after which they are cut in pieces (cubes about an inch square) and then dried. The dried pieces are processed immediately or are held in storage. The final processing consists of roasting the dried chicory and grinding it to a fineness suitable for blending with ground coffee. It is shipped in bulk in waterproof barrels or sacks; some is packaged in a form convenient for distribution to housewives.

The ground chicory is used as substitute or an adulterant—in most instances, however, by preference—of coffee, or it is often blended with coffee to flavor it. A beverage made of chicory alone is quite bitter and many people do not like it. The customary blend preferred in this country is 10 per cent or less of chicory, although in the South a somewhat larger proportion is often used. It is claimed by some authorities on chicory that the great majority of coffee drinkers who have a chance to taste the coffee-chicory blend generally seem to prefer it over the coffee alone, and that it is more palatable and more wholesome than true coffee. In Europe especially coffee containing chicory is preferred to the pure product. The following statement written by Porcher in South Carolina at the time when the South was suffering from severe privations as a result of the Civil War, is significant in that it supports the same contention:

“By the combination of a little chicory with coffee, the flavor of the coffee is not destroyed, but there is added to the infusion a richness of flavor, and a depth of color—a body, which renders it to very many people much more welcome as a beverage.”



Rosette of
wild chicory leaves

Fernald and Kinsey in *Edible Wild Plants of Eastern North America*, (1943) make the following statement: "Johnson tells us that in parts of Europe the demand for chicory-coffee often exceeds the supply and that the ground chicory has sometimes been mixed with sawdust, roasted beans, dried horse-liver, and other substances used to add bulk. Thus it is easy to understand the scarcity of good coffee in most tourist-hotels of Europe."

In some southern cities, especially New Orleans, much of the coffee is flavored with chicory. In some years millions of pounds of the roots have been imported from Europe; a considerable quantity has been grown in the United States.

Prior to the 1890's there was no known production of chicory in the United States. Sometime during the 1890's, according to Earl Senninger, Jr. (*Papers of the Michigan Academy of Science, Arts and Letters*, 45: 145-153, 1959), chicory was first grown in the Saginaw Valley and Thumb areas of Michigan. Between 1890 and 1954 chicory was a very significant cash crop in Michigan, and during this period the Saginaw Valley and Thumb areas were the source of between 90 and 100 per cent of the total production of chicory in the United States.

Chicory has also been grown in New Jersey, Wisconsin, Illinois, Nebraska, and California. In the late 1880's and early 1890's, according to Charles E. Brown (in a letter to Albert M. Fuller of the Milwaukee Public Museum in 1926), chicory was processed in Milwaukee on the north side of State Street (another reference says Cherry Street) between North 15th and 16th Streets, in a factory in which a coffee essence was manufactured. The plant was then cultivated here but soon after became spontaneous and eventually spread throughout the county.

The best chicory yields in Michigan were obtained from rich, well-drained clay loam soils. The moderate summer temperatures and adequate and well-distributed rainfall in the Saginaw Valley and Thumb areas of Michigan were exceptionally ideal for the growing of chicory.

As early as 1899, 1,143 farms reported chicory production in the United States. It is estimated that 90 per cent of this production was in Michigan. According to McMorran (*loc. cit.* in a letter to Earl Senninger, Jr.), prior to 1941 there were normally 3500 to 5000 acres of chicory grown in Michigan by 700 to 1000 farmers, producing an annual return of between \$300,000 and \$400,000.

Since 1954 there has been no reported commercial production of chicory in Michigan nor in any other state in the United States. Today all of the chicory used in the United States is imported from Europe, apparently due to a change in the tariff regulations in the year 1951. According to the tariff regulations—Tariff Paragraph 776—crude chicory entering the United States is assessed a duty of 1¢ per pound, a reduction from the 2¢ per pound set by the Tariff Act of 1930. Chicory, ground, or prepared otherwise, enters the United States under the same Paragraph with an imposed duty of 2½¢ per pound, a considerable reduction from the 1930 level of 4¢ per pound.

It is particularly noteworthy, but not surprising, that European exports of chicory to the United States, especially from France, Belgium, and the Netherlands—the largest suppliers, increased considerably after the tariff rates were reduced. Also, because of lower wages (much hand labor is involved in the growing and processing of chicory) the cost of producing a ton of chicory in European countries is much less than it is in the United States. Mainly because of these advantages, France, Belgium, and the Netherlands, in 1956, exported to the United States 14,166,004 pounds of ground or otherwise prepared chicory at a value of \$975,222.

At present, approximately 85 per cent of the chicory imported in the United States is ground by European processors, due chiefly to the existing differential in wages. The remaining 15 per cent enters the United States unprocessed, and is subsequently ground in this country.

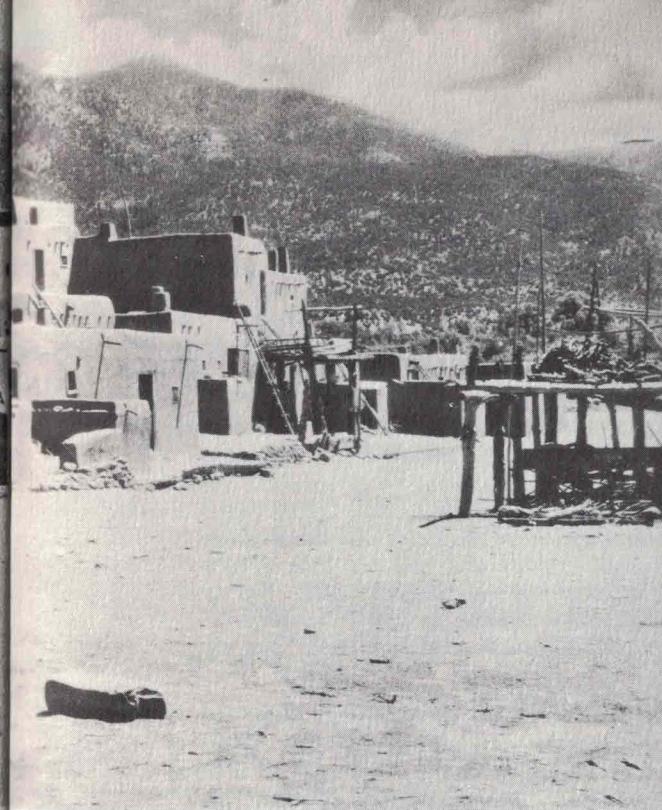
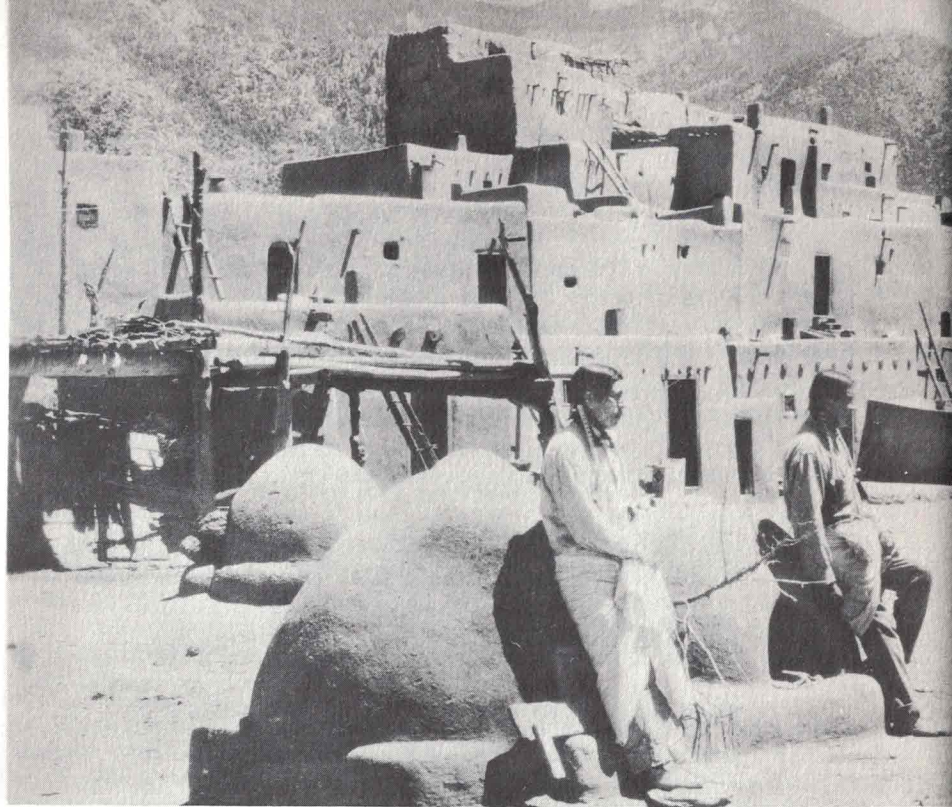
ANOTHER WORLD ANOTHER TIME

THE PUEBLO OF TAOS, NEW MEXICO

by JAMES BODINE, Asst. Curator of Education

The mighty Rockies march through the American West with a grandeur and beauty to rival that of any mountain range in the world. As their power declines in southern Colorado and northern New Mexico, one of their final bursts of glory is a range of mountains called the Sangre de Cristo or the Blood of Christ. The majesty of Wheeler Peak rises among these weathered giants. It is justly famous, for it is the highest point in New Mexico, and soars more than 13,000 feet into the incredible blue of the New Mexican sky. It has cast its shadow on centuries of life passing below. High amid the forest of pine and fir, among the old fire scars that come to life with the gold of the quaking aspen, is a lake. Mountain trout break water and there are the soft sounds of a thirsty doe with her spotted fawn, but this is no ordinary lake. It is Blue Lake, the most sacred shrine of the Taos Pueblo Indians.

Each August, these Indians labor up the steep mountain along a trail worn smooth by centuries of moccasined feet. Only two white men were permitted to witness even the opening ceremonies performed by these brown skinned, blanketed people. The Honorable John Collier, former U. S. Commissioner of Indian Affairs, and his companion saw the ceremony of the first night's encampment. At dawn, the whites turned back, while initiated members of the tribe continued to the shores of that Lake from whose blue depths the souls of the people emerged at the time of creation. There is no reliable description of what transpires there.



Taos Pueblo

Santa Fe Railroad photo

Blue Lake is more than the scene of the annual pilgrimage of a few hundred Indians. It is the source of a stream that races down the mountain to divide the adobe village of these Pueblo people into north and south sides. Its crystal waters are drained away into a maze of irrigation ditches to disappear into the parched fields and orchards. With the water's power, corn, wheat, squash, beans, alfalfa and fruits find the strength to grow. Even the most acculturated Taos Indians will tell you, "From our Father Sun, our Mother Earth, and Blue Lake all blessings flow."

This Lake with its life-giving waters made Taos valley rich and habitable long before Don Francisco Vasquez de Coronado journeyed from Mexico in 1540 to find the Seven Cities of Gold. His hopeless search led him from Zuni Pueblo in western New Mexico to the valley of the Rio Grande near the present state capital of Santa Fe. A small party of men was sent north. They were the first of four centuries of Spanish and Anglo intruders to enter Taos Pueblo. It was not until Juan de Oñate returned with 400 colonists in 1598 that any serious attempt was made to settle at Taos and to claim the Taos Indians as property of the Spanish empire.

With these intrepid pioneers, who brought horses, sheep, oxen, the Spanish tongue, and all the other trappings of 16th century Spanish culture, came the Friars. The brown-robed Franciscans preached, reasoned, and sometimes flogged their wards into a tenuous acceptance of the Christian faith to which the majority of the Indians pay only lip service

even today. Instead they return to their underground ceremonial chambers, the kivas, and to Blue Lake for strength and purpose.

The Spaniards stayed and thrived, even though the hardships of life in New Mexico were severe indeed. The Indians came to depend on their oppressive masters for protection against their traditional enemies, the Apaches. These fierce warriors, who had pillaged and plagued the Pueblos since about 900 A.D., were kept in check by the garrisons of Spanish soldiers. But such servitude amounted to slavery and Pueblo resentment grew until it spawned a messiah by the name of Popé. In 1680 the Indians revolted and Popé, hiding in the Pueblo of Taos, came forth and drove the Spanish from New Mexico. The Apaches willingly joined in the Indian revolt and then turned on the normally peaceful Pueblos to perpetrate such atrocities that the Pueblos put up only a token resistance when the Spanish marched north again in 1692 and resumed their colonial activities. There are Spanish American families in the valley of Taos today who proudly trace their descent from these early conquistadores.

In the early 1800's, revolution ravaged Latin America and brought the northern provinces under the control of Mexico. The Spanish empire was exhausted. But Taos and Santa Fe were many miles from the capital in Mexico City. Anglos, as non-Spanish Americans are still called, came to New Mexico along the Santa Fe trail and many stayed. Fur trapping led to the establishment of Bent's Fort just a short distance north, in what is now Colorado. Mountain men, traders, trappers, settlers, soldiers, and Comanche war parties followed the trail from the southern plains over a

mountain pass that emerged at Taos. Then they continued on to Santa Fe. Meanwhile, the Taos Indians planted, harvested, and prayed at Blue Lake.

The year 1847 was momentous. The United States quarreled with Mexico over Texas. New Mexico was caught in the confusion that followed. From his Taos home, Kit Carson joined with the Bent brothers and others loyal to the cause of the United States. General Stephen Watts Kearny marched on Santa Fe and raised the American flag. However, disturbances were not at an end. Mexican loyalists plotted against the Americans. The Taos Indians, pawns on the chessboard of New Mexican politics, were called into play. Aroused by issues that did not really affect them, a group of Taos Indians attacked the home of the American Governor, Charles Bent. Digging with large spoons, Bent's wife and daughter managed to squeeze through a hole in the soft adobe wall. Bent was scalped by the enraged Taos warriors before he too could reach safety. This act demanded a reprisal. A detail of soldiers met the insurgents and chased them back to the Pueblo where the Indians took refuge in the church. It was the last stand of the Taos people. Today the crumbling walls of the old church stand at the Pueblo, a silent monument to those that perished there. Appropriately enough the dead Taos are still buried in the ruins of this church.

There are actually three communities called Taos and each is different. The Anglo town of Taos, governmental and commercial center of the area, is a renowned art colony. Long a mecca for those who have fled the pressures and empty rewards of materialism, this tiny community has seen millionaires and paupers turn their backs on the world to become absorbed in the kaleidoscopic cultural milieu of Taos. Three miles south is Ranchos de Taos, the Spanish American town that boasts the most beautiful example of Spanish mission architecture in the Southwest. Built in 1772, the church at Ranchos has been reproduced by artists and photographers more often than any other building in the world. Certainly this local claim would be hard to disprove. Finally, one travels three miles north of the Anglo town to reach the Taos Indian Pueblo.

There have been many changes here since the time of Coronado or even the violent days of Kit Carson. But enough is preserved of the old way of life that anyone visiting the Pueblo is immediately struck by the realization that here indeed is another world. The rushing torrent of water from Blue Lake slices through the Pueblo to quench the thirst of its inhabitants as well as that of the animals and plants that sustain their human masters. Two old foot bridges span the stream to connect the multi-storied apartment houses of rich brown adobe on both sides. Framed against its mountain backdrop, the north side rises in a jumbled mass to five stories, while on the opposite bank of the river the homes of the south side people reach only four. Wooden ladders permit the ascent from one story to the next. This prehistoric monument to a stable culture is the home of nearly 1000 Indians.

The older men, hair falling in full braids on their chests, prefer to follow the rules that say a man must wear moccasins and remove the seat of store-bought pants in imitation of the aboriginally important leggings of deerskin. They cover their exposure with a thin cotton blanket

that can be tied around the waist or drawn up to shroud the whole body. When the Indian prefers such anonymity by using this garment, only the blackest eyes, plucked free of eyebrows, can be seen. The blanket can warm or it can cool, in the manner of the loose robes of the Near East; but it also allows the individual to slip away into that other world of thought and time that controls these Indians.

Very often the women of a culture are the strongest perpetuators of old ways. This is not necessarily true at Taos. Even though there is little here that could be called overt male dominance, there is no question that this is a man's world. Again one looks to the older women to see the signs of former dress. Most adult women use shawls of cotton or wool. The colors vary, but are always vivid. Moccasins are important, but on special occasions the married women will put on soft boots of white deerskin. If extended, these boots would reach above the knees, however they prefer to fold them down over and over until they hit the lower calf of the leg. The bulky folds mean that Taos women must walk slowly and with each step throw the leg out and back so that movement is somewhat laborious. Their hair is worn in bangs across the forehead, while the longer tresses are deftly folded into an elaborate chignon secured with bright woolen yarn.

The visitor to Taos reads a sign on entering the village that clearly states he must be out by six p.m. This is necessary, but unfortunate. It is the time after six when the Pueblo returns to the other world, that few tourists have seen. As the wind dies and the sky is streaked with the colors of a setting sun, the people begin to emerge from their adobe homes to enjoy the calm of being with their own. Just before the last ray of light fades in the west, a figure blanketed in white climbs to the top of the highest story. With the pungent aroma of piñon swirling upward from a hundred clay chimneys, this herald from the past calls to the people in the soft melody of the Taos language. He may be an officer of the village who informs those who have been chosen for participation in the next ceremonial or he calls the roll of individuals who must work on the current community project.

From this adobe minaret he can see a group of younger men move toward one of the old foot bridges. Darkness closes in rapidly at the Pueblo. Electricity is not permitted by Indian law and as the flickering oil lamps are extinguished in the homes, the rhythmic beat of a small drum fills the air. The young men at the bridge begin to sing. The sound moves out to reach into the adobe maze of the old Pueblo and echoes up the canyon that climbs the mountain which leads to Blue Lake. All is one. Expressed by the council of old men, these people adhere to the philosophy that has preserved their culture for untold centuries. "Let us move evenly together." Against the adversities, the vicissitudes, the almost insurmountable problems that time has brought to this tribe, this strength in oneness has endured. Time is not on the face of a clock. It exists and is marked only by the ever recurrent seasons. Life and death are inseparable. From Blue Lake arose the soul and it dwells there in the blue shadows. Again and again it has come forth to give meaning to another world and another time.



Drug store formerly in old building. A similar store will be installed in the old street.

THE DRUG STORE

This is another of a series of articles which set the mood for the "circa 1900 Milwaukee Street" in the New Museum.

The writer's father was a pharmacist in Milwaukee and Manitowoc for many years. The atmosphere suggested results from personal recollections.

Of all the businesses in an old street there is none which means more to me than the drug store. It is in my blood. I was born directly above one and, over the course of my early years, must have snooped into every corner and cabinet available, smelling of

and looking at everything, even tasting when Dad allowed it. Otherwise the law of the store was clear: Hands Off!

On one occasion I broke the law. Dad had a gallon-sized stock bottle on a low shelf, filled with rose water. I loved the smell and occasionally was allowed to sniff when the apprentice took off the cork. One day I decided to smell without permission. Not being able to read a label (I was four years old), I uncorked the ammonia bottle by mistake and took a deep breath of what should have been very nice. The shock, plus the near-paralysis caused by the ammonia, nearly knocked me out. Never again did I touch without permission.

How does one go about describing such a store? So much in it is strange. Practically everything is out of reach of the customer. Packages are different in appearance. Rows of bottles, filled with unknown liquids and labeled with abbreviated Latin words, fill the customer with mixed emotions. Yonder is a wooden partition (with a peep hole) separating the public area from the prescription counter, a veritable holy of holies.

My recollections are endless. One thought brings on another. For example, envision a Sunday evening in summer. The pharmacist and his family are enjoying the air in front of the store. Seated on ice cream chairs, they relax and chat with neighbors who stop by. Once in a while the proprietor gets up to serve a customer, usually a man who wants a cigar. One little boy buys a penny's worth of fruit lozenges, small sugary squares of pale color and varying in flavor. It took a good many years before I learned, accidentally, the reason for the boy-Sunday-fruit lozenge combination. Any other day would have seen the lad at the candy store,

but Sunday was different. The quasi-medical suggestion of fruit lozenges and a drug store made such purchases acceptable to his family on a Sunday.

Aside from such delicacies, which were taken only with permission lest it be overdone, there were sweetwood and St. John's bread. Sweetwood, a flavorful root, is more tasty than sweet and, after being chewed enthusiastically, fills one's mouth with useless woody fibers. St. John's bread, on the other hand, is really very good, particularly when fresh. It is an oversized species of pea pod, somewhat resembling honey locust, sweet, slightly tough to chew, and having a flavor all its own. Dad usually bought his St. John's bread by the hundredweight and sold most of it to children. We loved it.

Of all the customers who patronized the drug store, the shyest were the young ladies who either came to have their ears pierced or to have a "special" preparation compounded, one which had been published in the paper and was guaranteed to do wonders for the complexion. Skin whiteners, lotions containing mild bleaches and precipitated chalk or some similar material, were to be used by the exceptional lady who was not satisfied with simple corn starch. For removal of freckles a compound of lemon juice, sugar, and beeswax was available, unless one preferred a real cream, more expensive, consisting of sodium borate, potassium chlorate, rose water, glycerine, and alcohol. But the freckles always came back, along with demands for more "cures."

The word "cure" was used fantastically. Every nostrum could be labeled a cure for troubles ranging from ingrown toenails to cancer. It was only after the enactment of the pure food and drug laws that patent medicines gradually were labeled with less extravagant claims. Dad preferred compounding his own preparations rather than to trust a "patent medicine" and, accordingly, kept his private book of prescriptions.

To suggest the date of this book, here is somewhat of a surprise. A cough syrup, credited to a local physician, starts out with morphine sulphate! No doubt the remedy was effective, but the possibility of addiction made its use questionable. Those, however, were the days of unrestricted narcotics and nobody thought much about it.

Veterinary preparations were common. Aside from the horse liniments, one could have a special fly killer or a fly dip (for use on cattle), and hog cholera remedies compounded. For the outdoor man there were "mosquito remedies" and "cures" for poison oak and ivy. And for the truly unfortunate there were rheumatic elixirs which presumed to cure the ills which modern medicine has not yet completely eradicated.

One wonders at this point just when the pharmacist left off and the doctor began. Actually, there was no sharp demarcation. Whenever the doctor was needed it was a serious case and his prescriptions and advice were accepted. However, there was a double cost: the fee and the price of the medicine at the pharmacy. As long as it would be possible to get to the druggist with one's problems, the medication supplied would be the only item of cost. There was no fee for the advice. After all, the pharmacist had his limitations, and, moreover, had to remain a friend of the doctor. But, inasmuch as there were not many of either, there was enough business for both.

The drug store often was on a corner so that it could be seen from several directions. The globes of colored water in the windows served as

identification in addition to the words, *Pharmacy, Drug Store*, or, particularly in Milwaukee, *Deutsche Apotheke*.

Perhaps most outstanding in the drug store of the period was the absence of a candy counter, an ice cream dispensary, and a help-yourself merchandising system. After all, changes can be expected over a period of sixty years.

ELDON G. WOLFF, *Curator of History*

A BOOK YOU SHOULD READ

Wilbur D. Peat, *INDIANA HOUSES OF THE NINETEENTH CENTURY* (Indiana Historical Society, Indianapolis, 1962)

This is a guide to Nineteenth Century domestic architecture in Indiana. It follows a current tendency to emphasize the architecture and its development rather than the traditional association of buildings with important persons or events. Accompanied by excellent illustrations, the book is divided into ten chapters, eight of which cover the architectural modes of the Nineteenth Century which the author has chosen to call Federal, Neo-Classic, Gothic, Composite, Anglo-Italian, Franco-American, Neo-Jacobean, and French-Romanesque. It is difficult to agree that Neo-Jacobean is a good description of late Nineteenth Century Victorian extravagance, and the other hyphenated modes, Anglo-Italian and Franco-American, also raise some interesting questions of classification. At any rate, the author's treatment of the various Victorian types is unabashed and forthright in contrast to the usual self-conscious approach accorded by mid-western people when treating their local work.

The book contains a full chapter on Indiana architects of the Nineteenth Century. This is a welcome tribute to the profession which is so often neglected in studies devoted to American architectural development.

Somewhat surprisingly, the author dismisses log construction on the premise that the theme of the book is artistic architectural design and not merely housing. This is in sharp contrast to other Indiana viewpoints which, among other things, have resulted in such excellent efforts as the Spring Mill State Park and the actual preservation of some of Indiana's finest specimens of primitive log and timber work.

While the text of the book touches upon interiors, the illustrative material is limited exclusively to exterior photographs. The general excellence of the book might have been further enhanced with some interior illustrations of the various periods under discussion.

The format of the book is very impressive with its splendid binding, well composed type, and the marginal concordance consisting of thumb-nail sketches and plate references which are both useful and cleverly presented.

Indiana Houses of the Nineteenth Century is a most useful guide and handbook, particularly to the serious student of architecture. It also possesses the kind of popular appeal which is necessary to encourage the American people to become concerned with their architectural heritage and its preservation. The author and the publishers have made an important contribution to American architectural history, and other mid-western states might well profit by Indiana's example.

RICHARD W. E. PERRIN, F.A.I.A.

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