

ARIZONA HIGHWAYS

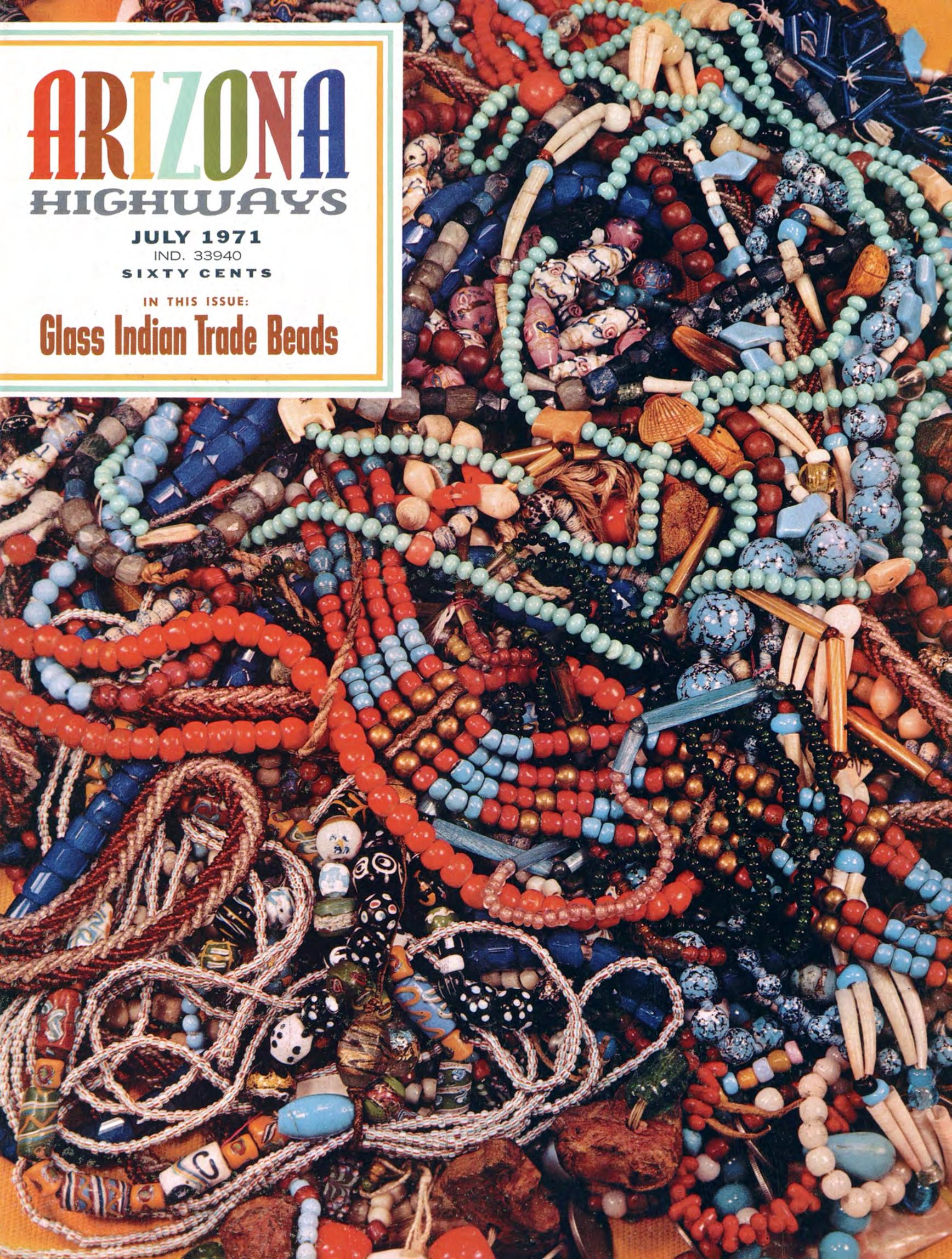
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Glass Indian Trade Beads





ARIZONA HIGHWAYS

VOL. XLVII No. 7

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FRONT COVER

"GLASS TRADE BEADS" BY CLOYD SORENSEN. (See CL 131, Page 34, Captions for Trade Beads). All trade beads transparencies were taken by the author, using a Linhof camera with Schneider 150mm lens unless otherwise noted, on Ektachrome Type B film, using 3200 Kelvin illumination.

OPPOSITE PAGE

"CROSSING WEED BENCH" BY HELGA TEIWES. This is a large high plateau in the northern part of the Navajo Reservation. Taken on a backpacking trip enroute from West Canyon to Navajo Canyon. The Buttes surrounding Lake Powell are in the background, part of Tse Tonte, one of the landmarks of the Rainbow Plateau is to the left. Rolleiflex camera, Tessar 75mm lens; Agfachrome exposed 1/60th sec. at f11, in overcast after a light rain.

NEXT MONTH'S FEATURE . . . THE SPLENDOR OF OUR WILDFLOWERS

Be It Ever So Beautiful

There is no place like the land we write about this July. This editorial is inspired by a beautiful love . . . a love for life and for what makes life worthwhile in this world so full of wonders that no single mortal life span can ever witness or document them all, even with supersonic transports, super-electronic recorders and supercomputers to retain the data.

In the evolution of Earth's Great Creation there are no parts of this globe more wonderful than the North American West, out of which our Southwest must rank as the most remarkable area of scenic wonders in the United States. In qualifying that statement we want to make it clear that we will not make, or infer, any disparaging comparisons with any other part of the world; for beauty is everywhere in the eyes, heart and mind of the beholder. On the other hand, we will unequivocally state that nowhere in this or any other galaxy will man see more to stir his soul, and nowhere else will he be more captivated by the immensity of the Divine ideal than in the area of our West represented in our map on page 7 of this Magazine.

And the wonder of wonders is the fact that most of this vast geological wonderland, this area of uncounted prehistoric treasures, this world of cultural resources is relatively new to modern man; for it has been only in the last several decades that this most impressive and little understood area has been discovered, explored and appreciated.

We invite you to visit these places and to behold, feel, and experience the truth that man can find peace and strength here despite the shortcomings and imperfections of the material standards of life and the pressures put upon us by the conventions of modern society; for here each of us in his own way can accept and exalt in the glorious testimonial, "The heavens declareth the Glory of God and the firmament showeth his handiwork."

In our longing for the curious, the exotic and the wonderful, we will find ourselves traveling to other lands on foreign continents; and we can be proud and gratified to know we will see no land more wonderful than our own.

Como mi amor no hay dos!* . . . R.C.

COLOR CLASSICS, THIS ISSUE

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GB-1 Glass Trade Beads CL-131, cov. 1; RP-1 Crossing Weed Bench, cov. 2; RP-2 Sheep in Navajo Canyon, cov. 3; RP-3 Navajo Mountain, cov. 4; RP-4 Natural Bridge, p. 3; RP-5 Navajo Canyon, p. 8; RP-6 Anasazi Canyon, p. 8; RP-7 Side Canyon to Navajo Creek, p. 8; RP-8 Icy Canyon Walls, p. 9; RP-9 Route Through West Canyon, p. 9; RP-10 Canyon South of Navajo Mountain, p. 9; GB-2 Glass Trade CL-120, p. 17; GB-3 CL-150, p. 18; GB-4 CL-115, p. 19; GB-5 CL-144, p. 19; GB-6 CL-117, p. 19; GB-7 CL-114, p. 19; GB-8 CL-106, p. 20; GB-9 CL-185, p. 20; GB-10 CL-181, p. 20; GB-11 CL-116, p. 21; GB-12 CL-118, p. 21; GB-13 CL-148, p. 21; GB-14 CL-178, p. 22-23; GB-15 CL-172, p. 23; GB-16 CL-192, p. 23; GB-17 CL-195, p. 23; GB-18 CL-149, p. 24; GB-19 CL-143, p. 25; GB-20 CL-109, p. 26; GB-21 CL-142, p. 26; GB-22 CL-170, p. 26; GB-23 CL-119, p. 27; GB-24 CL-141, p. 27; GB-25 CL-194, p. 27; GB-26 CL-189, p. 28; GB-27 CL-184, p. 29; GB-28 CL-113, p. 29; GB-29 CL-105, p. 29; GB-30 CL-121, p. 29; GB-31 CL-175, p. 30; GB-32 CL-129, p. 30; GB-33 CL-186, p. 30; GB-34 CL-152, p. 30; GB-35 CL-187, p. 31; GB-36 CL-188, p. 31; GB-37 CL-190, p. 32; AR-309 Pima and Yuma Indians, p. 35; RP-11 Rainbow Bridge, p. 40-41; RP-12 Lake Powell, p. 46.

*Literal translation: Like my love there are not two.

A Challenge To Those Who Seek A Kind Of Natural Beauty Unsurpassed Anywhere.

RAINBOW PLATEAU

By Eber G. Glendening

Photographs By Helga Teiwes



Cummings Mesa . . . Note temple form with arch shaped entrance at left.

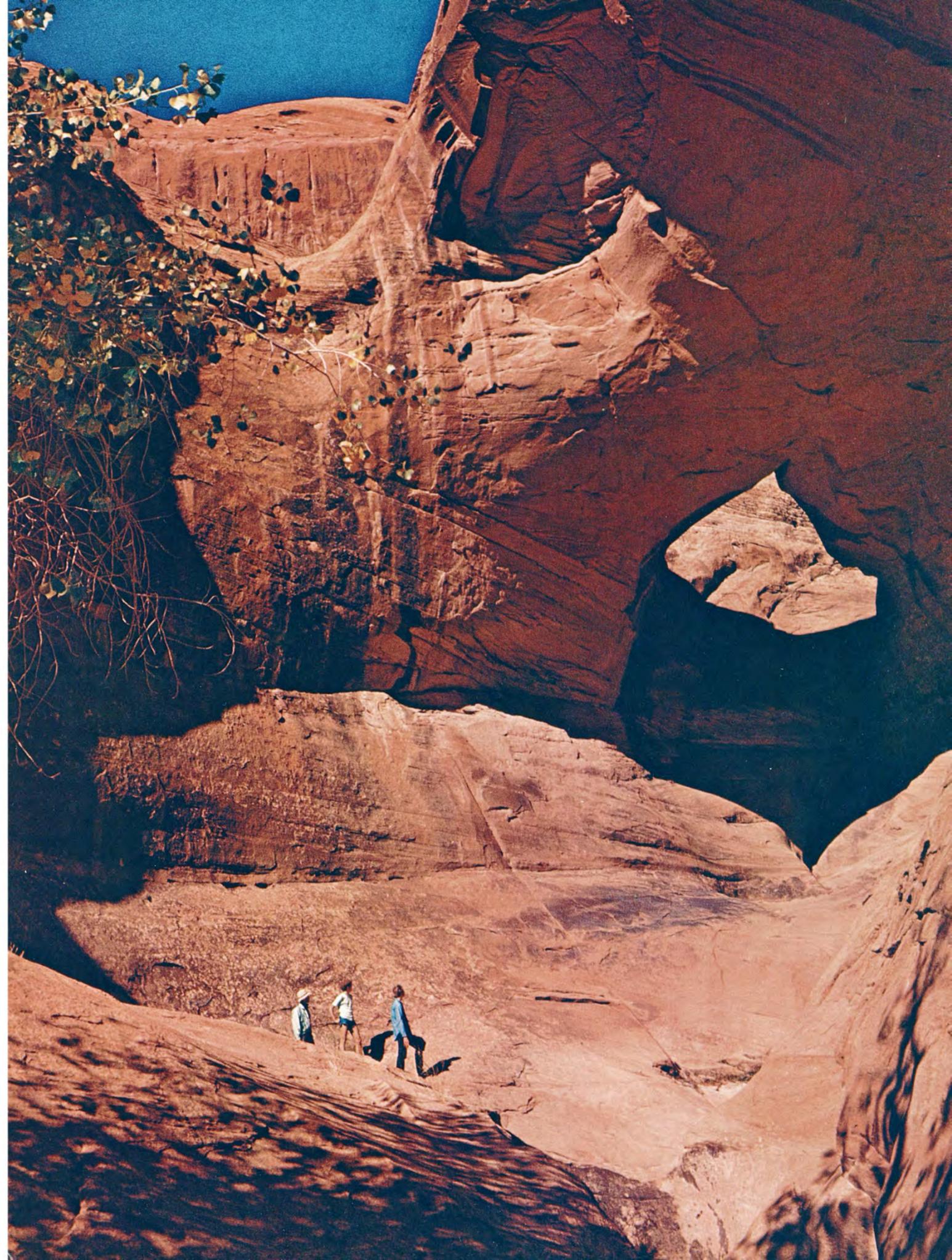
Along the Arizona-Utah border and south of Lake Powell lies a vast section of the Navajo Indian Reservation. Some maps show this as the Rainbow Plateau but for those of us who have been there we think of it affectionately and with a great deal of personal pride simply as "the Navajo." In every way this section of the Navajo reservation is unique and it must remain one of the most perplexing paradoxes in the discovery and exploration of our country.

The large number of cliff dwellings and other archeological sites that have been found show the Rainbow Plateau to have been home to Indians for many centuries. Generally living in small groups of a few families, these prehistoric inhabitants of the area were able to make a living by hunting, fishing, and some agriculture. In modern times the area has seen little economic development for until a use is found for hundreds of square miles of sand there is little to develop. Overgrazing in the past has all but eliminated what little grass once existed, however, a handful of Indians still manage to raise a few sheep. But even though there is little to develop economically it does have a resource, and it's a resource that can't be matched anywhere, and that is its magnificent scenery. Vertical sandstone cliffs, spires, and pinnacles. Sandstone domes devoid of vegetation but with an indescribable beauty of their own. Canyons hundreds of feet deep and but a few feet wide. An area truly unique in this world of ours. This is the beauty of "the Navajo." This is why whenever we mention "the Navajo" among our-

selves our hearts beat a little faster in anticipation of the adventures that lie ahead.

Modern man has long recognized the beauty associated with the Rainbow Plateau. Completely encircling the area are such scenic and recreational areas as Canyon de Chelly National Monument, Canyonlands National Park, Bridges National Monument, Arches National Monument, and the Monument Valley Navajo Tribal Park, along with numerous campgrounds. These are all areas that are outside, but indicative of the beauty that originates on the Rainbow Plateau. The paradox surrounding this mysterious country became complete when Rainbow Bridge National Monument was established in the very heart of the area, and even more, it must be remembered that this National Monument was established, not for the uniquely spectacular beauty of the setting, but only for its one admittedly outstanding feature.

So what is the paradox? That the Rainbow Plateau as large as it is, having been the home of prehistoric Indians, and with all its attractions for the modern day hiker and adventurer is still unexplored, little known, and virtually unseen. It has remained this way in spite of the thousands of persons who enter the area annually to visit Rainbow Bridge. For with the scenery surrounding Rainbow Bridge being so superb, it is difficult to imagine that a few of its visitors haven't left the beaten trail to see what the other canyons have to offer. And maybe it is just as well, for it is the undisturbed, untouched serenity that gives this country so much of its charm.



As beautiful and spectacular as the canyon bottoms are, what we call the dome country is fantastically interesting. This is a wild and weird array of sandstone domes between the canyons.



point to another and everyone else following him. As might be imagined, these roads are forever changing with new ones coming into use and old ones being abandoned. There is no good map that shows these reservation roads but the U.S. Geological Survey maps are as good as any. Of greater importance is a sixth sense that can only be developed over many years of trying to second guess these roads. Then again these roads could be the most important protector of the country and those who enter it. I remember trying to explain to a friend of mine the route of a trip that he wanted to make. He seemed to be having some apprehension over whether or not he would be able to find the right route. I was able to reassure him by letting him know that if he could figure out the roads to get to the beginning of the hike then he would certainly have no trouble in figuring out the rest.

Below — Navajo Canyon. Here according to legends is where the ghosts of the “Other People” live and the night time is haunted by haranguing demons. In the lower regions of the canyon are hundreds of remnants of cliff dwellers’ ruins. The Navajo is a formidable canyon with its jutting slabs and terrace-like overhangs creating an exciting kaleidoscope of highlight and shadow variations on the canyon walls and reflected in pools along the canyon floor.

The paradox has continued in spite of the tremendous increase in the number of people utilizing our country’s undeveloped areas for the wilderness experiences they are able to provide. And this increase is so significant that many of our more popular wilderness areas are now so heavily visited that the impact on them by people has been great enough to destroy the wilderness values they came to find.

If “the Navajo” is unique in that it has not yet been discovered by the adventurer looking for something new, it is even more unique in that the most experienced outdoorsman will have a whole new set of problems to master. For, the problems that one might expect to encounter in “the Navajo” are unlike the problems that one encounters in the more popular areas.

Of minor importance but still significant is the fact that this area is unknown. A group planning a trip to the Rainbow Plateau will have little more information available to them on which they can plan their trip than did George Mallory when he was first trying to climb Mt. Everest, or Admiral Byrd on his attempts to reach the North Pole, or even Columbus when he headed west across the Atlantic.

Perhaps the greatest aid that anyone could have when entering an unfamiliar area would be a good map. In this respect the unknowing might be falsely optimistic, for the U.S. Geological Survey has produced very excellent maps of nearly

all of the Rainbow Plateau. These maps are the result of the very latest in map making techniques using aerial photographs, but as excellent as they are “the Navajo” is so broken up and of such a nature that even the most skilled map reader will find them difficult to interpret, especially in regards to the topography. Still they are a “must have” item for any visitor to this country as they are useful in keeping a group oriented in time and distance to where they are supposed to be at the end of the trip. I have always thought that it would be very embarrassing to find myself two days from my car on the last day of the trip. For this reason we always have a map of the area we are going into even though we jokingly say that it would help tell us where we want to go but at least it can tell us where we’ve been.

Those desiring to visit this country would do well to plan their trip for late fall, winter, or spring when it is cooler, for the summer heat sends the temperature soaring to well over a hundred degrees. Even this is an asset, since many of our recreational areas are thought of as summertime areas and outdoors people are often at a loss over where to go in the winter. Also experience has taught us that the minimum length of any trip that is planned to the Rainbow Plateau should be four days.

Access to the Rainbow Plateau is available over a network of undeveloped roads that criss cross the reservation. Their construction consists of an Indian driving a pick-up from one



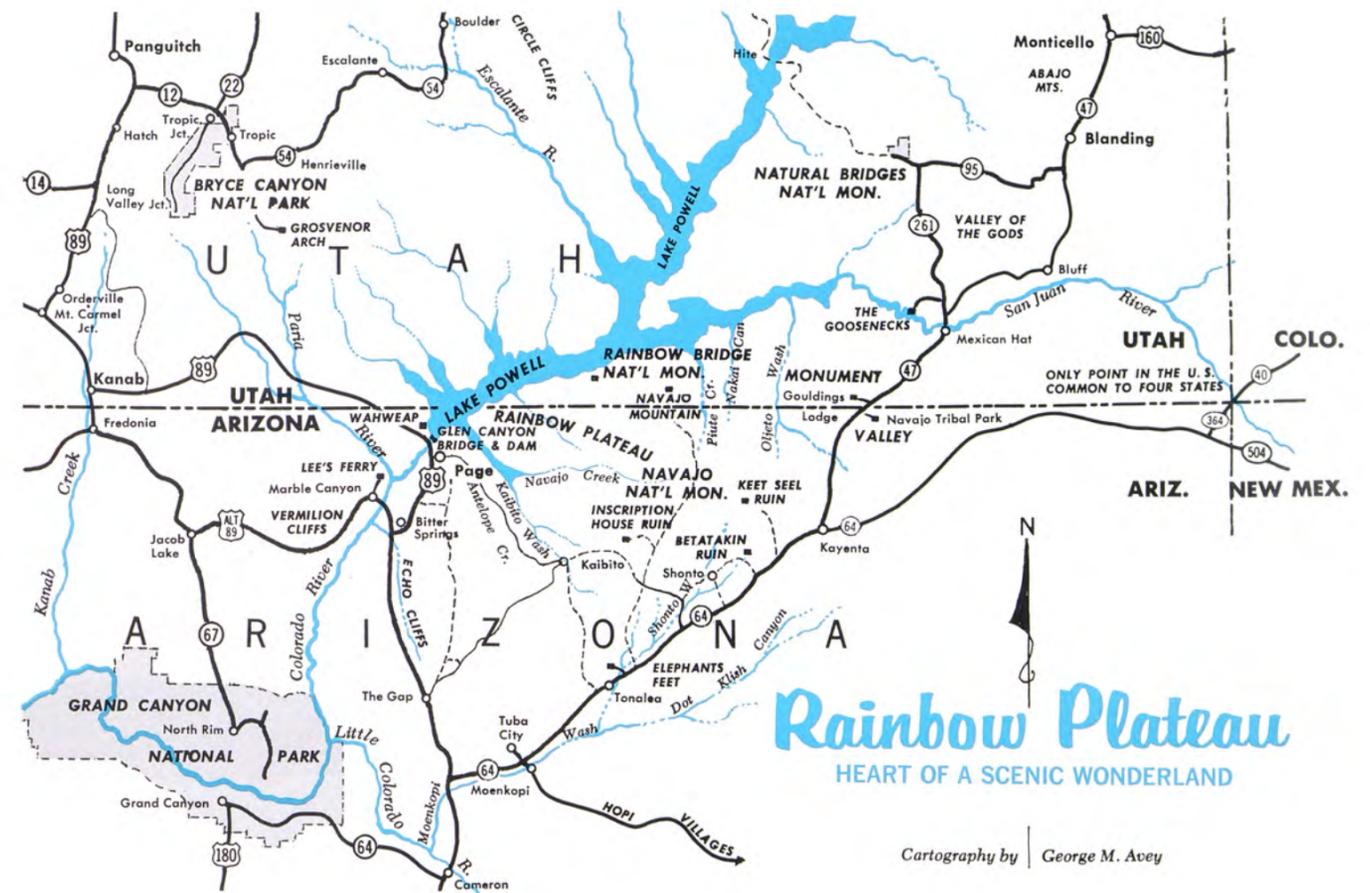


Bold Rock Canyon. It's not all barren beauty. Here and there water and piles of driftwood left by storms make fine camp sites, whether for a snack or overnight.

As a person who loves the challenge of the unknown I try to plan our trips so they are, at least in part, different from anything we have done before, and therefore unfamiliar to us. Fortunately "the Navajo" is so big that finding a new area is not difficult. There are few trails, and those that do exist seldom have any continuity. They are a way by which an Indian once moved a few sheep from one place to another. Therefore, in planning a trip one has only to pick an area of interest, visualize some imaginary way across it of the approximate length desired, then try to follow this predetermined route. Any route through this country, like the route through a giant maze will never be direct, but also like a maze if enough time is spent, a way through will finally become apparent.

The main thing is to never take anything about this country for granted. When water is expected, that's when it won't be found. When the route looks possible, that's when it will be blocked by a vertical walled canyon that cannot even be seen a few yards away. But also, when the way looks hopelessly blocked, that's when a set of prehistoric steps cut into the rock is found leading around the obstacle. This is the mood of "the Navajo." Always changing, and truly unique in every way.

The uniqueness of this country was never more apparent to me than one day a few years ago. We had just come down from Cummings Mesa and had stopped to eat lunch along a small stream near the head of West Canyon. We were near the lower end of a small basin but it was still possible to see several hundred yards back upstream and to either side. Ahead the stream plunged out of sight into a narrow defile, just a few inches wide but many feet deep. Towering more than a thousand feet above was the escarpment of Cummings Mesa. It was a scene of spectacular wildness, one I had seen many times before, but somehow this time it was different. The sandstone domes forming the sides of the basin were every imaginable color from white and creams to yellows, pinks and reds. The stream now flowing serenely through the basin from pool to pool before plunging out of sight must on occasion flood, since there was not one loose grain of sand that could be seen anywhere. Not a tree or bush or even a blade of grass was visible, just the varied colored sandstone domes and yet it was a scene of unsurpassed beauty. It was an important moment for me for in this scene of stark barrenness I became more aware of the true value of areas such as this and their importance to man. *Text continued on page 44*



DOROTHY & HERB MC LAUGHLIN

Inscription House Rocks, center, and environs





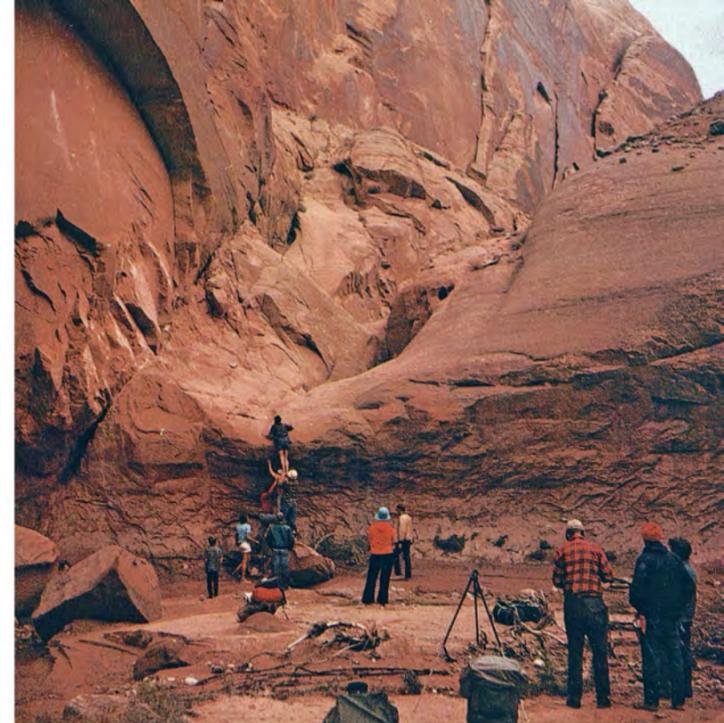
Navajo Canyon



Anasazi Canyon



Icy Canyon Walls



Route through West Canyon

Side Canyon to Navajo Creek

PHOTOGRAPHS BY HELGA TEIWES

Canyon south of Navajo Mountain



The conquistadors set the pattern for the use of the glass trade bead as the indispensable part of the goods which could be traded for wealth in whatever form it could be found.

The Enduring Intrigue Of The Glass Trade Bead

BEN WITTICK PHOTOGRAPH, MUSEUM OF NEW MEXICO



Hubbell's Trading Post at Ganado used their own glass beads.

Less than fifty years after Columbus first set foot on the New World and almost two generations before our Pilgrim Fathers were even born, our Southwest had felt the first European footsteps. The glass trade bead was destined to play an often overlooked, but very important part in the exploration and colonization of the New World. The first recorded introduction of glass trade beads in the Americas was done by Columbus himself. On October 12, 1492, he recorded in his log that to gain the admiration of the natives of San Salvador Island, he gave them red caps and some strings of glass beads which they placed around their necks.

The Southwest and particularly Arizona, because of its very early and long continuous exposure, is no doubt one of the richest areas in early Spanish trade beads, as well as many other varieties. Each succeeding generation of conquistadors, trappers, explorers, Indian traders or colonizers left with the American Indian countless numbers and types of colorful glass beads.

These simple, but usually colorful, glass trade beads, that are found scattered over the Southwest, in our museums and a few private collections have intrigued and baffled students of

trade and history for decades. Not one expert or standard reference exists that can answer many of the complex questions and problems these beads present.

While history and the historical records were kind with many other materials that frequently show up in archeological sites, providing us with the material and means to frequently date the use of rusty pieces of firearms, broken dishes, pieces of furniture and even nails. Very little information exists today that helps the historian date the majority of trade beads discovered. Not even the volumes of historical records and documents shed much light on where and how these beads were made, when were various types brought to this country, how long were these types made and by whom were they traded.

Last year the Hudson's Bay Company celebrated their 300th anniversary of continued business. They admit frankly that the information as to the types and descriptions of trade beads they once used, along with the invoices and their sources of supply, have not survived in their archives. Today the only samples of the beads they once traded, are preserved on the examples of Indian arts and crafts they have collected for their museums. As a matter of interest, after 300 years, they

still "trade" beads to the Indians, but they stock only twelve colors of the tiny "seed" beads imported from Europe, that are used to decorate mainly articles of clothing.

From some of the earliest journals and diaries, we know that the year 1540 was important in the history of the Southwest. That year Viceroy Antonio de Mendoza sent Spanish conquistadors into what is now Arizona and New Mexico, searching for the fabled Seven Cities of Cibola.

From New Spain marched Francisco Vásquez Coronado with his helmet of gold and his gilded armor, leading a colorful army of sixteenth century fortune seekers. Also, traveling west from Sonora, was the ill-fated Melchor Díaz, who met his tragic end by impaling himself on his own lance, but not until after he had blazed the long-used and notorious el Camino del Diablo. (The Devil's Highway)

Viceroy Mendoza's armies of conquistadors were well armed and equipped for their day when they marched over the Southwest with their stout Andalusian horses, carrying heavy armor, crossbows and their unwieldy arquebuses. Supplied with the important glass trade beads and other expeditionary trade items for building goodwill with the Indians, these first Southwest explorers left countless numbers of glass trade beads scattered over the Southwest. They blazed trails into new lands that have been followed for over 400 years by later explorers, colonizers, missionaries, trappers, traders, and even today, on some highways, the modern day travelers.

Never finding their rich fabled Seven Cities of Gold, but only the Indian pueblos, the surviving conquistadors returned to New Spain disillusioned and disappointed, not knowing the potential wealth of this great land they had passed over. They did, however, leave their mark for history and some mysterious and intriguing glass trade beads.

While the use of the glass trade bead had traditionally been more closely associated with the colorful and adventurous fur trade of North America, these simple glass beads played a highly significant, but little recognized role in the early Spanish explorations and colonization of the Southwest.

From the earliest journals we know the first recorded exchange of glass trade beads in the Southwest was done by Coronado in 1540. While there has been no written record found, it is very likely that Friar Marcos de Niza also exchanged beads with the Indians on his trek in 1539.

Cabrillo, exploring the California coast in 1542, exchanged beads and other gifts with the natives. In 1579 Sir Francis Drake landed on the California coast north of San Francisco and probably gave the customary glass beads to the Indians. Sebastian Viscaíno, exploring the California coast by sea in 1602 also traded with the Indians.

The giant of the fur trade, the Hudson's Bay Company, was formed in 1670, but it is doubtful if any of their trappers or traders worked their way into the far Southwest at an early date. However, it is very likely that some of the beads of this company were traded among the Indians themselves and in that way found their way into the Southwest.

Father Eusebio Francisco Kino explored the Southwest in the very early 1700's, baptizing countless thousands of natives

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and no doubt distributing more glass trade beads, as he traveled from village to village, than any other single person. There seems little doubt that these beads were readily accepted and held in great esteem by the Indians of Pimeria Alta, in some instances for the magic power which was said to reside in them.

Father Junípero Serra, on the "Sacred Expeditions" to California, traded beads to the Indians along his route in 1769.

Father Escalante who explored the Great Basin, from Santa Fe, New Mexico to as far north as Utah Lake, in his journal gives an insight as to the use of glass trade beads. On October 16, 1776, after leaving their camp of *Arroyo del Taray*, today the site of old Fort Pearce a few miles southeast of St. George, Utah and on the Arizona State line, they talked to eight Indians who told them the way to the Colorado River and indicated the kind of journey that lay before them. Escalante wrote, "We gave them a present of two hunting knives and to each a string of beads and told them that if one of them would guide us to the river we would pay him."

Meanwhile in the far North the use of the glass trade bead was constant. In 1728 the first Russian explorations of North America were done by a Dane, Vitus Bering, who was working for Peter the Great. In 1778 the Englishman, James Cook explored the Pacific Coast and told the Western World of the fur trade potential there. In 1783 the Northwest Fur Company was formed and the first English trade began on the Pacific Coast in 1787. In 1799 the powerful and long dominating Russian owned, Russian-American Fur Co. was organized.

ILLUSTRATIONS BY NANCY MC LAUGHLIN



The Louisiana Purchase in 1803 opened up vast new territories for the American fur trade and in 1804 the American government lost no time in sending Lewis and Clark to explore the new territories of the purchase. From the journals of the Lewis and Clark Expedition we learn of considerable use of trade beads with the Indians.

The first American owned fur company was the Missouri Fur Company formed in 1808. In the same year Astor organized the American Fur Company. In 1810 the Pacific Fur Company was formed. In 1821 the great Hudson's Bay Company merged with the Northwest Fur Company and the greatest competition in the northwest fur trade began.

Whether working for the various fur companies or independently, the rugged early fur trappers or mountain men blazed trails for the later vast migrations of colonizers of the western United States. They left an indelible mark on this nation's early frontiers and along their wandering paths, in search of furs and adventure, they also left countless millions of these glass trade beads, which were exchanged for vast fortunes in valuable furs. Some of these simple glass beads extracted from the Indians as many as two, or even more, beaver pelts per bead. The beads in turn became a source of wealth and prestige among the Indians and were frequently traded among the various bands and tribes, following the ancient Indian trade routes. In this way many of the northwest trade beads eventually found their way into the Southwest. In the same manner a few beads traded in the east by the Dutch, French and English found their way into the Southwest.

... this was a principal route of the bead traders
INSCRIPTION ROCK, a camping place on the old Acoma-Zuñi trail, in New Mexico.

The rock, with a base roughly triangular and narrowing to a rounded and comparatively thin edge at the eastern end, covers about 12 acres. Here, in centuries past, with what instruments it is difficult to say, perhaps sword points, the Spaniards and others carved historical "entries." The earliest now legible (1605) is that of Governor Oñate, the first colonizer of New Mexico. It is

thought Coronado passed this point 65 years earlier, but there is no record in the rock which contains more than 500 deciphered inscriptions and names. Numerous Spanish governors following Oñate left their names. General Don Diego de Vargas, who reconquered the Pueblos after the rebellion of 1680, carved a brief record of his conquest, as did many explorers and members of expeditions into the Pueblo country. One of the names is that of Lieutenant Edward Fitzgerald Beale. Members of freight and immigrant trains likewise recorded their passage. Soldiers,

scouts, traders — all sorts and conditions of men — left their mark, the only claim to immortality some of them have. On top are ruins of three pueblos, partially excavated and restored. They are said to be the remains of an early Zuñi habitation. The cleavage, a blind canyon, runs deep into the heart of the rock, and in this an old spring has been uncovered. It had been reported by members of earlier expeditions, but was lost in later years and was rediscovered recently by an old Navajo who had served under the Apache, Gerónimo.

ANSEL ADAMS



To many people, when you mention trade beads, they immediately think of wampum. For the record, technically speaking, wampum beads are small cylindrical, smoothly shaped shells, approximately one fourth inch long, one eighth inch in diameter and white or lavender in color. These shell beads are made from the shell of the hard clam. For all intent, wampum was made by white men and traded to the Indians, particularly between 1600 and 1800. The bulk of the wampum beads traded in this country was made by John Campbell and his descendants in New Jersey. These well made shell beads are not frequently found here in the Southwest.

The word "bead" has its origin from the Middle English word, *bede*, meaning prayer. For thousands of years man has used beads of all sorts, including shell, bone, stone, pottery, copper, gold, silver and glass as decorations and ornaments.

SMITHSONIAN INSTITUTION, BUREAU OF AMERICAN ETHNOLOGY



View of Shipaulovi . . . circa 1870-79

Complexly decorated glass beads have been found by archeologists to as far back as the 19th and 20th Egyptian Dynasties, ranging from 1146 B.C. to 1100 B.C. The ancient Egyptians used glass beads as decorations and ornaments on their mummy cases. The Romans and Saxons also used glass beads.

From Coronado's time until the late 1600's a good part of the glass beads traded on the American Continent were probably made in the glass factories of Murano, Venice. Here known manufacture of glass beads dates back to at least the eleventh century. The tiny republic of Venice probably enjoyed a near monopoly of bead manufacture for nearly 600 years and influenced glass craftsmanship over all of Europe.

To protect their major export, the Venetians passed laws that would imprison the nearest relatives of any skilled glass worker who defected to another country. If he refused to return an emissary would be dispatched to kill him and his relatives set free. This decree did not stop all of the defecting glass workers however. It is known there was a glass bead factory in Amsterdam from 1608 to 1680 and beads from this factory show close resemblance to the Venetian craftsmanship. There were also early glass factories in Sweden, France, Spain, England and in America at Jamestown.

Recently it was learned that glass blowers and perhaps master glass craftsmen accompanied Viceroy Mendoza to New Spain in 1535. By 1542 the glass industry established, along with other crafts, in the present state of Puebla, was greatly expanded, and was unique in all New Spain. Crystal-white, blue and green glass was reportedly worked there and this industry supplied Spaniards and natives of these regions and beyond with their products. There were even exports to Guatemala and Peru. Little yet is known of their products, but it is logical to assume that glass beads were in great demand. It is possible that the white, blue and green glass beads found throughout the Southwest and thought to have been traded by the early Spanish, were products of this unique industry in New Spain.

The earliest known glass factory was at Tel El Amarna in upper Egypt, dating from the 18th Dynasty. The Venetian type trade beads most familiar in the United States often show close resemblance to beads made two thousand years before in Egypt. The Venetian craftsmen copied the old designs and methods used in Egypt and Mesopotamia.

The bulk of the trade beads traded to the American Indians were glass, but beads of other materials were also used including

brass and copper molded beads, beads made from sheet copper or copper wire and sometimes beads were made from ivory or tusk, polished bone pipes, wood, Mediterranean coral, as well as the shell wampum mentioned.

There never has been a completely satisfactory method of nomenclature or classification of glass trade beads. Glass beads can, however, be divided into four basic types depending on their method of manufacture.

Beads made by rapidly drawing hollow molten glass into a long tube, which is then broken into short bead size sections, are known as tube drawn beads, rods, canes, bugles or simply tubes.

Beads made by winding a thin ribbon of molten glass around an iron rod or mandrel into, more or less, a doughnut shape are simply referred to as mandrel wound beads.

Beads made of pressed or molded glass, often of unusual shapes or designs, are known as molded beads.

Blown glass beads are actually hollow bubbles or expanded tubes of glass frequently blown into a mold. Blown beads are extremely fragile and quite rare in archeological sites.

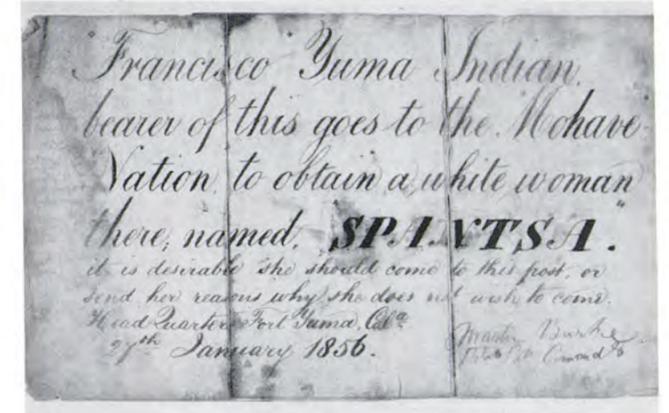
Quite often glass trade beads will show evidence of a combination of several methods of manufacture. Starting with a simple mandrel wound bead as a base, it is possible to reheat it to a plastic state, press or mold it into another shape and then press pieces of different colored glass or complexly designed canes or rods into or on the base surface, creating a beautiful and complexly decorated polychrome bead that the Venetians are still famous for. These fancy "inlaid" beads are relatively simple to make, but very time consuming. Frequently they were made in the homes of the Venetians, probably on some type of contract with the glass factory.

Many times the original long canes were reheated to a plastic state and the sides pressed or drawn into square, hexagonal or octagonal cross sections. They were then broken or cut into short bead lengths and just the ends faceted with a grinding wheel, giving an overall multi-faceted appearance.

Most of the confusion existing today over trade bead classification and nomenclature is due to the lack of a standard reference guide. A basic problem has been the naming of trade beads by where they were found, who traded them, tribes that used them and even by the methods they were transported or from the ports they were shipped. A classic example is the "pony" bead which generally is considered to be a simple, sometimes rather crude, monochrome glass bead about one eighth inch in diameter, that were first brought into the western states by the "pony" pack trains of the traders.

Another example are the "Russian" trade beads that are usually considered to be short bugle or cane type beads with multiple facets. This bead is most often seen in various shades of transparent blue, but is also seen as a deep transparent green or amber, a translucent white, occasionally in ruby red and lavender and rarely in opaque light blue and white. This bead was no doubt traded by the Russians along our northwest coast, but certainly not exclusively, because it is one of the most widely distributed glass beads in the United States and is very frequently found in the Southwest. Evidence is quite strong that this bead may have been traded first by the English in the Northeast.

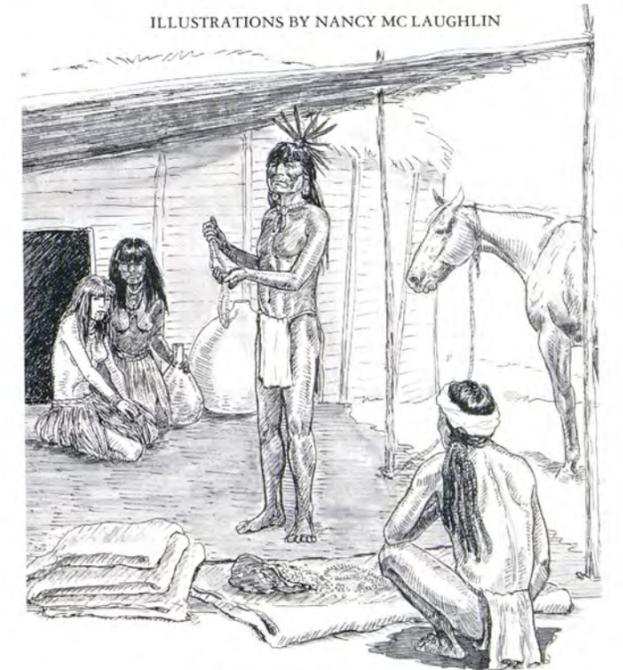
Official note sent from Fort Yuma for the release of Olive Ann Oatman - 1856.



Some collectors still insist that the "Russian" beads were made in Russia, but there is no known evidence that the Russians made any glass beads at this early date. There is some evidence, however, that these beads were made in Venice, shipped to China, perhaps by the English companies, where they were traded to the Russians as well as other fur traders and companies.

One more example of the confusion in trade bead names are the glass, irregular shaped, off white to ivory, porcelain-like

ILLUSTRATIONS BY NANCY MC LAUGHLIN



Six pounds of white beads were part of ransom paid to the Mohaves for the release of Miss Oatman.

beads that enjoyed widespread use and are frequently found in old Southwest cremations. These are sometimes erroneously known as "California," "Arkansas," and "pony" beads. More correctly perhaps they are referred to as "quartz," and sometimes "China" (material) and "porcelain" beads.

There are probably several beads that are known by some as "Canton" or "Chinese" trade beads. It is highly questionable that any early trade beads were actually made in China, but probably imported by one of the British companies, perhaps reusing Chinese labor and then exported to the various

traders. Old strings have been collected that have oriental carved ivory and wooden beads strung along with the glass beads. Evidence points to the fact that the Peking beads came in too late to be of much concern as trade beads.

The beautifully simple, opaque sky blue, mandrel wound glass bead, with an unique satin-like finish that is usually known as the "padre" bead, is thought to have been one of the earliest beads traded in the Southwest. There is a mystery surrounding its history, but it may have been traded by Coronado himself or other early conquistadors and padres. To the author's knowledge they have never been found in a cremation or have they been found in a California site. This bead is sometimes found in old Pima shrines and early Spanish contact sites. It is a rare bead, still highly valued by the Indians of southwest Arizona and sometimes handed down through a family. A very similar bead, however, is found in the Northwest, especially along the Columbia River drainages. Careful study by persons familiar with both bead types, however, can usually show minute differences.

There are a few glass bead types that are well known, with much less confusion existing over their nomenclature. Perhaps the "Cornaline d' Aleppo" also known as the "early Hudson's Bay" trade bead and unfortunately sometimes called the "California" trade bead by some California collectors, is among the most famous and quite widely distributed over the United States. They are more plentiful in the northern states and in California's San Joaquin Valley, but examples are occasionally found throughout the Southwest. The early examples are believed to have been traded from the very early 1600's to the mid 1700's. They are characterized by an opaque brick red exterior over a light to dark transparent green interior. At first glance the centers appear to be black, but when viewed with transmitted light, it is found to be a shade of green. This early glass bead has been seen in sizes ranging from the tiny "seed" bead, about the size of the head of a pin, to long bugles or canes, as well as short thick beads over a quarter of an inch in diameter. Some of the earliest examples have longitudinal stripes, usually of white.

A later version of the "Cornaline d' Aleppo" appeared during the early 1800's and is characterized by a transparent bright red to orange exterior over an opaque white, sometimes yellow and rarely pink interior. These "late Hudson's Bay" beads, also known as "white hearts" or "under whites," range in all the sizes and shapes of the earlier version, except the long thin canes and none are known to have the white stripes on the exterior. They are also sometimes found as large cylinders, in this case almost always with an opaque yellow interior, ranging up to an inch in length and a half inch in diameter. The Blackfeet used a small "white heart" for children's necklaces and they apparently coined the term "under whites" for these bright beads. These beads are sometimes found along the Gila River or Southern Immigrant Trail in Arizona and southern California and may have been traded by the Argonauts following this southern route. Also this may have been one of the types of glass beads traded to the Pimas ("Pimos") by General Kearny's Army of the West in 1846, as recorded by Lt. Emory in his *Notes of a Military Reconnaissance*.

The highly decorated polychrome beads mentioned under types of manufacture, were highly valued by most Indians, but because of their complex, time consuming manufacture, they were expensive and consequently quite rare. Generally these

beautiful beads are known as "polychromes," "fancy," "inlaid" or "flower" beads. Many have flower designs, some have spots or "eyes," there are others with colorful inlaid or raised designs and a few have gold leaf decorations. The Blackfeet again coined a name for such fancy beads and called them "skunk" beads. These glass beads approach the ultimate in glass bead art.

One of the best known, oldest and most interesting beads and rightfully sometimes called the aristocrat of beads, is known as the "chevron," "star," "paternoster" (our father's), or "sun" bead. This complex and very colorful, compound tube drawn bead has been found in many parts of the United States and Canada, as well as in many parts of the world. They range in size from one third inch up to two inches in length and generally the length exceeds the diameter. They are found most frequently in 16th or 17th century sites and in the Southwest the "chevron" can certainly be connected with early Spanish expeditions such as Marcos de Niza, Coronado or Don Juan de Oñate. Two "chevron" beads were found in the Hendricks-Hodge excavations of the Zuñi Pueblo of Hawikuh.

The "chevron" bead was made by the complex arrangement of three or more colors in usually six concentric layers, most often including a rich dark blue, an opaque brick red and an opaque white. Occasionally these beads are seen with a bright opaque red or a transparent green layer. The color layers are divided by the opaque white that somehow was worked into a series of zig-zags or chevrons, that in all known cases form a twelve pointed star on the ends of the beads. Most often the outside of the "chevrons" is blue, but in a glass museum in Venice's Murano there is a single, outstanding example of a "chevron" bead, locked in a glass case, that is about three inches in length with a bright red exterior. Red was an unusual color because the first red glass was colored with an expensive gold compound. The "chevron" beads were made at Murano from the early part of the 16th century.

An interesting use of the "chevron" in north Africa that may have an intriguing connection with the Southwest, is the use of the large two inch "chevron" as a weight on the corners of the camel saddle blanket. It seems very possible that some of these larger beads found their way into the Southwest by way of Beale's controversial camel corps from 1857 to 1861. It is certainly a possibility because the army purchased the camels and the equipment necessary in north Africa and even brought over camel drivers.

Many glass beads were made to imitate natural designs or objects. Some better known examples are the colorless "gooseberry" beads, the knobby "raspberry" and the "corn kernel" beads found in the United States in red, yellow and green glass. The "barleycorn" beads, that are shaped like a barley seed, were in extensive use in the late 1700's and are known to have been made in swirled opaque polychromes, translucent wine red, green, white, blue, yellow and black. More rare are beads shaped like a flower, the translucent green "mellon" bead (one example has been excavated at an early Spanish mission) and the reddish colored opaque glass beads that look exactly like richly grained wood. In the author's collection is a very old Navajo leather pouch with a large and well worn opaque green bead hanging from the draw string, that is a near-perfect imitation of a green pepper.

Some very interesting beads, but very recent as far as Indian trade beads go, are Arizona's own "Hubbell" beads. These unique blue glass beads were traded by Don Lorenzo Hubbell

Text continued on page 33



CL120



CL150



CL115



CL144



CL117



CL114



CL106



CL185



CL116



CL118



CL181



CL148



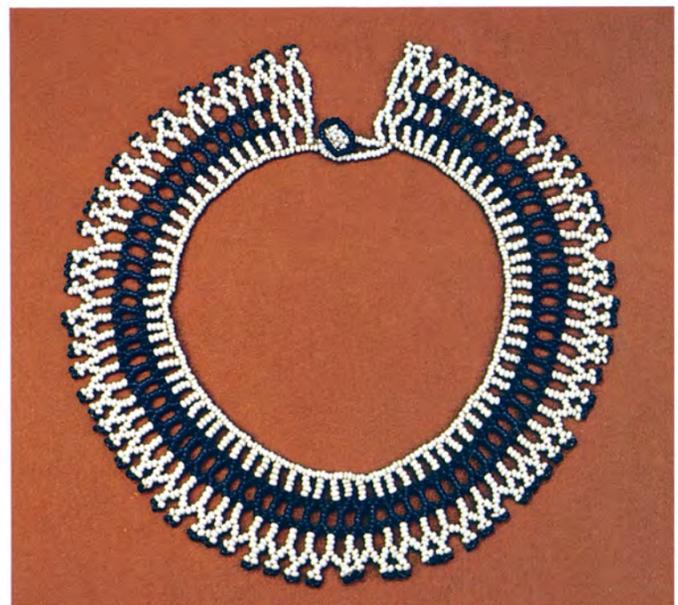
CL178



CL172



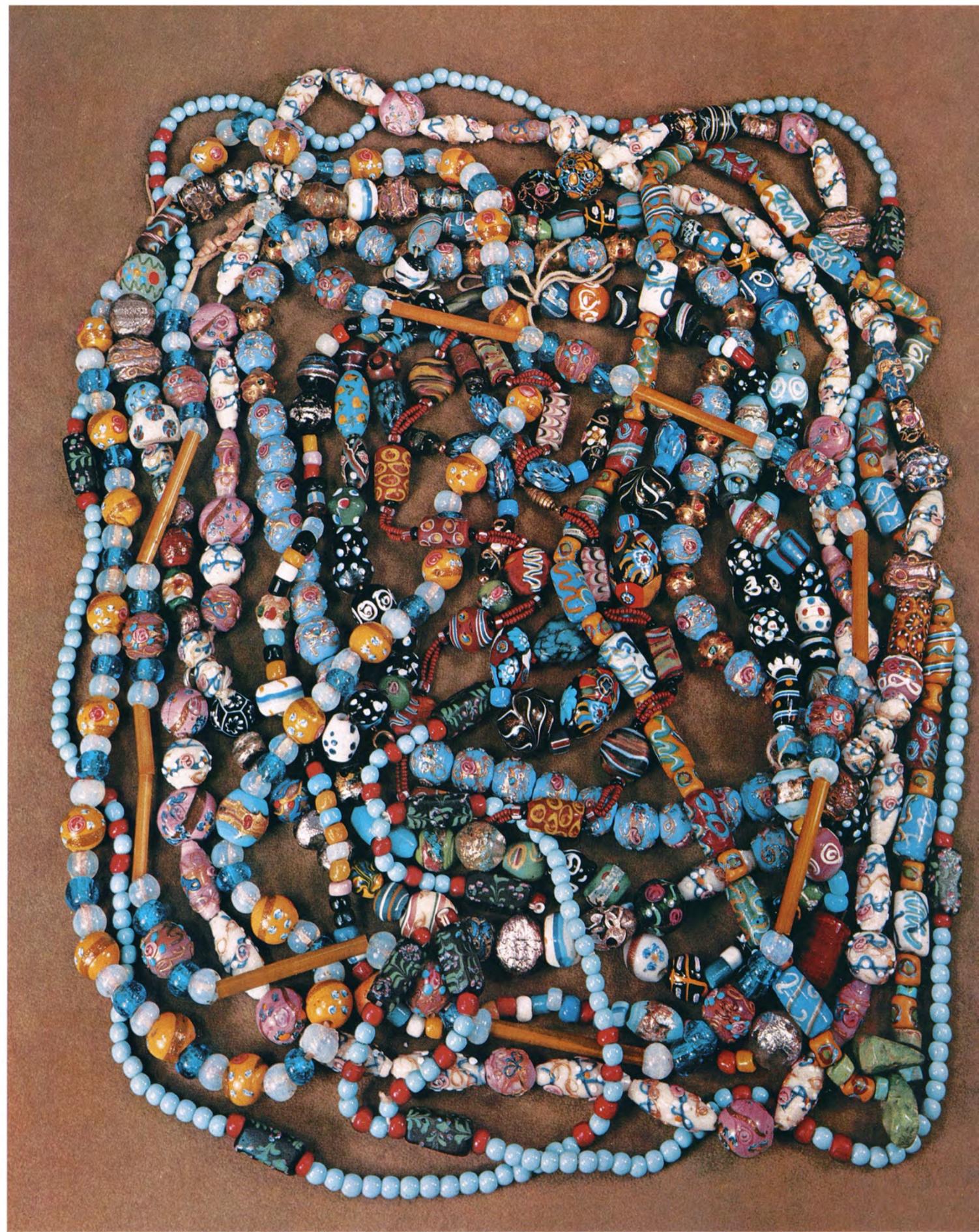
CL192



CL195



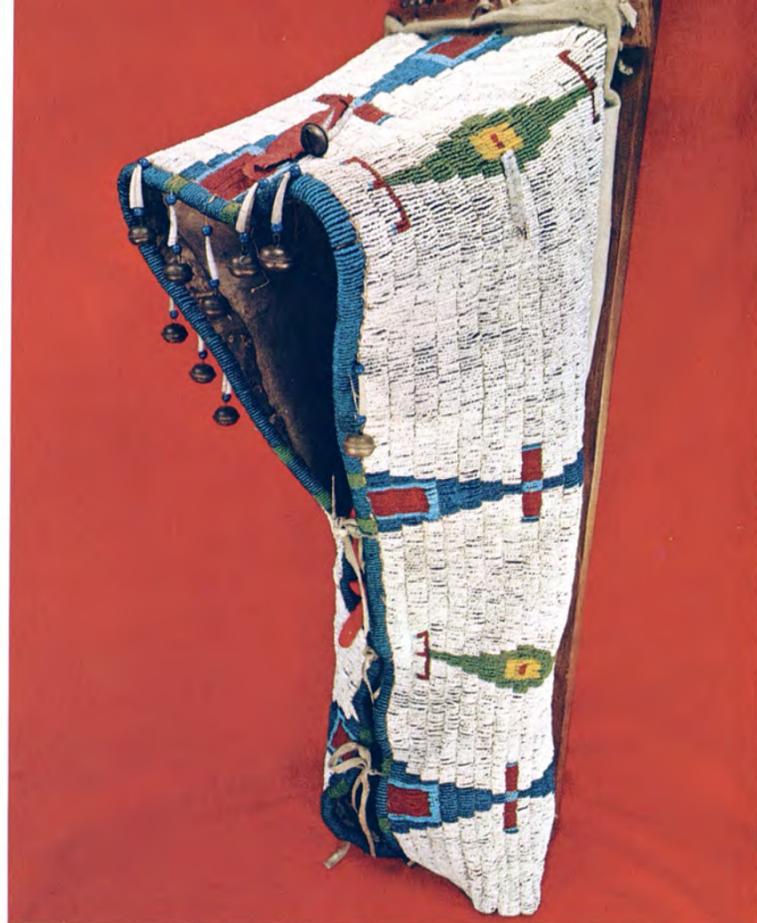
CL149



CL143



CL109



CL142



CL119



CL141



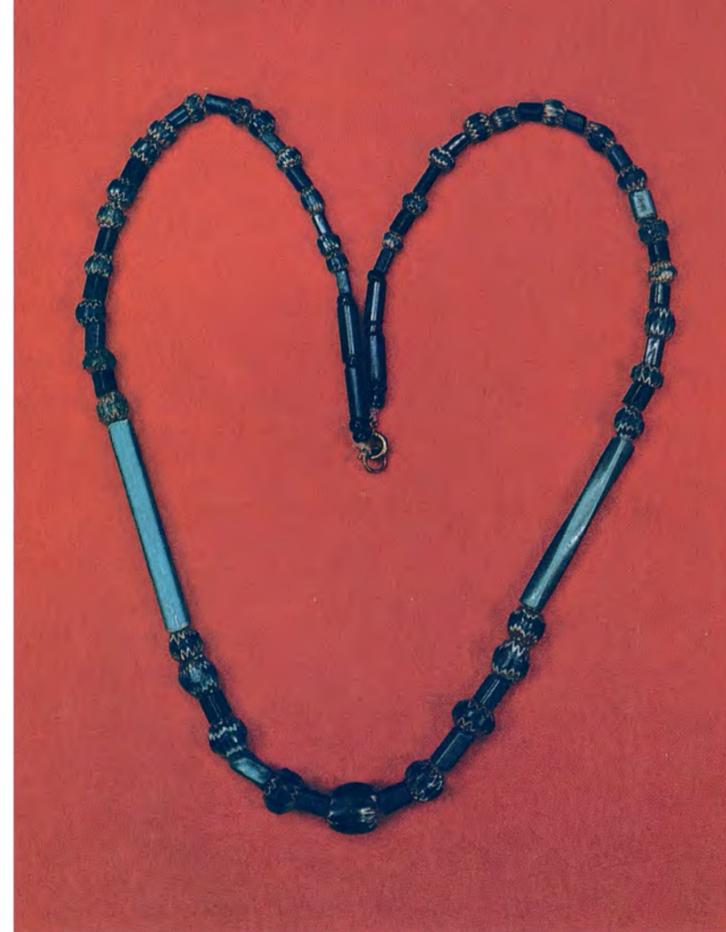
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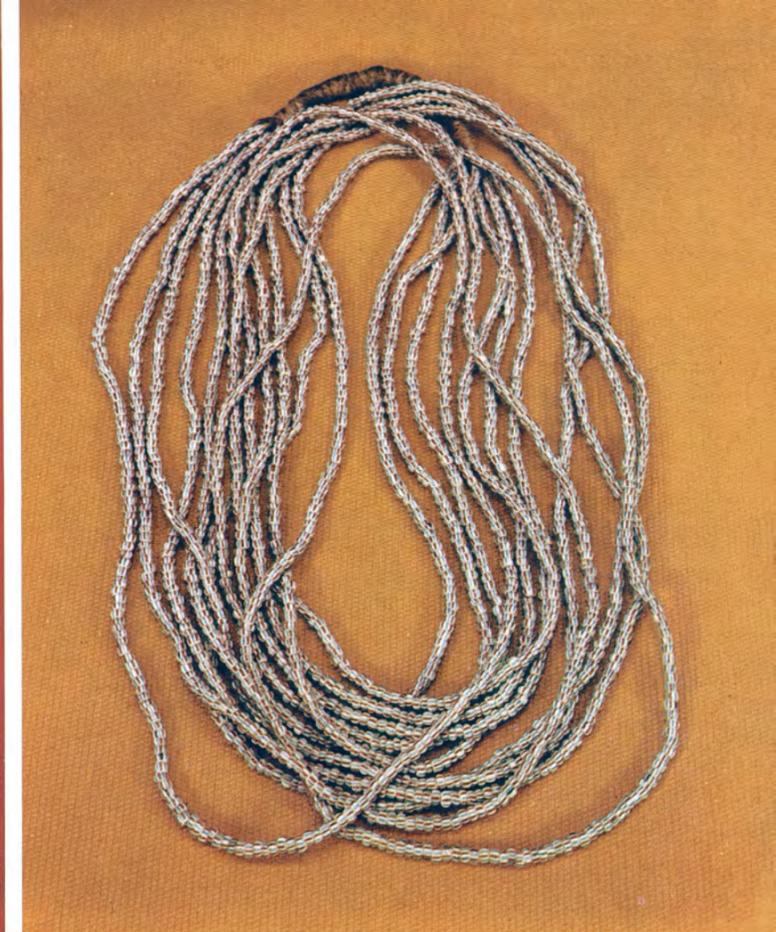
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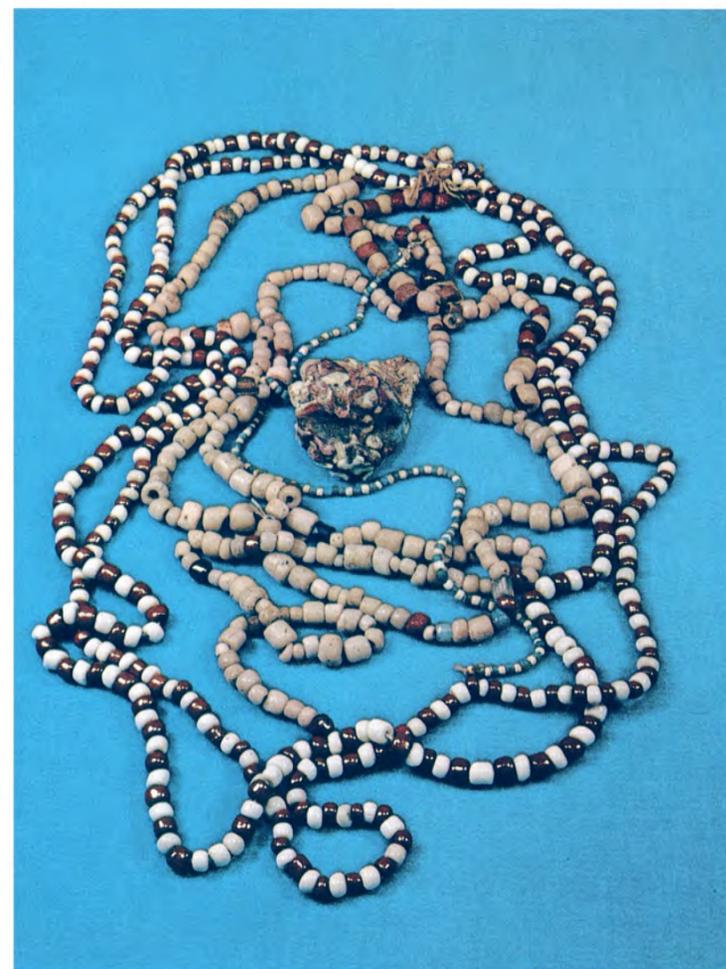
CL189



CL184



CL113



CL105



CL121



CL175



CL129



CL187



CL186



CL152



CL188

at his Ganado Trading Post and closely resemble the finest turquoise. The "Hubbell" beads were apparently made for a short time in Czechoslovakia sometime after the First World War and were in quite wide-spread use by 1926. Today, according to Indian trader Dick Le Roy, you can show some of the older Navajos a string of these beautiful beads and their almost instant comment will be, "Ah, Hubbell beads!". The idea caught on fast with the Navajos and they could pawn their valuable turquoise and wear the imitation glass 'Hubbell' beads. Today these beads are scarce and to some collectors are more valued than the finest turquoise.

Most of the early trade beads were rather large and of the necklace variety. Many of the earliest were well crafted and frequently intricately decorated. Gradually the Indians found new uses for these colorful beads and they began to decorate their clothing, baskets and other belongings with strings or tassels of beads. Finally with the introduction of more of the smaller, plain beads, they gradually began to incorporate beads into their loom weaving and demanding more of the smaller varieties.

Probably the American Indians' earliest uses of these smaller beads, other than for tassels, was for making simple beaded sashes, using beads of any and all colors available, working them into very basic geometric patterns without much regard to color. One of the earliest known pieces of Indian beadwork surviving in the United States today, is a worn and fragile beaded sash on an intricately engraved powder horn, dating to 1760. The beads are black and white, averaging about one-tenth inch in diameter and woven into a two and a half inch sash using spun buffalo wool.

In the early 1800's these one-eighth to one-tenth inch "pony" beads, as they have come to be called, made their appearance on the western plains. Gradually they began replacing the traditional and unique porcupine quill work, that had decorated the apparel and paraphernalia of the North American Indians back deep into prehistoric times.

A smaller bead known as the "seed" bead first appeared in the eastern United States in the early 1700's, but it was not until the mid-1800's that this bead saw any extensive use in the western states. Beginning first with the simple geometric patterns used on the old quill work, using a few basic colors, the fine art of Indian beadwork developed into the highly complicated and colorful designs in both loom weaving and beaded buckskin and cloth, continuing in some areas to modern times.

The small "seed" bead still sees use in Indian beadwork in the Southwest, especially in the crafts of the Mohave, Yuma, Apache, Navajo and Zuni.

Color symbolism and preference was very strong with many of the Indian tribes, but because it varied with each tribe, sometimes from year to year and often with each individual, it is difficult to extract any definite conclusions. Also frequently their desire for certain color could not be filled. In the earlier days of trade, red glass was very expensive because a gold compound was necessary as a pigment and careful temperature control was required, making it difficult to produce. For some reason a bright yellow is very rare in old trade beads and orange, until the middle 1800's was impossible. Some orange beads have been collected in the Southwest that are painted with an opaque

orange lacquer over a translucent white base. In most Southwest bead collections we find blue, blue-green and white beads predominating.

Trade beads have been extensively used by the Indians of the Southwest in their ceremonies, to decorate their clothing, baskets, dolls, as necklaces, often for stringing the medals given them by the priests and, of course, as a medium of exchange or trade among themselves.

Glass beads have always been highly valued by the Indians and frequently were used to trade for horses, provisions and slaves. In 1900, according to Scottsdale Indian trader, Dick Le Roy, the Pimas would trade 30 of the beautiful, satiny, sky blue "padre" beads for a good horse. With the use of trade beads, it is interesting to note that the U. S. Army paid the Mohave Indians six pounds of white beads, among other items, as ransom for Olive Oatman. (ARIZONA HIGHWAYS, November 1968)

Today there are few glass beads left on the reservations of the Southwest. There are many Indian children who have never seen a glass trade bead. Most of the beads that were handed down through the Indian families have been bought up by traders, museums or private collectors, often at fancy prices.

Glass trade beads and products made from them are high on the list of most collectors of Indian arts and crafts, as well as some collectors of western Americana and historians. They represent an interesting and important facet of the Southwest's long and intriguing history. A history that the persuasive but simple glass trade bead influenced from the very first European contact.

It is ironic that the simple glass trade beads that the white man once so lavishly gave to the Indians, in the days of exploration, fur trade and colonization, are today highly sought after by the bead collectors, who for some unusual or rare bead, have been known to pay many times over the value of the bead's weight in pure gold. It must seem strange indeed to the Indians when a white man today enters the vast reservations, traveling from village to village, trying to buy back the old glass beads, questioning the old people through an interpreter.

The collection and study of trade beads is a fascinating activity that soon leads you into many interesting facets of American history. Because glass trade bead research is still in its infancy, the serious amateur can make important contributions to the knowledge of trade beads, by working with universities, museums and other collectors, reporting his finds and observations on types of beads, their distribution, methods of manufacturers or even classification and nomenclature. He may even be surprised to find that he is invited to study beads excavated by the archeologists, who themselves admit frankly that they don't know all that they would like to know about trade beads. In a few cases the day has already come when the archeologist is able to use a few distinctive types of trade beads to help date an historical site. However, in most cases, other items from an archeological site are used to help date any trade beads found.

Without the powerful and persuasive, simple glass trade bead, the history of the Southwest could have been vastly different. In the "winning of the west," the trade bead deserves a place high above the "influential" Winchester. It may very well have been the trade bead that won the West.

The glass trade bead was a powerful and persuasive factor in the movements of civilization and especially in the history of the winning of the west.





CAPTIONS FOR TRADE BEAD PORTFOLIO

Photographs by the Author

CL105 — Brick red "Cornaline d' Aleppo," or "early Hudson's Bay" beads, strung mainly with the white "quartz" glass beads, as well as a strand of small blue and white beads, along with a mass of fused glass beads from a cremation. Beads such as these are rather typical in the San Joaquin Valley of California and consequently are called "California" trade beads by some collectors, but they show up throughout the Southwest and most frequently with the red and white types together. (C. Richard Le Roy Collection)

CL106 — Hubbell beads, of two main types. In the center are the flat diamond shaped beads, strung with white tubular glass beads. Outside, the string of blue "imitation" turquoise glass beads, as they were sold to the traders on original string. These beads were made in Czechoslovakia, probably in the middle 1920's. (C. Richard Le Roy Collection)

CL109 — Prehistoric drilled stone beads that were used by the Indians of the Southwest and Mexico before the introduction of glass trade beads. (C. Richard Le Roy Collection)

CL113 — Small "candy striped" trade beads in multiple strand necklace, as collected years ago. Probably originally strung by the Indians, and shows considerable wear. A few similar beads have been found in the Southwest. (C. Richard Le Roy Collection)

CL114 — Glass trade beads collected on the lower Columbia River, showing beads very typical but not unique of this area, including light blue round beads, very similar to the southwestern Arizona, "padre" bead. Also red "white hearts," frequently found in the Southwest, as well as a plain transparent, rather small blue bead, quite common throughout the Southwest. (Author's Collection)

CL115 — Necklace of blue faceted, "Russian" type beads, strung with red, "white heart" beads, both types quite common in the Southwest. Bronze "peace medal," frequently given to the Indians, (especially the chiefs), by the United States Government, as well as England, along with old, Apache arm bands, made of faceted red "seed" beads with blue designs, sinew sewn on buckskin. (Author's and C. Richard Le Roy Collection)

CL116 — Necklace of larger than average "Russian" type, faceted blue beads, with California mission basket. "Russian" beads of this large size are very rare in the Southwest, however, smaller varieties are common. (C. Richard Le Roy Collection)

CL117 — Collection of old faceted "Russian" type beads in transparent blue, clear and milk glass varieties. A fairly common bead in most parts of the United States including the Southwest. Shown with a handwrought knife from the Plains Area. The two arrows with metal trade tips were picked up from the Custer Battlefield in the fall of the year after the battle by an ex-Pony Express rider. Plains Indian glass beaded moccasins, with older "seed" beading geometric designs. (C. Richard Le Roy Collection)

CL118 — Necklace of various transparent small glass beads, strung along with long tubular glass beads, sometimes called "bugles," collected in the Plains Area, years ago. (C. Richard Le Roy Collection)

CL119 — Sioux pipe bag, showing use of "seed" beads in a later complex, geometric design. Probably done after 1880. (Author's Collection)

CL120 — Old Plains Area glass bead and bear claw necklace, very large monochrome glass beads, typically strung with bear claws. A beaded buckskin rifle scabbard using faceted "seed" beads, and a Winchester '66 Carbine, the first Winchester, and a gun that was very desirable to the Indians. They were frequently referred to as "Yellow-boys," because of the brass receiver. (Author's and C. Le Roy Collection)

CL121 — Center piece is a glass and brass bead choker, collected years ago in the Plains Area. The necklace on the left is a more contemporary type of Mohave necklace. The necklace on the right is the older style Mohave "rope" necklace. The large orange beads shown here are the "coral," or orange lacquered beads, done before natural orange glass could be made. (Author's and C. Richard Le Roy Collection)

CL129 — Orange glass trade beads of various ages. Necklace on the left is a type of toggle bead frequently used in the Southwest, especially by the Pueblo Indians and sometimes known as "imitation coral." The large blue teardrop shaped beads are "Hubbell" types. The center necklace is a coral colored lacquered bead, over a colorless translucent glass base, done before the development of natural orange colored glass. Necklace on right is probably more modern, showing the use of shell with the short orange "bugle" beads. (C. Richard Le Roy Collection)

CL131 — A varied collection of glass trade beads, including very old Venetian types, polychrome or fancy beads, "Canton" (blue) beads, Oriental carved beads, "Hubbell," "Russians" in blue and etc. (C. Richard Le Roy Collection)

CL141 — Illustrates Mohave's use of glass trade beads, on miniature doll and cradleboard, at least 80 years old, and a large round, braided Mohave necklace with old orange lacquered beads. (Author's Collection)

CL142 — A rare, fully beaded, Sioux cradleboard, showing the Sioux' use of the "seed" bead, in what is called a "lazy" stitch, on buffalo hide, showing early transitional geometric designs, rather typical of the 1840's and 1850's, along with the use of trade "hawk" bells, larger trade beads and dentalium shells traded down from the extreme Northwest coast. This cradleboard has an estimated 228,000 tiny, "seed" beads, all sewn on the buffalo hide backing with sinew. (Author's Collection)

CL143 — A collection of what is usually known as Venetian "polychrome" or "flower" beads. These are the beads that were frequently made in the homes of the Venetians, beginning usually, with a mandrel wound base, then designs of other color glass were pressed on or into the surface. Collection shows spot or eye beads with gold leaf decorations. One necklace was collected in Arizona, and strung with some turquoise. (Author's and C. Richard Le Roy Collection)

CL144 — Brass, copper, and steel, trade beads strung with probably white man made bone pipes and red mescal seeds. The long tubular copper beads were probably Indian made, from trade sheet copper, purchased from the traders. Some copper beads have been found in North America, that are prehistoric, made from native copper. (C. Richard Le Roy Collection)



PIMA WOMEN

Reproduced herein from the book
A RECORD OF TRAVELS IN ARIZONA
AND CALIFORNIA 1775 - 1776
of Fr. Francisco Garcés

Translated and Edited by John Galvin
Published by John Howell Books
San Francisco, California

PIMA WOMEN and YUMA INDIANS
from drawings by Arthur Schott
reproduced as chromolithographs in 1857



YUMAS

CL148 — Typical satiny blue opaque glass, “padre” beads from south-western Arizona. This rather rare bead is mandrel wound, frequently shows spiral streaks of darker blue and a unique satin finish. They seem to show up in the early Spanish contact areas and only in Arizona, usually on the Papago and Pima reservations. This bead is probably the “large Venetian blue glass bead,” referred to in the twenty-sixth annual Ethnology Report, “as having been brought by the earliest Spanish missionaries, and now found scattered about the sacred places of the Pimas.” This bead is thought to have been handed down from one generation to the next, and in 1900, the Pimas would trade thirty of these beads for a good horse. Reportedly they are still prized and collected by some Pimas. (C. Richard Le Roy Collection)

CL149 — Various types of “Hubbell” beads, traditionally associated with the Lorenzo Hubbell Trading Post at Ganado, from about 1924. Some of these beads are on original factory strings, others have been restrung by the Indians, and at one time were apparently plentiful on the Navajo reservation, but today are a very scarce glass trade bead, highly desirable to collectors, and ironically, probably the most modern Indian trade bead. Shown along with the Navajo silver bridle with Spanish spade ring bit. (C. Richard Le Roy Collection)

CL150 — The use of trade beads as found in Arizona, here include, on the left, a necklace of turquoise, white “quartz” glass beads, strung with Navajo silver beads and bear claws. Also Mediterranean branch coral. An old Navajo pouch, with a single heavy, green glass bead, hanging from the draw string that looks like a miniature green pepper. A Navajo silver hat band with turquoise and glass trade beads attached, and a turquoise necklace. (Author’s and C. Richard Le Roy Collection)

CL152 — Necklaces illustrating the Indians’ use of glass trade beads along with their native shell beads. Necklace on the left has various colors of glass trade beads along with the unusual, long, thin dentalium shells collected by the Indians of the Northwest coast back into prehistoric times in the Puget Sound — Cape Flattery area. The dentalium shells have been traditionally traded along the Indians’ ancient trade routes and many have been collected from the central plains area. Center necklace of cobalt blue glass trade beads strung with prehistoric Mimbres shell beads from the Southwest. Necklace on right is also Northwest Coast dentalium shells strung with glass trade beads. (Author’s Collection)

CL158 — Collection of various types of glass trade beads excavated at California’s San Luis Rey Mission years ago. These beads fairly well represent the larger types traded during the mission period in the Southwest. Note there are no Arizona “Padre” beads in this collection. The one light blue bead on the extreme left, is not a “padre” bead and appears to be much later in manufacture. The yellow beads shown here are unique and rarely this plentiful in the Southwest. (San Luis Rey Mission Collection)

CL170 — A Pima basket, with unusual Apache type designs and beaded with opaque bright blue glass beads around the rim. On the right edge, a small string of Arizona “padre” beads. (C. Richard Le Roy Collection)

CL172 — Miniature Pima horsehair basket with tiny blue “seed” beads around the rim, encircled with a string of Arizona “padre” beads. (C. Richard Le Roy Collection)

CL175 — A beautiful example of the Pueblo Indians’ use of the brass trade beads along with the double-barred or French Lorraine cross. Above the brass beads, that are also known as “French” brass beads, are the glass, brick red coated early “Cornaline d’Aleppo” glass beads also known as “early Hudson’s Bay” trade beads. (Le Roy Collection)

CL178 — The famous “chevron” or “star” glass beads used in a variety of necklaces. The necklace on the far left, with the blue and white oval glass beads, has a two inch “chevron” at the bottom that is the size reportedly used as a camel blanket corner weight. The necklace second from the left has old Navajo silver beads strung with very old and unique “padre” beads found on the Pima Reservation, with three small “chevron” beads. Blue necklace in center is made entirely of “chevron” beads of assorted sizes and shapes with an unusual large green, red and white “chevron” at the very top and two rather rare small green “chevrons” just below. The red necklace in the center has very rare and unusual opaque red beads strung with a few crude silver beads, with an extremely unusual and rare red, white and deep navy blue “chevron” at the bottom. The necklace second from the right has 32 “padre” beads

picked up just west of the Papago Reservation in Arizona’s Saucedo Mountains, strung with “chevron” beads, including two green “chevrons” at the top. The two army buttons at the top were found in the same area as the “padre” beads. The button on the right was official army issue from 1855 to the 1870’s. The button on the left was found in a long abandoned Apache village in the Saucedo Mountains. It was official army issue from the very early 1850’s until the Civil War. The “D” in the center of the button stands for Dragoons. Just behind this very early (for the Southwest) army button is a single delicate “polychrome” blue glass bead with white and pink flower designs and was found just a step away from the dragoon button. It is interesting to speculate how the Apaches acquired the army buttons sometimes found in their old camp sites. It was not uncommon, however, for the army and the traders to trade old army uniforms and other clothing to the Indians, but it is very likely that the Indians came by them in other ways! The necklace on the far right has deep cobalt blue glass beads with brass beads and an almost round red, white and blue “chevron.” Round is a rather unusual shape for a “chevron” because generally the length of a “chevron” bead exceeds its diameter. (Author’s Collection)

CL181 — The sash on this beautiful, fully engraved “map” powder horn is thought to be the oldest piece of beadwork in the United States. The even and probably carefully selected beads are a shiny black and pure white from one-tenth to one-twelfth inch in diameter (in the “pony” bead class or size), incorporated into the square style weaving on spun buffalo wool. The beaded sash is two and one half inches wide, having 19 twined warps, and three feet long having ten single wefts to the inch. The engraved powder horn commemorates the Carolina campaigns of 1760 and was given to the commander of the successful 78th Highland Regiment, General Montgomery, by his victorious Col. Grant. Engravings of incidents and places, as well as names, cover the horn, such as: “An Indian War Dance,” “The Creek Where Colonel Grant and the Men defeated (sic) the Indians,” “James Parsons,” “The Plan of the Middle and Lower Towns of the Cherrykee (sic) Indians,” “John Laidler,” “Tuckarichee,” “New Cassee,” “Watoga” and “The War Woman Creek.” The design of the bead work is very typical of the earliest designs, being very simple geometric patterns. This type of beadwork using the twined warp and single weft have been seen in work of the Mohegan, Narragansett, Alibamu, Koa-sati, Seminole, Osage, Sauk, Menomini, Shawnee and Winnebago. In measuring the number of beads per square inch it is estimated that the original or completely beaded sash contained about seven thousand “pony” beads. Latest date of its presentation is probably 1761. (Col. B. R. Lewis Collection)

CL184 — Necklace of beads probably as old as any trade beads found in the Western Hemisphere. The “chevrons” are six-layered, with a thin layer of transparent blue-green near the center and very crudely faceted or ground. The two inch long teal green beads are three layers of glass, square in cross-section and about one-quarter inch in diameter. They have been seen “straight” and “twisted” and have been discovered only in Spanish contact sites. They were first reported by Dr. Charles Fairbanks of the University of Florida and he named them Nueva Cadiz, straight and twisted, from the site they were first discovered. The short, square dark blue beads, spacing most of the chevrons, are a variation of the teal green Nueva Cadiz. All beads on this necklace except the first few at the top end are strictly 16th and 17th century and are probably of Spanish manufacture because they are found only at Spanish contact sites. (Author’s Collection)

CL185 — Two varieties of chevron necklaces that are certainly suitable for modern wear. The outside necklace of yellow and black stripes is made up from six layered chevrons. The bottom bead on this necklace is a very unusual seven layer chevron with yellow and white alternating layers with one quite heavy layer of brown glass. Inside, this necklace is made up of “typical” six layered red, white and blue “chevrons,” smoothly finished and set off by the unique larger twisted “chevron” that by chance or perhaps choice, was twisted during the hot pulling or drawing operation of the original mass that made the cane. Both necklaces are examples of how old trade beads can be used as modern jewelry. The black and yellow “chevrons” are from a much longer string that was recently found stored away in an old store in Santa Fe. (Author’s Collection)

CL186 — An old Apache beaded “doll” in the form of an awl case and a floral design beaded pouch on a long, double strand necklace of very old 1½ inch bone hair pipes and brass beads. The arms of the

doll are old style brass beads with tin tinkler and horsehair “hands.” The “feet” of the doll are tiny cone-shaped tin tinklers. An old and unusual piece of Apache beadwork. (Author’s Collection)

CL187 — A section of a floral design beaded doeskin vest that belonged to William “Buffalo Bill” Cody. The notarized documentation of this very colorful beaded piece states that the vest was given to Mr. Cody by a very grateful Blackfoot brave when Cody intervened just as some white men were about to lynch the Indian for some unstated reason. The beadwork shows the typical Blackfoot “stitch-down” method of beading. The beads, of a great assortment of colors, are the extremely tiny faceted “French seed” beads that were popular with the Plains Indians for a short time in the mid-1800’s. The French seed bead is much smaller than the common seed bead and very difficult to work with. The vest was probably quite old when it was given to Cody and apparently it was one of his most prized possessions, as it was one of the only pieces of Indian beadwork that he kept up to the time of his death. It was purchased in 1925 in Denver from the woman who operated the boarding house where Cody lived until his death in 1917, by an Indian who had been in Cody’s Wild West Shows and he recognized this outstanding example of Blackfoot beadwork as one of Cody’s favorites. (Author’s Collection)

CL188 — A very early trade iron combination pipe and tomahawk with a later stem or handle wrapped with square copper wire and a piece of beaded buckskin attached. The attached beadwork is typical of the early plains “seed” bead period of the 1850’s, characterized by the simple geometric designs. The white necklace of long round tube beads and four brass beads was taken from a 16-foot or more multiple strand with an old and aging tag stating the beads were from a Cheyenne Warrior’s outfit — Battle of Wounded Knee — 1892. (Col. B. R. Lewis and Author’s Collections)

CL189 — Coin and glass trade bead necklace excavated in northern Arizona. A coin collector’s nightmare! The bulk of the coins are large copper cents, with the earliest legible date of 1825 and the latest of 1849. There is one copper half cent with an illegible date; two “flying eagle” white cents with one legible date of 1858 and two copper two cent pieces, one with a legible date of 1865 and the latest date of any of the coins. Most of the large copper cents are dated from the mid 1820’s to the early 1840’s. All holes in the coins are very crudely cut or punched — none have been drilled and the edges are all evenly scolloped. Several coins have the initials “J A” cut into them and seven of the large cents were previously drilled or evenly cut near the edge and plugged later with lead, or in one case copper. The tusks, teeth or claws remain unidentified, although they may be canine teeth of bears. The dates of most of the coins are almost too early for all American coins to be in Arizona unless they came by way of fur traders, probably from the Santa Fe Trail or Taos, working out of St. Louis. The necklace may have belonged to a mountain man who traded it to an Indian or possibly it or the coins were taken from him and the few later date coins added at a later time. It is a very unusual and bewildering piece of Americana that tries the imagination and also shows the secondary but complementary use of glass trade beads.

CL190 — Surface finds of beads and small related trade items found by the author and his wife in Southern California, Arizona and in one case, extreme Southern Utah. We have often driven over a thousand miles round trip to explore a site that we had researched and showed a good possibility of an abundance of trade beads, only to come home empty-handed. Once we made two trips to Gila Bend, Arizona and then traveled another 100 miles by four-wheel drive to look over two old Indian village sites and were rewarded with a handful of precious Arizona Padre beads, a single flower decoration “polychrome” bead and two old army buttons, not to mention the enjoyment of just being outdoors and exploring Arizona and seeing many game animals including a mountain lion at less than 30 feet. On the top right is an extremely rare “blown” glass bead found along the old Butterfield or Southern Emigrant Trail at San Felipe Creek on the very edge of the desert in San Diego County. With its delicate pink color and opaque white band it resembles a tiny Christmas tree decoration. Several “blown” glass beads were reported in the excavations of Fort Laramie in Wyoming. They are very fragile and consequently very rarely found in excavations. Also, note the number of “cut-glass” or “faceted” “Russian” type beads frequently found in the Southwest, most often in

some shade of blue, but also in clear, translucent white, green and red. The blue beads in the center strung with opaque white “quartz” pony beads, are the beautiful, satin-like Arizona Padre beads found on an old Papago site in Arizona’s Saucedo Mountains. Next to the padre beads, also from the Saucedo Mountains, but from an older Apache site is a single blue “polychrome” bead with an inlay design of pink and white flowers. The colorful pendant and blue “Russian” bead were found in an old Indian village site in upper Coyote Canyon just inside California’s Riverside County and just off the old de Anza Trail and could easily be dated to the period of one of de Anza’s expeditions. Next to the largest white bead, near the center of the string, of the beads picked up on California’s western Mohave Desert, are two unusual “barleycorn” beads popular in the later 1700’s. The smaller is a bright, almost transparent red and the larger is an opaque dull coral color. On the longer string of mostly blue beads from southern California’s San Felipe Valley, along the old Southern Emigrant Trail is a large black bead with white spirals similar to some excavated at San Luis Rey Mission. Also, on this string is a red “whiteheart,” a small six-sided but uncut blue “Russian,” a partly melted green “Russian” and a piece of a string of beads fused together from the heat of a cremation fire. Most of the beads found at the Fort Mohave site are “seed” beads and probably from the later 1800’s to the very early 1900’s. The longer string of Arizona beads found south of Casa Grande are mostly from cremations. A number of these beads are partly melted blue and white “Russians.” Two of the largest beads at the bottom end have smaller beads fused to their surface. The large black bead with a small bead fused to it, is a multiple faceted bead, unlike the “Russians” in that it has more facets and is ground more round and it has a very characteristic tapered hole. This particular type of bead has been infrequently found throughout the Southwest from Oklahoma to the Pacific Coast. King Harris of Southern Methodist University feels this bead with the tapered hole was supplied to trading posts from the Chouteau & Company of St. Louis and that it came into the “trade” in small numbers around 1820 and were popular in sites dating from the 1830’s through to the 1850’s. This bead could have found its way into central Arizona by way of the Mexican trading at Santa Fe, indirectly through Indians trading with other bands or possibly from General Kearny’s Army of the West in 1846 (who were supplied in part out of St. Louis) who recorded trading beads with the “Pimos” or a few weeks later by the Mormon Battalion also traveling through Pima county. The mostly small “seed” and “pony” beads found at Arizona’s Leroux Springs are an old type and may have belonged to Antoine Leroux himself or from one of the several large expeditions Leroux guided through this area including the Sitgreaves Expedition. The brass buttons were also items of Indian trade as was the single brass bead (between brass buttons). Notice in all these beads that have been found, the predominance of blue shades and white.

CL192 — Necklace of very old “polychrome” or “fancy” trade beads that are very characteristic of Venetian craftsmanship or the influence of the Venetians. Strung between the “fancy” beads are “Cornaline d’Aleppo” or “Hudson’s Bay” trade beads, ranging in size from tiny “seed” beads to “pony” beads. These colorfully decorated “polychrome” beads were greatly favored by the Crow Indians of Montana and frequently their sacred Medicine Bundles were often full of such colorful and fancy beads. (Author’s Collection)

CL194 — “Russian” type faceted beads made from single layer deep blue, heptagonal or seven sided tubing. When the tubing is cut into bead lengths, the ends only are faceted using a grinding wheel, giving an over-all, multifaceted appearance. These so called “Russian” beads were probably made in Europe, exported to China and then traded to the Russian fur traders. There is no evidence that Russia made glass trade beads. These deep blue beads are strung here with gift beads and are worn as costume jewelry by author’s wife. All but the large bead at the bottom were purchased in Alaska from an old Indian in 1910. The large bead at the bottom is of the same type manufacture, 12mm (½ inch) in length with an unusually large hole and was found on Vancouver Island. These types show up frequently in the Southwest as well as in the Northeast. (Author’s Collection)

CL195 — Beaded collar made up of beads averaging 1/10th inch in diameter which could classify them as very large “seed” beads or rather small “pony” beads. This collar shows typical characteristics of the Mohave Indians, “weaving” technique. (Author’s Collection)

Testifying, O Lord, AS TO RAINBOW BRIDGE

By Irvin S. Cobb

Rainbow Bridge and environs . . . that's where Old Master stacked it up and scooped it out and shuffled it together again so violently, so completely and with such incredibly beautiful tonings, such inconceivably awesome results in the finished article.



DOROTHY & HERB MC LAUGHLIN

Of all the natural wonders in North America, Rainbow Bridge was almost the latest to be discovered. It isn't because of the brief time lapse since then that fewer human eyes have looked upon it than upon any other of our national monuments or any of our national parks. It's because of the approach to it — a difficult condition, which measurably could be abated by the expenditure for trail-work and highway-work of just a few thousands of the dollars which Uncle Sam so profusely has been slathering about, hither and yon, during these carefree and splendid years. I claim it would be money well-spent. I state this from the depths of a being still painfully saddle-sore at the locality where a being gets the saddle-sorest.

To be historical about it, it was not until 1909 that a party under the distinguished archaeological explorer, Professor Byron Cummings, accompanied by John Wetherill, famous pathfinder, and guided by a Piute Indian, penetrated through a most inaccessible terrain to what the Navajos, who knew it for centuries before these inquisitive white folks came limping in, called *Tsay-Nun-Na-Ah*, meaning "Where the Rock Goes Across the Water." And how the rock does go across the water! From Bridge Canyon Creek it rears, this rock, to a height of 309 feet and it has a span of 278 feet, being forty feet thick at the top, and its arch could swing entirely over the Capitol at Washington and still leave clearance for a troupe

of New Deal congressmen to turn happy hand-springs on the dome. There is an abundance of other figures touching on its general formation and its specific proportions, if you care for figures. In a case like this I am one who does not. For this is not a mathematical proposition; this is not even geological or geographical, unless you want to be technical about it. It is sheer cosmic poetry. Statistics, however sizable, just seem to curl up to insignificance when they start wriggling against a master achievement of the Divine Artificer — a creation so gorgeously symmetrical, so overwhelmingly majestic in itself, and so starkly splendid in its setting that the English language just lies down and begs for help when you try to describe it. I know this — the very first sight of it repaid for every new-laid blister upon my own setting and that, I may state for the benefit of any interested blister-fancier, means right smart repayment.

Anyhow came, as the fancy writers say, a day; a day when two of us — Buck Weaver and I — lit out from Flagstaff via Cameron and Tuba City and across the foot of Moencopi Wash and past the head of Blue Canyon which is in some lights blue and in others, any color you'd care to think of. Good roads — that is, good as desert roads go which means you won't mind them in a dry weather, but would do well to travel with a rescue crew when it's wet — went with us all the weaving distance to Inscription House Post, which, literally, is the jumping-off place for the main attraction. From now

on, scenically speaking, I'm sure it's going to keep on being the main attraction of the entire Western Hemisphere for me. I took the thirty-third degree in the lodge when I stood under that perfect rainbow which is frozen into everlasting stone, and looked up above me and looked round-about me and testified before my Lord.

It is agreed, I take it, that Grand Canyon as sighted either from Grand View or El Tovar is, despite its freakishness of composition or perhaps partly because of that very freakishness, the incomparable spectacle of both the Americas. Neither in the Canadian Rockies, nor in the High Sierras, nor even in the Andes has this onlooker ever beheld ought to match it, let alone surpass it. For shift and play of color, for scope, for balanced grouping, for weird modeling it convincingly is the hemisphere's supremest masterpiece. Creation made the Grand Canyon and then threw away the mold. I hear tell the Himalayas also dish up some very sightly stuff, but they'll have to show me.

Admitted all this to be true, I nevertheless bear witness that the fourteen-mile mule jaunt to Rainbow Bridge — considering what lies along the way and what theatrically awaits the traveler at the farther end — furnished me with more thrills per square yard than ever I have garnered in a like space anytime anywhere.

By contrast, the Grand Canyon has been made convenient for the tourist. An air-conditioned train fetches you to El Tovar's doors. You may sit on an easy couch and peer over its brim at the immensities below, knowing there is a luxurious hotel at your rear and that tourist

The original story from which these excerpts are extracted first appeared in our July, 1940 magazine. Since the opening of the Glen Canyon National Recreation Area in 1964, Rainbow Bridge is only a few steps off the boat dock after a short trip "up the river," without eccentric mules and saddle sores, unless you happen to be one of the rare breed of purists who'll have it no way but the old way. For you the trails are still open.

camp and lunch stands are nearby and a paved thoroughfare leads either way along the edge. But to see the Rainbow you must cross about as rude a stretch of wilderness as is left in this country and brave some mighty brooding solitudes. And these adventures, even when negotiated with no special amount of danger, give the greenhorn a Daniel Booneish satisfaction — the comforting thought of having earned his pleasure by undergoing travail and pioneering hardships.

Another difference is that the Grand Canyon lies open to the observer's eye; from above its major secrets are all readable. But here in this tangle of lesser depths off Navajo Mountain is an endless processional which never fully betrays itself; which tantalizes you with far-away glimpses at obstacles humanly unconquerable, with unattainable elevations which you know can never be reduced to dimensional tables by some prying surveyor's squad. Take, for instance, Forbidden Canyon or Wild Horse Mesa.

You have angled across a narrowed V at the head of First Canyon into Second Canyon and out again and are about to invade Third Canyon as a preliminary to traversing Cliff Canyon (I trust the reader is not getting confused) and thence through Redbud Pass to Bridge Canyon — as I say, you've reached Second Canyon when all of a sudden you come on Forbidden Canyon — and then perhaps an hour further you ride out of a pent-in side-draw which is a sort of hyphen connecting two infinitely larger gaps and are face to face with Wild Horse Mesa. At this range of vision Wild Horse Mesa looms like an unscalable back-fence enclosing the myriad of unearthly glories which spread across the intervening dip. Close by and beneath you are varied formations — funnels and spirals and carved monoliths and, amongst and between these, curious worm-like arroyos, all changing though to faint clumps and shallow furrows where they lose shape and vaguely merge together away off yonder close up under the farthest panels of runneled sandstone.

This noble barrier, with its base in the blended shadows and its top palings in the clouds, is so-called because stray mustangs that have gone wilder than any deer are said to frequent it — which is more than puny mankind has done although there are those who claim to have climbed to the crest, going up an exceedingly precipitous ramp on the farther side. Well, maybe?

But until we develop sucker-disks on our feet and learn to cling to smooth outbulging surfaces like house-flies crawling on finger bowls, I'm reasonably sure none of our species will ever get down into Forbidden Canyon or, having got down there, ever get out again. So you see it also is appropriately named. Were it not that bandings of sunshine and cloud-play splash it with shifting pastel hues — dun, ecru, soft brown, blush-pink, dulled lavender — what lies cupped in there would be like a

giant paint-bucket scraped clean. It's the sensational coloring that makes the pageantry. Otherwise, the desolation would be so complete, the utter wastefulness of it all so depressing that you could imagine anyone who for very long stared down into that dreary pit going sick at the stomach. Birds fly above it but it is reasonably certain no living creature, anyway no two-footed or four-footed creature, exists in it.

At its farther end Cliff Canyon appears to butt smack into an escarpment of solid mountain. You are right up against it almost before you see that from top to bottom, this seeming barricade is split by a rift hardly wider than the foot-trail which pierces it. This is the famous Redbud Pass. Verily, it's like the Crack of Doom made usable. There are places where your outstretched fingers brush both sides and, looking up out of the perpetual twilight of the bottom, the sky is seen only as a tiny blue strip. You have the feeling that any moment the crevice may close shut and flatten you like a mite caught between two book-ends.

Along the slanting path through Bridge Canyon we followed the creek which, having tunneled out of some subterranean channel at Redbud Pass, now had grown to a widened clear stream, full of deep pools; and the trees were taller and bushier than anywhere else on the route, and so deep were the wild grasses that the trail was a half-hidden trace, and a shepherdless flock of Navajo sheep found the richest of pasturage as they browsed about, led by an old ewe. She had a copper bell at her throat-latch and in that solitude the bell's jingling could be heard for half a mile before we saw her.

Divers curious indentations worn by the weathers of a million years high upon the canyon's tan-colored mural made a fascinating side-show here. Yonder would be a squared doorway lintel, sill and jambs all complete; and just over there a tall unfinished archway, and next along a titanic picture-frame but no picture to go in it. And then perhaps a funnel or a swirl or an arabesque or an amazing rosette, like a pastry cook's decoration for some exaggerated caramel cake.

It was late in the afternoon and I was trying to sort out and classify for future reference a thousand different impressions, when we came to where the path forked. Right in the crotch was thrust up a smallish pone-shaped butte, heavily corrugated. Beyond the wrinkled withers of this dumpy obstruction we could catch a tempting peep at the nearest pediment of the Bridge but Bill advised that first we get to camp and rub the cramps out of ourselves and then return and go past another little elbow in the gulch for a view of the thing in its entirety. So we turned right-wing and presently butted into a dead-end where the swoop of a future cave formed a half-moon above a sweet spring pouring out of the rock; with a brush arbor and

a corral and a storehouse handy by, and two wall-tents with cots and mattresses in them and, crowning paradox for so untamed a vicinity, clean sheets for the beds and clean pillow-cases for the pillows.

It's forty minutes later and the daylight is starting to fade on the lower shorings of the encompassing cliffs and I, being dismounted, am noting that I hurt in a lot of places where I hadn't hurt before, when we hobble stiffly beyond that interposing jog to a proper vantage point facing into the west — and now, Mister, hush up your mouth and please just lemme pause and contemplate!

Already I have confessed total inability to describe what to me is the crowning achievement of the huge arena of uplifting magic in which it lies hidden. I shan't even try. I'd go downright delirious, whereas, at this date, thinking back and reliving that experience when I stood and soaked up pure loveliness through all my pores, I merely grow semi-hysterical.

But I do crave the reader's kind indulgence while briefly I draw in retrospect some sketchy notion of that amphitheatre where Rainbow Bridge is flung up, a perfect symphony in pink sandstone, to unfold like a scroll thwartwise of the canyon's structure which, by contrast, is streaked with less graphic tones — umber and amber and ochre and tarnished copper. But with no vain ornamentations to mar the surpassing grace of it, mind you; no superfluous curlicues to distract the fascinated eye from those altogether simple and most truly-scaled lines.

Except for the prodigality of coloring in which it is bathed there is a planned economy in every detail of the magnificent conception. And down below and beneath that splendid arching sweep, the little brawling creek hustles along, now riffing over its pygmy rapids and now boring between yellowish shores that are polka-dotted with circular splotches of bright verdure. And on under and beyond the arch, the sun goes down in a welter of unutterably brilliant cloud-wrack that is all crumpled and strewn like torn remnants of silk across the sky.

So in a kind of trance, a thraldom of happy catalepsy, while the inadequate tongue had frozen but the soul was quickened and the brain alert to absorb more and yet more of the beauties of it, I bided there until twilight made everything blurred, then dazedly stumbled away in the dusk, tripping over boulders and splashing through brisk eddies. It was just before the last of the sunset that the glory became almost too glorious to be borne. As the final benedictory rays played over the horizon and struck upon the upper reaches of the great span, what a moment before had been rufous, like a pochard drake's head, now flamed scarlet, like a tanager's breast; and mauve turned to royal purple, and palish green was emerald and dead gray was all of a sudden opalescent and gleaming like so much live pearl. A steep mica bed on the parent cliff alongside picked up a slanted beam and became a cascade of diamonds; the broken canyon floor lit up like a friendly hearth of ruddy firebricks. And yonder through the crescent of the Bridge the heavens flared with flamings of crimson and with waves of blue and of tattered gold — God Almighty's housewarming.





◀ KEET SEEL — View Eastward.
The resemblance to a modern
Hopi town is very obvious.



Navajo National Monument — KEET SEEL — General
View. Here photographer Current has captured the full
billow of the cliff which is Keet Seel's glory.

"They appear much less like fortresses than symbols of dominion or instruments of prayer, and they seem to stand at the very edge of a kind of human expression in architecture to which the Indian, with the almost immediate retraction of Pueblo character, never afterward aspired."

Photographs by William Current, from the book PUEBLO ARCHITECTURE OF THE SOUTHWEST

AN OUTSTANDING BOOK ON PUEBLO ARCHITECTURE

The vast area surrounding Rainbow plateau abounds with prehistoric ruins. These range in size from single family caves to the breathtaking cliff dweller pueblo communities, such as Betatakin, Keet Seel, Inscription House, Kayenta, and several in the Canyon de Chelly. Most travellers see these ruins from a distance especially during the summer months when the high temperatures discourage the curiosity in our adventuresome soul, and we leave the area regretting that we didn't get a closer look when folks who have been there tell of the wonders we missed.

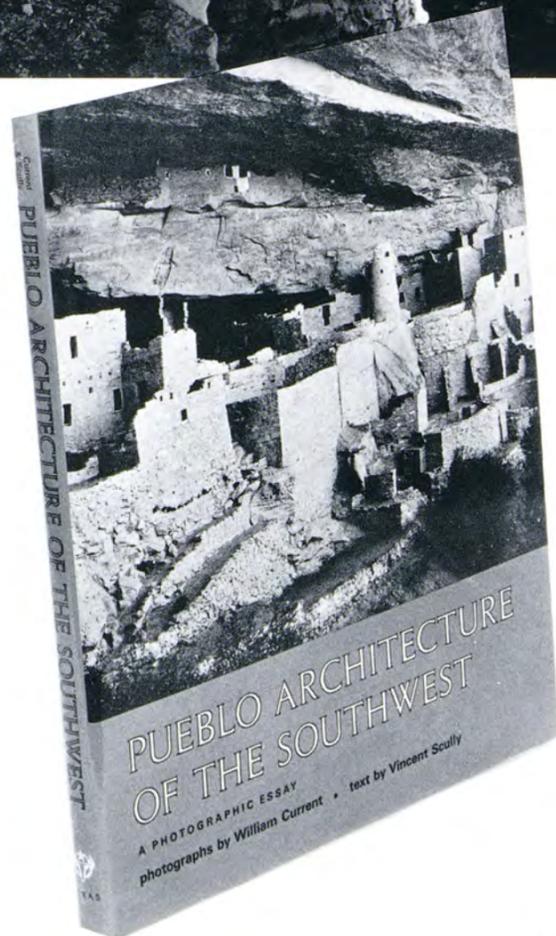
The ruins of the prehistoric pueblos, and their successors, the modern pueblos, form a special cultural resource. The sites and the remarkable structures of our Southwestern pueblos are the subject of one of the finest books we have seen done in photographic essay format. Titled PUEBLO ARCHITECTURE OF THE SOUTHWEST, the book is mainly William Current's superb photographic interpretation of an outside-inside expo-

sure of the buildings as they exist in their environment. The viewer, aided by Vincent Scully's illuminating text, will see exemplified in these photographs the principles of Arizona and New Mexico Pueblo Indian architecture and its relation to the distinctive life style of the Pueblo people.

Among the many sites pictured are Mesa Verde in Colorado, Chaco Canyon and Aztec National Monument in New Mexico, and Canyon de Chelly, Kayenta, Navajo National Monument, and Canyon del Muerto in Arizona. William Current is a professional photographer residing in Pasadena, California. Vincent Scully is a professor of architecture at Yale.

PUEBLO ARCHITECTURE OF THE SOUTHWEST was published for the Amon Carter Museum of Western Art, Fort Worth, Texas, by UNIVERSITY OF TEXAS PRESS, Austin, Texas, and is available at most book dealers. Price is \$12.50.

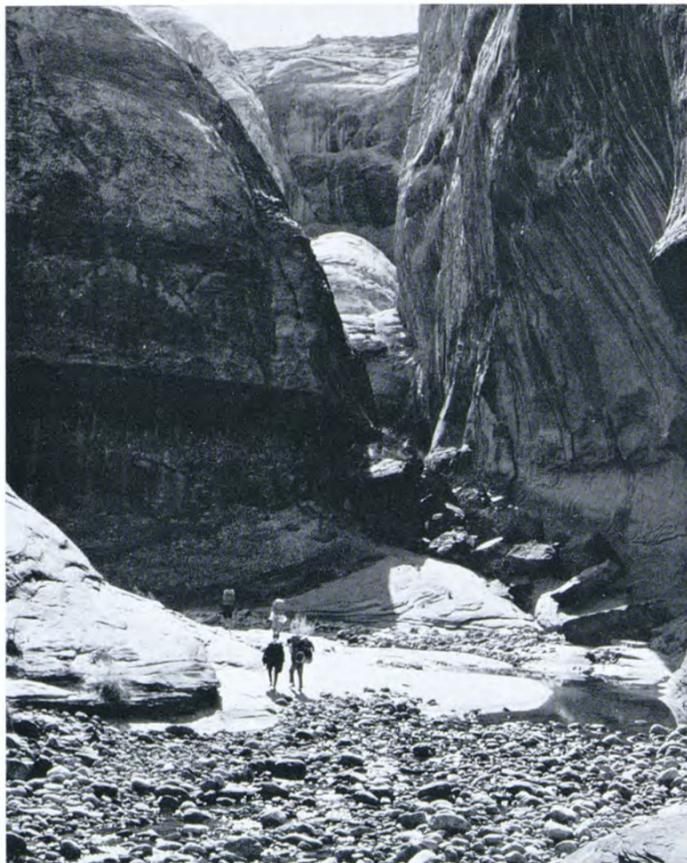
Navajo National Monument — KAYENTA — Wall
opposite Betatakin. This photograph gives a fine
sense of what the Betakin dweller saw from the
opposite face of the Canyon. ▶





Side Canyon off Forbidden Canyon

Inner Forbidden Canyon

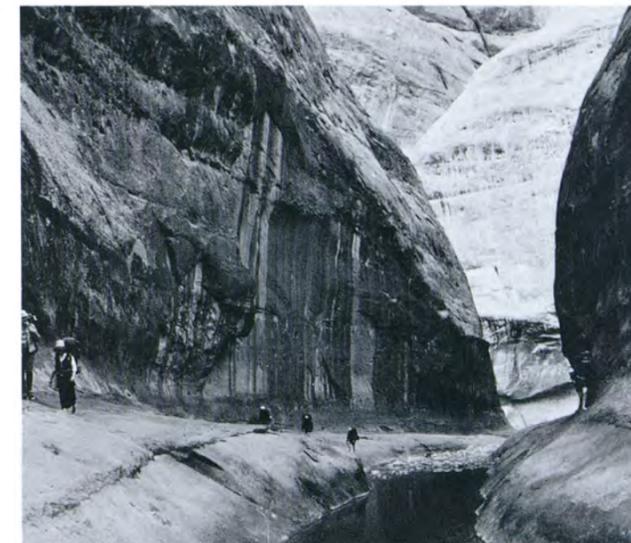


Not all of "the Navajo" is one of barren beauty. Most of the major canyons have permanent streams flowing through them with grass covered banks lined with cottonwood trees. With the availability of water and the piles of driftwood left by previous storms to use for firewood these streamside glens make fine campsites. For just these reasons, many of our camps are planned for and made at these streamside sites. But, whatever our reason for a choice of a campsite is, the individual attractiveness is invariably enhanced by its remoteness, inaccessibility and frequently of more importance, more intangible factors.

I was leading a trip not long ago north of Navajo Mountain in an area, which as usual, I had not been to before. The route I had planned for the day was to take us out of Lehi Canyon, across some very rough country, and down into Nasja Canyon where I knew we could find water and could camp for the night. Everything was going well. We had found a way out of Lehi Canyon and had crossed most of the way to Nasja by lunch time. We were even doing so well that while eating lunch I entertained the idea that we might get into camp too early. After lunch it was only a short distance to the rim of Nasja Canyon where we could look down into an ideal campsite. Unfortunately, we happened to be separated from it by a verticle cliff nearly a thousand feet high. I had little concern at the time for there was still several hours of daylight and past experience had taught me that given enough time it was always possible to figure out a way through any obstacle the country could come up with. Several hours later I was concerned. I had been able to find a way off the cliff and had finally come to the conclusion that we would have to go back to a side canyon that we had crossed before lunch and which I hoped might lead to the bottom of Nasja Canyon. There was no water where we were, so it was important that we find a way to the bottom of Nasja Canyon where we would find water and thereby be able to make a decent camp for the night. With this in mind we started retracing our steps and arrived at the narrow canyon leading to Nasja just before sunset. As we started down I never felt so committed. We had nearly a thousand feet to drop in less than a mile. I knew there was an excellent chance of coming to a cliff that would block our progress. It was getting dark, the narrow canyon we were in offered no place to camp and we could not expect to find water until we reached the bottom of Nasja Canyon. Even though we were partly prepared to spend a night hung up in this boulder filled gully without water I was never more thankful to see that my fears were not realized and were able to descend the gully straight to its junction with Nasja, where we arrived just at dark. When we did reach the canyon bottom we were at a place in Nasja where there was a large level sandy bank covered with several large cottonwood trees. Piles of driftwood deposited at the base of these trees made the gathering of firewood an easy chore. The canyon bottom was about two hundred feet wide and we were closed in by verticle cliffs several hundred feet high. In every way it was a beautiful camp and with the previous apprehensions of the day forgotten a fire was quickly made and our evening meal started. After supper as we sat around the campfire the true magnificence of the surroundings came into view. My previous feeling of confidence had returned and I even smiled at my accomplishment. However, as the campfire died down and the moon came up and began playing on the cliffs my smile changed. Not outwardly but inwardly, from one of accomplishment to one of gratitude.

"I'm reasonably sure none of our species will ever get down into Forbidden Canyon or, having got down there will ever get out again. So you see it's appropriately named . . . Birds fly above it but it is reasonably certain no living creature, anyway no two footed or four footed creature exists in it." Irvin S. Cobb, 1940.

. . . add that conclusion to the 4 minute mile, and the 100 yards in ten and it just about seems like they don't make 'em like they used to any more.



Beautiful West Canyon





Lake Powell at the Confluence of Forbidden Canyon and Bridge Canyon — HELGA TEIWES. In order to continue our nine-day backpack around the north side of Navajo Mountain to Rainbow Bridge, and then through Forbidden Canyon, south to Rainbow Lodge, the National Park Service supplied a barge for transport from Rainbow Bridge Canyon to Forbidden Canyon.

We all made it without wetting a toe, until the first crossing on foot of Aztec Creek in Forbidden Canyon. Here a little quicksand provided some necessary but unwanted baths.



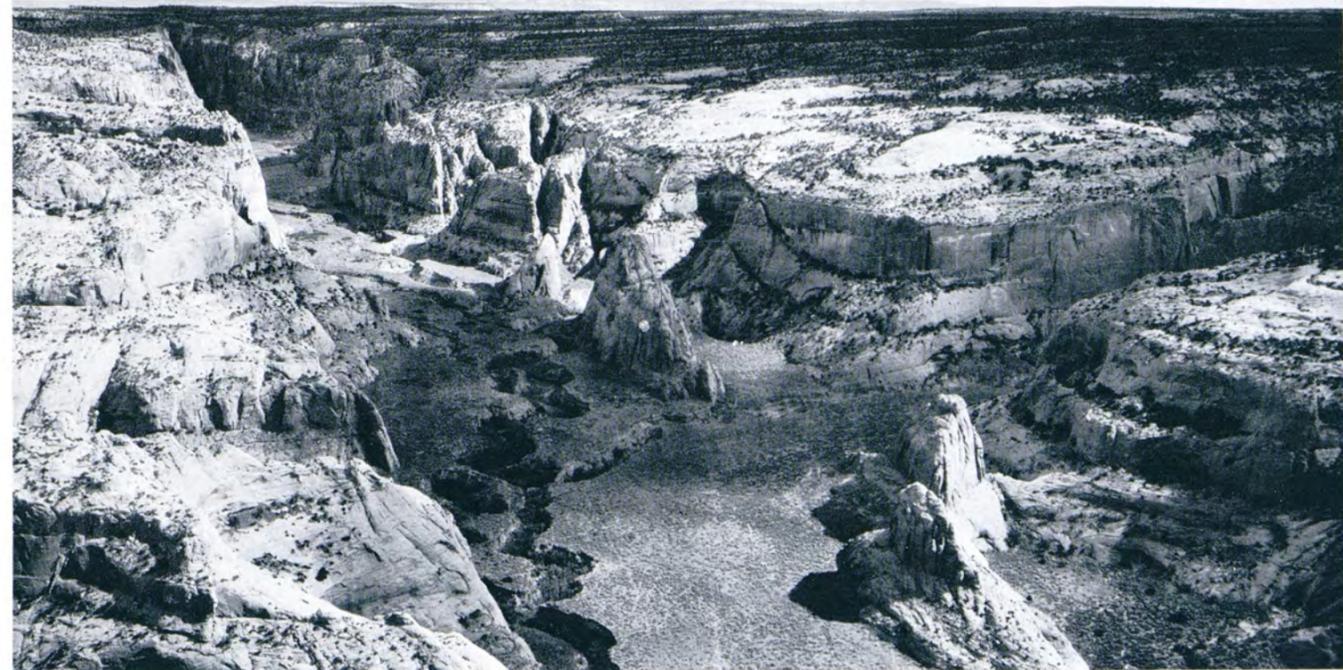
Canyon Southwest of Navajo Mountain

As beautiful and spectacular as the canyon bottoms are, some of the most interesting areas are in what we call the dome country. This is the wild and weird plateaus of sandstone domes between the canyons. These domes can be too steep to climb and are frequently separated by slots too narrow to slide through. I remember not long ago when we were walking up the bottom of one of the many tributaries of Navajo Canyon. The bottom of the canyon we were in was extremely narrow and filled with water. It was late in the day and we were looking for a campsite when we came to an impassable pool. We had already used ropes to get around two pools so going back was out of the question. There was no place to camp where we were so the only place left to go was up. A side gully led up into the dome

country so we took it. We arrived on top just as the sun was setting and discovered as fine a campsite as a backpacker could ever ask for. Below us was a small horseshoe shaped basin. It was filled with juniper trees interspersed with several flat sandy areas. Leading into this basin was a small drainage flowing over the bare sandstone rocks and containing several large pools of water. The outlet of the basin faced to the west and as far as the eye could see were domes, spires, and cliffs, amazingly wild it was a scene of magnificent grandeur made ever more spectacular by the shadows of the setting sun.

This then is at least one part of "the Navajo." Unsurpassed in its beauty, a challenge to those who enter it but never failing to reward those who do.

DOROTHY & HERB MC LAUGHLIN



KEET SEEL

Once the Old Ones scaled her lofty wall
And ground their corn on stones in her
coolness.
Men hunted in the wilderness that kept her,
And women fried their cakes on heated rocks.
The eagle, long since gone, killed just to eat,
And little children learned to understand.
Then, Man or Time or Season — *something*
changed.
And they lived there in the morning,
And when night came, they were gone.

— Roger T. Bogley

NAVAJO LAND

Soft purple shadows
Sift over the mesas,
Half awake stars
Blink their eyes
In the sky —
Darkness drifts over
The land of "The People"
A drowsy night wind
Chants its own Yeibeichai.

— Maybelle West

A DESERT

the small population of seedlings
are contented to watch
as the crabgrass kings and their wildflower
queens defend their kingdoms against
a dictatorship of sand.
and a quarrel between two shriveled cacti,
over a recently formed puddle, goes on
without further progress.
the ants continue to dig underground tunnels,
plotting an overthrow of the desert from
beneath the ground, a technique not
yet tested while a large spider, busy
making patterns in the sand
happens upon the center of the delicate
network — and collapses it,
despite hurried attempts to escape
a painted lizard appears — elbows tense,
hands gripped hard against the earth,
and stares off to the empty horizon
as if something were about to happen.
not far away, a magnificent plant once alive
with lavender blooms, now stands gaunt
and lifeless.
waiting to vanish into the dust

— Susie Lightfoot

SUNSHINE

The sun's rays
dispelled the clouds
flooding the earth
with its radiance —
Nature smiled.
The grass, seemingly dormant
took on an exhilarated
look of grandure;
the air freshened —
Life burst anew.
Man, God's dominant creature
seemed mesmerized
by its glory;
graciously renewed in spirit —
Sang.

— James C. Haymes

Yours Sincerely



BRUCE KING
GOVERNOR

STATE OF NEW MEXICO
OFFICE OF THE GOVERNOR
SANTA FE
87501



April 27, 1971

Mr. Raymond Carlson, Editor
Arizona Highways
2039 W. Lewis
Phoenix, Arizona 85009

Dear Mr. Carlson:

A unique and significant event will occur in New Mexico this year--the 50th anniversary of the founding of the Inter-Tribal Indian Ceremonial at Gallup.

It is unique in that, having been founded by non-Indians out of their admiration for Indian peoples, it is the only such event in the world purposely organized by one race of people to honor another race of people.

It is unique in that it has been maintained only through the cooperative efforts and mutual trust of Indians and non-Indians working together for a common interest and further strengthened in recent years by the advent of many capable Indian people into its committees and board.

It is significant in that it has created and maintained through its dedication to its principles the nation's largest, best-known and most respected exposition of the traditional Indian--the nearest this country comes to having a national tribute to the American Indian and a proud example of this country's race relations at their best.

It is significant in that through 50 years from its founding in what was then an isolated frontier town, it has continued to find the dedicated leadership of three generations of local citizens in a small city willing to make the sacrifices necessary to preserve and promote it.

The major informational media in the United States has been most generous in publicizing the Ceremonial in the past for which New Mexico is appreciative, but I feel you may be interested in giving it extra attention this year because of its anniversary. I will look forward to your comments.

Most sincerely,

Bruce King
BRUCE KING
Governor

... We sincerely regret that prior commitments pre-empted coverage of the Inter-Tribal Indian Ceremonial at Gallup, which this year will welcome more than 30,000 visitors from all over the world August 12, 13, 14 and 15.

We join with New Mexico's Governor Bruce King, and the people of our neighbor state in extending an invitation to our readers to attend the nation's oldest and largest popular exposition of the diverse culture of many North American Indian tribes.

OPPOSITE PAGE

"SHEEP IN NAVAJO CANYON" BY HELGA TEIWES. This is the longest of all the beautiful canyons of the Rainbow Plateau. Navajo Canyon with its creek running all year is the most accessible for the Navajos and therefore more extensively used for their sheep and for their needs. Hogans are found in the area, some still used. Herds of sheep such as this are proof that Navajos depend on this harsh but beautiful land for their way of life. Rollei flex camera, Tessar 75mm. lens; Agfachrome 50 ASA, exposed 1/25th sec. at f16.

BACK COVER

"NAVAJO MOUNTAIN" BY HELGA TEIWES. The east end of the Rainbow Plateau is dominated by this Patriarch of the Navajo country, Navajo Mountain. The heavily eroded sandstone domes to the southwest hide deep canyons like West Canyon and Forbidden Canyon. It is the awe inspiring beauty of this country that draws some people to it and challenges them every step of the way in and out of it. Constant ups and downs demand physical fitness, and expertise about the terrain, and rewards with the spirit of the delightful freedom that only pure wilderness can give. Rollei flex camera, Tessar 75mm lens; Agfachrome 50 ASA, exposed 1/25th sec. at f16.

