

## ANTHROPOLOGY

# Search for Missing Link

The exclusive coverage of the anthropological expedition to the "nursery of man" is concluded. Map showing high points of expedition in SNL, July 29, p. 75.

By DR. HENRY FIELD

**SHARJAH, TRUCIAL COAST, PERSIAN GULF**—This ancient Pirate Coast, known for a century as the Trucial Coast, is ruled by seven independent sheiks.

This area is two hours flight from Bahrain island and we arrived here in an R.A.F. DC-3 with bucket seats.

The sheiks rule the foreshore, but the interior is relatively little under their sway.

The mysterious Schuhuh tribe live in caves up a narrow creek. They do not like foreigners. They have never been photographed or studied.

The British guide the seven sheiks in their foreign policy. There are no police. There is no rule except that of each sheik. There are no telephones. The principal source of revenue is pearl-fishing. I went out to the fleet to watch the divers at work. Each man fastens a nose clip in place and with a lead weight between his toes he sinks to the ocean floor, at this point 30 feet deep. About two minutes later he surfaces with a handnet full of oysters. This is indeed hard work for relatively little. The average diver makes about \$10 per month from June to September, not much in relation to the cost of pearls on Fifth Avenue or State Street.

The waters along the Trucial Coast abound in fish. The nets are usually full. Sail fish are plentiful; here they are reported to be the largest in the world.

From an archeological standpoint, there are two ruins, one at Ras al Kheima, the other on the island of Umm on-Nar. These are probably Portuguese ruins but time did not permit me to visit them. In the market places of Sharjah and Dubai I saw the customary medley of racial types, worthless from the point of view of the physical anthropologist. In the interior at Bireima Oasis, on the mountain slopes of western Oman or among the true Bedouins there is much to be done, but the inaccessibility and the almost certain lack of cordial cooperation on their part would make this task extremely difficult, even during the winter months.

The Trucial Coast is my farthest point from Harvard. It is now time to start for home via Bahrain and across Saudi Arabia to Beirut.

## Ibn Saud at Last

**DHAHRAN, SAUDI ARABIA**—When I stepped ashore from an Arabian-American Oil Co. launch at Al Khubar on the Per-

sian Gulf, it was a great moment for me. For more than 12 years I had wanted permission to begin anthropological researches in the Kingdom of Ibn Saud, Lord of Arabia.

Through the mediation of Assistant Secretary of State George C. McGhee and Ambassador J. Rives Childs in Jidda, permission was granted for me to land at Al Khubar and proceed to Dhahran where I was the guest of the Arabian-American Oil Co., known as Aramco.

The following day I was driven by Dr. Willard C. Beling to the ruins of a large city a few miles southeast of Dhahran. Here on the surface lay hundreds of broken potsherds amid shellheaps. Within an hour we had collected a representative series for the Peabody Museum at Harvard.

Since we were out in the middle of a good old-fashioned sandstorm, locally called shemal (with the addition of a few well-chosen American epithets), our progress was slow. Our eyes were filled with sand which swirled around so that it was hard to see our shoes. The wind was blowing at 40 miles per hour and the shade temperature was about 110 degrees—not ideal conditions for scientific research!

The shellheaps were covered with oysters—probably the refuse of ancient pearl-fishers or oyster-frys. The pottery was ornamented with designs and some of it was glazed. Fragmentary glass bracelets were also seen.

This ruin, known as Ain as-Saih, must have been an ancient city on the shore of the Persian Gulf. Many travelers have visited these sandy mounds. Nearby a few palm trees struggle against the sand which sweeps on relentlessly.

No digging was possible even if the dust had not been blowing, for my permit specifies clearly that only surface material shall be collected on this brief reconnaissance along the Trans-Arabian Pipeline called Tapline.

The sherds from Ain as-Saih will form a welcome addition to the Peabody Museum study collections. Here comparative material is being collected from throughout Southwestern Asia. The sherds themselves are valueless, but as the collection grows in representative sherds from a wide range of localities it becomes possible to assign dates to new material. This side of research is never seen by the public. However, its usefulness is readily understood.

Future work at Ain as-Saih may reveal its ancient name and its place in the his-

tory of the Persian Gulf, an area which has long been occupied. First came the ancient dwellers of Mesopotamia and Persia, later the Phoenicians and Arabs. Even Chinese junks sailed these waters, long renowned for their pearl-fisheries.

## A Page from Bible Days

**AL GAISUMAH, SAUDI ARABIA**—Along a now dry streambed wadi have moved countless camel caravans through several millennia. The village of Hafar al Batin, to which I drove with John C. Kelley, lies on one of the main lines of migration between Baghdad and Rujadh, capital of Saudi Arabia.

A flight from Dhahran, with a brief landing at Mishaab, was across a flat, unbroken wilderness, and it brought me to Al Gaisumah, really into the depths of Saudi Arabia at last.

As we approached the famous village near here we saw the plain strewn with about 400 black tents of the Bedouins. Beyond lay the fort with its crenelated battlements and towers. Hundreds of camels, sheep and goats were being watered from the many 100-foot wells. Our arrival in a cloud of flying dust disconcerted quite a few of the camels, their snorts being obvious distaste at the approaching wheeled monster.

We stopped to drink a cup of bitter, black coffee brewed for us by Sheik Ibn Museis of the Muteir tribe. Here under the black tent we were back in the days of Abraham, for Bedouin life has remained but little altered during the past 5,000 years.

Looking around the little circle squatting on the rug-covered ground I observed that these Bedouins belong to the basic Mediterranean stock. They have changed little in type, guarding their racial purity with the strictest of sanctions. The Bedouin women do not veil; their faces are ornamented with simple tattooed designs. The teeth of these Bedouins are remarkably good for they eat little sugar and no canned food.

We returned to Al Gaisumah, this being the name of a yellow-flowered shrub abundant in this region. Here is Station No. 3 of the world's largest construction project, the \$300,000,000 30-inch pipeline to carry the oil from Abgaig near the Persian Gulf to the ancient town of Sidon, which according to Matthew (XV:21) was visited by Jesus. Such is the twentieth century blending of the ancient and the new.

## Flint Flakes Found

**RAFHA, SAUDI ARABIA**—On a low hill near here, where ancient man could camp secure from surprise attack, we have found a few flint flakes obviously chipped by human hands. This is the first link in northern Saudi Arabia with the men of the

Old Stone Age. The evidence was thin but positive.

We had driven along the 30-inch steel snake, known as the Trans-Arabian Pipe Line, from Al Gaisumah to the next pump station to the northwest called Rafha. The hill was an obvious place to look for traces of Stone Age man whose handiwork I have been pursuing for 25 years from southwestern Sinai to the Caucasus mountains.

In nearby Jumaima, hundreds of camels were being watered by the Shammar Bedouins, whose black tents dotted the plain. At Jumaima there was plenty of water, but the wells were deep and the big stone cistern overcrowded with the drawers of water.

This cistern lies on the famous Darb es-Zobeida, the main camel track southward from Baghdad to Mecca. This road is named for the beautiful Zobeida, consort of Haroun el-Rashid. This woman encouraged the building of water cisterns and rest houses all along the pilgrim way.

It is safe to assume that her name is blessed among the hot and tired pilgrims, for this land is indeed inhospitable—even to those on a sacred mission.

We turned south about 25 miles to visit the ruins of Zabala, one of the most famous halting-places on the Darb es-Zobeida. Many Arabic authors describe this haven on the Pilgrim road. For example, during January, 925 A.D. the Carmathians defeated the soldiers who were guarding Zabala; only a few of the Persian pilgrims on their way to Mecca escaped.

The main courtyard of Zabala is now enclosed by crumbled walls. In the center lie six fresh Bedouin graves, piled with fallen rubble. Glazed potsherds were collected for the Peabody Museum at Harvard; this glazing is now a long-forgotten art.

To the north lie three wells, each more than 175 feet deep. The deepest is rectangular and faced with dressed stone. At night it would not be difficult to plunge into this well either on foot or in a car, for the top is flush with the ground. This would indeed be a mysterious disappearance.

### Roman Fortress Discovered

TURAIIF, SAUDI ARABIA—On a lonely hilltop near the road along the Trans-Arabian pipeline on the way to this Station VI, we found and collected stone implements of Paleolithic type, evidence of stone age man which links with the other discoveries in Jordan and Iraq.

But a newly discovered Roman fortress was also an important site explored, for it is the most eastern outpost of the Roman empire.

The ruins lie 10 miles to the southwest. Here at the western end of a large mudflat, now dry as a bone, lay a catchment basin faced with dressed basalt boulders. Nearby stood the lower portion of a gateway leading into a rectangular courtyard

beyond which were the foundation stones of six rooms.

No one else built like the Romans. Their superior handiwork remains a marvel of the centuries. We made a ground-plan of the gate and courtyard and searched in vain for an inscription. Pottery was collected on the surface of the ground. Stretching for several acres were piles of basalt meaningless without an aerial photograph.

This newly-discovered Roman fortress must have formed a link in the chain of outposts protecting the town from the desert. To the northwest lies Qasr el-Azraq; to the north Qasr el-Burqu, long described as "the most eastern outpost of the Roman Empire." Now Qasr ed-Dauguera takes this as its rightful place.

Perhaps in the long-veiled Wadi Sirhan to the south lies another unknown Roman outpost? Future exploration alone will decide.

We drove across the hot low-rolling gravel and sand-covered hills to the southwest searching here and there for prehistoric stone implements, collecting plants and chasing the elusive lizards.

We passed through a wind-swept canyon where dozens of basalt blocks showed the amazing effect of wind-action, called "dreikanter." These blocks were trimmed in neat, triangular shapes by the continual etching of the wind. Driving by a huge salt lake, whose surface glistened in the distance, we came around a bend over a hill and there before our eyes was the oasis of Qalyat al-Milh on the fringe of the great Wadi Sirhan. To the right stood a fort with four corner towers, reminiscent of "Beau Geste."

A Negro servant of the Emir welcomed us for his master was sleeping during the heat of the early afternoon; moreover, it was Ramadan and all were fasting until sundown.

Beyond lay the flat-topped village bordered by many palms, none of whose branches swayed in the listless air. On the high hill above was a fort with a broad track leading to the summit.

We returned to Turaif in the cool of the evening for there the thermometer read only 98 degrees in the glow of the sunset.

### Earliest Commercial Article

BEIRUT, LEBANON—Probably the flint we discovered on the slopes of a blacker-than-black hill at Tell el-Hibr near the Saudi Arabian border was the earliest article of commerce.

On the southern slope of this hill, rising about 500 feet above the level of the plain, were quantities of flint flakes chipped by human hand. This flint, some of it honey-brown in color, is the best quality I have ever seen in this part of the world. Here the prehistoric flint-knapper must have truly enjoyed his work.

A parallel case of flint figuring in trade is in Western Europe. Flint from the famous quarry at Grande-Pressigny in France has

been found hundreds of miles away—presumably by trade in Neolithic and later times.

Tell el-Hibr thus forms an important link in the chain of evidence for the distribution of Paleolithic Man in Southwestern Asia.

A Trans-Arabian pipeline Navion plane took me to Beirut.

As we flew northwest we soon crossed the undemarcated boundary between Saudi Arabia and the Hashimite Kingdom of the Jordan. From 2,000 feet I waved au revoir to the kingdom of Ibn Saud, grateful indeed to him for allowing me to be the first anthropologist to make a reconnaissance survey in his country which is so rich in the cultural history of mankind.

We stopped at Station VI A to pick up a sick man and his friend. Flying low over eastern Jordan we could see many ancient villages with their circular enclosures on the edge of now-dry streams. Some of these near mudflats were fishing communities. From the abundance of these stone circles this part of Jordan must have supported a relatively large population based on the former fertility.

Leaving the high, forbidding mass of Jebel ed-Druz on our right we flew over Deraa in southern Syria, where the Israelites slew Og, king of Bashan (Number XXI: 31-35). Ahead loomed Mount Hermon, an imposing mass.

The little Navion seemed to strain to fly higher, 8,000 feet, 8,500 feet, 9,000 feet. To my untrained eye, we were not going to make it. I shouted to the pilot. "Are our wheels up? I'm afraid we will touch the top." He smiled reassuringly as he tapped the altimeter. "Five hundred feet to spare," he yelled. He was quite right.

We landed at Beirut exactly to the minute on time.

The expedition was finished except for the hard work of getting the specimens packed and on board the ship and the researches yet to be done.

I am sailing on the American Export SS "Exeter" with 18 packing cases of specimens bound for the Peabody Museum at Harvard.

Since March 1 reconnaissance work has been done in Syria, Iraq, Persia, Kuwait, Bahrain, Qatar, Trucial Oman and Saudi Arabia. Some gaps had been filled, some discoveries made.

### Return of Science

► BAGHDAD, IRAQ—Iraq, once called Mesopotamia, stands in the center of southwestern Asia on the crossroads of Asia, India, Africa and Europe. For that reason the birds, animals and insects of Iraq are of unusual interest.

This is so because they have many varied forms, ranging from those to be found on the mountains in the north to the alluvial plain in the center and south. On the mountains live the ibex, deer and bear. On the plains roam gazelle, jackal, fox, hyena and, near the Twin Rivers, wild boar.

Hundreds of species of birds, insects and plants flourish in the wide climatic range. The geology of Iraq is of primary importance because of the vast reserves of revenue-producing oil.

The first zoological collections were made in 1918 by the members of a British Expeditionary Force. The specimens were identified at the British Museum, where the majority of the type collections from southwestern Asia are to be found.

In 1927-1928, as leader of the Field Museum North Arabian Desert Expedition and again in 1934, I collected many series of animals and plants, now in Chicago.

However, it has long been obvious that a natural history museum should be founded in Baghdad so that not only specimens could be centralized, but also publications could be issued in Arabic and English. I discussed this general outline in 1934 with the late King Ghazi, who showed an enthusiastic response.

In 1946, the Regent opened the Natural History Museum with zoological, botanical and geological sections, as well as a room devoted to the study of evolution. The director, Dr. Bashir E. Allouse, has just published "A HANDLIST OF THE BIRDS OF IRAQ" so that the Iraq government is now for the first time sponsoring scientific research and publications.

In the garden of the museum, under a date palm, about 20 turtles swim around or rest in the shade. These were collected by us in Kurdistan and presented by the Peabody Museum-Harvard Expedition.

Thus science has come back to a nation which 2,500 years ago led the world in mathematics and astronomical research.

### Ancient "Whodunnit" Tackled

NIMRUD, IRAQ—Evidence of what may have been an unsolved murder committed 3,500 years ago was just unearthed at Nimrud, near Mosul, Iraq, when the skeletons of two young boys were found buried under the floors of a room in King Ashurnasirpal's palace.

Solution of this ancient "Whodunnit" has been undertaken by Agatha Christie, mystery story writer, who, as wife of Prof.



Grasshoppers

➤ IN Aesop's fable of the ant and the grasshopper the ant is made out to be sober, conscientious, and hard-working, with a provident eye for the rigorous winter ahead. The grasshopper is painted as a frivolous idler who fiddles the summer away with no care for the morrow.

Actually Aesop was more of a moralist than a naturalist. As a tale-teller with an axe to grind, Aesop may also have harbored an unwitting prejudice against a creature endowed with a built-in musical instrument. For grasshoppers, although far from idle, do produce a rhythmic sound that is enchanting or irksome, depending on your point of view.

The male grasshopper can fiddle or keep silent at will. When it feels like sounding off, it rubs the inside of the hind legs

against the wings, producing a rasping or crackling sound. It can do this one leg at a time or both together. The female is unable to fiddle.

Katydid and crickets, which are closely related to grasshoppers, are even more musical. They produce a louder tone and a more varied phrase. Their songs, with day and night variations, have been written down in musical notation. It might be an interesting experiment to go out into the fields with a violin and play the katydid song and see what kind of back-talk you provoked.

But grasshoppers are neither all music nor all frivolity. Their business in life is to eat and to reproduce, and they allow their fiddling to interfere with neither. Grasshoppers are vegetarians, and sometimes when they become extremely numerous they move forward in great swarms, ruining crops and devastating the countryside. The locust plagues described in the Bible were caused by a species of grasshopper.

If grasshoppers sometimes show a partiality for the same foods that man likes, man has frequently returned the compliment in a lefthanded sort of way by feeding in turn on the grasshoppers themselves. In many parts of the world roasted grasshoppers are eaten as a food. The Japanese have found that they are even more nutritious than fish.

Some American Indians used to eat grasshoppers, and at least one contemporary American naturalist, Wilfrid S. Bronson, has broiled and eaten them out of scientific curiosity. He says they taste like lobster.

Science News Letter, August 5, 1950

Max Mallowan, is one of the technical staff of the expedition sponsored by the British School of Archaeology. On this problem she will have to work without the aid of her detective master mind, mustachioed Hercule Poirot.

Finding the bones of the two boys hidden in the royal palace was reminiscent of the death of the two little princes in the Tower of London. Mrs. Agatha Christie. Mallowan regards the problems of unraveling the past more fascinating than modern mystery fiction.

Other rooms, halls and passages of this palace were decorated with winged bulls and lions and long, inscribed texts in cuneiform which listed the many titles of King Ashurnasirpal. It was this king who, about 330 B.C., restored what was then Calah and now is Nimrud, as capital of Assyria. In Nimrud, Prof. Mallowan and his staff have excavated great winged bulls weighing many tons.

In Nimrud also was found the site of what was probably the world's first and largest zoo. Here the kings of Assyria kept thousands of animals. Visitors came from near and far to see the curious animals from Asia and Africa. Particularly

popular then, just as in the modern zoos today, were the trumpeting elephants.

Science News Letter, August 5, 1950

### INVENTION

## Milking Chore Eliminated: Device Holds Cow's Tail

➤ COWTAIL holder, on which the government recently issued a patent, will ease the job of the hand milker in fly-time and eliminate the small-boy former chore of holding the tail while daddy draws the milk. Farm-raised city men, as well as present cow owners, will appreciate this device.

It is a simple gadget with two arms pivoted in the center like ordinary shears. A spring between the handle ends to the rear hold the jaws of the forward part closed. To use, these jaws are opened, the hairy part of the tail inserted between pads, then closed on the cow's leg. The jaws hold firmly but without disturbing the composure of the animal.

The inventor is Albert J. Kline, New Douglas, Ill. For his efforts he received patent 2,513,494.

Science News Letter, August 5, 1950

## Limited Offer

To the first 30 persons who send \$1.00 we'll mail a copy of a book that explains eugenics, creative mutation, how the heart works, growth, hormones, senses of the skin, seeing, nervous system, animal history, evolution, heredity and environment, teaching science, statistics in science, D. D. T., life at high pressure, dry heat and wet heat, and 38 other equally interesting and important subjects. Published at \$3.00, **WHAT IS LIFE?**, by famed British biologist J. B. S. Haldane, offers the intelligent layman an informal survey of the latest known facts in experimental biology and physiology. **FREE** catalog of other science book bargains included. Your money refunded immediately if your order arrives too late to fill, or if you are not delighted with book when you receive it. Dover Publications, Dept. SNL 11, 1780 Broadway, N. Y. 19, N. Y.