For almost three thousand years, the aboriginal Indians of Southeast Florida were caught up in an existence pattern that would challenge modern man. In order to survive, they adapted one of the most unusual and unique environments in the world, the Florida Everglades, to their needs. Cartographers and historians have found it mysterious and intriguing for 400 years, from the earliest explorers to the present day airboaters.

These early people, believed to be of Muskogean stock, migrated slowly down the peninsula for hundreds of years. In all probability, they came down the west coast and dispersed throughout lower Florida. Small bands splintered off and remained behind in certain areas. When other Indians arrived here, they found the warmth of the climate, and the abundance of food sources inducement enough to stay. As the climate has not changed to any extent in the last 5,000 years, their choice was understandable.

The key to understanding the early inhabitants is knowledge of the watery Glades with its covering of sedge or sawgrass, its small islets or tree hammocks and its wet prairies. Waterways interlaced the entire area all the way over to the Atlantic ridge. Peat and muck that covered the oolitic limestone outcroppings 5,000 years ago, is the base of the soil that now exists. This black, organic soil overlays the white quartz sand of the Pamlico sea. Under that, there is a gray marl just above the permeable bedrock in certain areas. Parker noted that "during flood times all but the highest tree islands in the glades were inundated and that the flood waters slowly swept southward in a 40 mile wide sheet flow... Such flood waters... maintained force enough to cause the tree islands to develop an alignment pattern parallel to the lines of surface-water and to assume a typical rain-drop shape having a blunt, rounded, up-gradient head and a long drawn-out, down-gradient tail" (Parker 1974-21)."

A general division of the surface-water flow and consequently the shape and direction of the tree islands from Lake Okeechobee southward occurs at a line approximating the modern Miami canal. Everything east of it runs toward the southeast, and everything west of it runs to the southwest through the Big Cypress onward into the Gulf.

Any settlement pattern, as such, was dictated by the natural features of the Everglades, that is, by the tree island configurations. The small camp sites usually were at the north end of the rain-drop shaped hammock. Depth of the black earth at this end was about 18 inches. Evidence from the archaeological excavations on many of these small midden sites has proven that they were exactly what they are today, camp sites of short-term duration. Pottery types attributed to the Florida West Coast turn up with about the same frequency as do the East Coast types (Griffin 1974 - 343). This would indicate that the Glades was a source of food for more than just the aboriginal Indians who lived in the immediate area.

Surrounded by water, the Indian had little difficulty moving from place to place in dugouts. A good map of early Florida will show that travel was possible southward on the St. Johns River to Lake Helen, on through numerous other streams to Lake Kissimmee and all of the small waterways out of the meandering Kissimmee to Lake Okeechobee. Out of the west part of the lake, flowed the Caloosahatchee River, and out of the south and east, flowed the historically significant Hillsboro River (Rio Seco), New River (Rio Nuevo), Snake Creek, Arch Creek and the Miami River. All of these streams and others, flowed silently over the Everglades river of grass. A traveler was seldom out of sight of a hammock at the end of a day's journey.

Travel from the north continued from early times for hundreds of years until 1200-1500 A.D. Pottery found in campsites indicates that travelers came as early as 600 B.C. This pottery is to have originated in the St. Johns River region because its composition of diatomaceous earth is not found in South Florida (Crusoe 1971 - 33). This chalky St. Johns ware is accepted as a local Glades pottery because of its frequent appearance in the sites.

Throughout the centuries, the waterways of the primitive people have become overgrown to the extent that they are no longer discernible as such. They were definite routes, but not in the sense of man-made canals. Recently these old waterways have been found on the infra-red satellite maps of 1974 which confirm the early maps of the first surveyors and cartographers. The waterways flow from hammock to hammock showing the trails of the Indians.

Fluctuations of water levels was minimal. Although there were no canals at that time to create lower water levels, there were long periods of drought and natural fires that depleted the vegetation. As muck is an organic soil, it burned deeply. Ash layers have been found in the peat deposits.

It is not known whether the first arrival of the Indian was by dugout or on foot. In any event, he found a warm, sweet climate, prevailing winds from the southeast and, in early summer, the rains that drench new life into the sea of grass. The sedge ringed hammocks were homes for the swamp rabbits, the little bandit raccoons, otters, turtles and other small animals. The small deer
were as much at home in the watery Glades as were the bear and cougar, the red-winged blackbird or the white heron. The doe would nest down in the sawgrass when startled or distract her enemy by running in the opposite direction from her young. As if on signal, birds feeding in the tall sawgrass would rise at the arrival of the ubiquitous alligator.

In 1837, John Lee Williams wrote “all the islands are surrounded with dense circles of grass from 100 to 500 yards wide.” (Williams 1837) Again, from surveyor George Mackay to Buckingham Smith in 1847, “I was forcibly impressed with the peculiarity of the southern Glades ... with islands of trees, traversable with canoes in high water, and upon horseback in low water, with gems of islands of rare timber and shrubbery.” These men were describing the Everglades nearly 100 years after the departure of the last of the aboriginal tribes the Spanish called “Tequesta.”

During that time period which elapsed after the Spaniards’ withdrawal to Cuba and with them, the removal of the remaining Indians, most of the hammocks returned to a growth pattern that had been disrupted during the time of earlier habitation.

The sedge that had grown and died 2,000 years earlier had now become peat moss. Old waterways had been overgrown with new sedge and the hammocks again flourished, surrounded by myrtle and willow. The wet prairies bloomed with yellow spatterdock, water lilies, purple pickerelweed and the white sagittarius. The Glades were alive with wading birds and the small coot, the purple gallinule, various members of the heron family and the Everglades kite which feeds on the round ampullaria snail indigenous to the Glades, the same snail that lived in the Glades 2,000 years earlier. The Glades had not changed.

The Everglades was home for the Indians only part of the year, larger, more permanent settlements were on the coastal areas. One of the largest was at the mouth of the Miami River, another at Surfside and yet another at Arch Creek. Coming northward into what is now Broward County, there is an unusually large complex of sites at the forks of the New River on the north side of the stream. “To the northward, at a distance of perhaps 300 yards from the river, lay a group of mounds, six in number, forming a row nearly parallel to the course of the stream. The largest approximates eight feet in height, with a diameter of 50 feet; the smallest, about two feet in height and eight feet in diameter ... One of the larger mounds had been dug into by a previous explorer ... “ M.R. Harrington writes of sites west of Fort Lauderdale on Long Key and Pumpkin Hammock. “... the ancient people seem to have been large users of turtle, the shell and bone of which formed the greatest part of the animal remains in the refuse heap ...” (Harrington 1909) Harrington, an ethnologist, writes with the comprehensive view of an archaeologist. Indeed, he did do some troweling to gather a small collection of potsherds and shell tools.

The method of timing the advent of the aboriginal Indians into the south Florida region is by radiocarbon dating, which depends on the material selected. It is a more complicated but more accurate means of dating than relative chronology. Fortunately, there are a considerable number of C-14 dates for South Florida, and, from those, a cultural sequence chart has been formulated by John W. Griffin (Griffin - 1968) from excavations in Everglades National Park and arranged by Ripley P. Bullen of the Florida State Museum. (Fig. 1) The right hand column pertains to the Glades Indians and shows the time scale back into the fiber tempered period on the extreme eastern coast of South Florida.

Fish weirs made by scooping out the sand of the backshore to form a fairly deep basin probably were utilized by these people. When the tide came in, the fish were trapped by this method and could be killed. Not only could the meat of the shark be eaten but the vertebrae, which are cartilage, would harden eventually and be used for ear spools or beads after the small nerve was reamed out.

Shark teeth, frequently found in the midden were important. Many had holes drilled in them for hafting. (Willey 1949 PL. 15) Also, they could be imbedded between two pieces of wood to form a very dangerous serrated knife blade. The dried skin could be used in an abrasive fashion much the same as sandpaper.

All of these artifacts are found in middens at great distances from the coast, as much as 30 miles, which would indicate long trips to the ocean.

**TOOLS AND WEAPONS**

Goggin maintained that the Glades tradition was based on the marine environment. “Seafood was perhaps the most important food source and apparently many varieties were eaten ... Other marine foods include such diverse forms as whales and echinoderms, sharks and crabs, rays and crawfish.” (Goggin 1964 - 41
Abstract from Culture Sequence Chart prepared from seventeen radiocarbon dates secured by John W. Griffin from excavations in the Everglades National Park.
SHELL AND BONE

In following the tradition as defined by Goggin, the use of shell to create a great diversity of tools developed in the earliest times and remained with the people for hundreds of years with very little modification. In the excavations in Broward County, the prototype shell tools are found in the lowest levels and the same type tool can be found through each time period up to the late 1700’s. The oldest tools are some 3,000 years old.

To be functional, tools and weapons must be made of strong, durable material. Shell had to serve for this purpose as there was no stone suitable for tool making in South Florida. The Busycon contrarium was used for several types of tools, notably the Busycon pick or hammer, depending upon the treatment of the tip of the columnella. The heavy lip of the Strombus gigas, or Queen conch, produced the material for the celt which was an adaptation of the stone celt used by tribes to the north where stone is available. Drills and picks were made from the columnella of the giant Florida Horse Conch. Other tools found in most sites are the clam shell net weights and the sunray venus, Macrocallista nimboса, which could be used as a scraper or knife with no modification. (Griffin, personal communication)

The potential for usage of shell and bone was unlimited. Some sites could have been centers for certain industries such as a site on North Key Largo which was devoted to the making of the celt from the Strombus gigas, where there were literally thousands of shells in various stages of the manufacture. On other sites, bone points have been found in great quantities, and in yet another site, shark vertebrae beads seemed to be the only industry. One site in Broward, all indications pointed to the worked bone as the main industry. (Fig. 2)

Aboriginal artists found the deer bone particularly suited to the carving of small decorative articles, including the larger hairpins made from the cannon bone of the deer. Bone projectile points also are made from deer bone, which is hard and durable. Small zoomorphic carvings for pendants and carved bone hairpins have been found in the Broward sites. Turtle shell gorgets were drilled for suspension, perhaps to be worn as a status symbol.

POTTERY

Pottery-making as an industry and also as a necessity of family living, occurred in the three southern states of Florida, Georgia and South Carolina between 2500 and 2000 B.C., earlier than anywhere else on the North American continent. The discovery was, in all probability, an accident. Baskets were lined with clay to make them hold water, and frequently the clay dried and usually left the pot with the imprint of the woven basket. The discovery soon called for many changes in method and tempering. Over the years, coiling and sand tempering became the accepted methods. Decoration was entirely left to the individual potter.

In South Florida, the earliest pottery dates about 1000 B.C. This is a crude semi-fiber, semi-sand tempered ware which seems to be a variant of Norwood (Phelps - 1966) but without the geographic limitations. Early St. Johns sherds were found in the same sites dating about 600 B.C. or the Florida Transitional period. (Bullen - 1969) Eventually, the Glades gritty ware, or sand tempered, was found to be definitive of the Glades area. The time periods are divided into Glades I, Glades II and Glades III, with subperiods.

Decorated pottery usually follows variants of four designs—the line, the dot, the curve or arc and the loop. (Laxson, personal communication) Many of the designs used in the Glades area were given names by Dr. Goggin for the type site where they were found. Some variants present problems but, on the whole, these decorated sherds are very good time markers.

BURIALS

Of the four large burial mounds excavated by the Broward County Archaeological Society, each has exhibited three types of burials. The primary extended well-articulated, the primary flexed and the secondary bundle burials are found in both the sand burial mounds and the black dirt or muck mounds. They are not and cannot be separated into time periods. All types were found in the same time period zones in every case.

In individual cases of burials in the midden sites, there are some unexpected anomalies. Burials have been found in a concretion which is formed by a calcium carbonate deposit formed under certain conditions in the Everglades sites. This deposit makes it impossible to study the skeletal remains. Two burial sites have been sealed off for that reason. In a site excavated in 1976, two burials have been found in an iron stained stratum of the midden. Tests show 7 per cent iron in the soil at that level. The bones are thoroughly infused with the color and the iron content of the soil. These are being studied for further information.

In another Broward site, four burials deserve special mention. One was a primary extended burial with a wooden paddle put on the body. This is the only wooden paddle ever found in this area. A secondary bundle burial was under a cypress slab, another on a slab of cypress. The fourth was a child burial of secondary interment where the vertebrae and ribs encircled the skull and the long bones were bundled beside them. This could give rise to the idea that the Indian had finally discovered a ceremonial way of disposal of the dead. The
1-2 bone bi-points, 3 socketed bone point, 4 carved peg-topped pin, 5 carved hairpin, 6 carved bone handle, 7 carved bone pendant, 8 carved bone pendant, 9 socketed bone handle from deer antler  

Fig. 2
isolated skull burials have not been ignored, but purposely excluded from the list of normal burial practices. In some cases there were massed skull burials, but here again it is not the norm.

The aboriginal traits listed by Willey for the Dade-Broward area numbered 94, of these, 19 were characteristic of Broward County alone. (Willey 1949 - 119) In the light of many more excavations since his paper was written, numerous other traits have been found. The wooden paddle could be included as well as the drilled shark teeth, intricate bone carvings, shell beads, shell pendants, burials associated with wood and new pottery types, to name a few.

IN TIME AND SPACE

The original work done by John M. Goggin in the areas known as the Tequesta and Calusa subareas of the Glades has, in effect, been the basis for all of the subsequent archaeological findings. In the light of newer studies, and the radiocarbon method of dating, it is known that the pottery types long associated with both areas have proved to be temporal rather than spatial (Griffin, personal communication); therefore, these subareas must be redefined as suggested by Sears (1967 - 102) and Griffin (1974 - 342-3). The subsistence patterns have changed little through the centuries in either of the two subareas usually associated with South Florida. The aboriginal Indian showed an unusual ability to adapt his environment to his needs and clung tenaciously to the way of life best suited to him. This was handed down for generations until their final days in the Everglades, long after the first Spanish contact.

Creek raiding parties took the place of the ancient Indians but not until the late 1700s. The Seminoles, derived from the Creek, formed their nation much later and their use of the Everglades is comparatively new.

The heritage of the people of Broward County is rich in the prehistory of an ingenious, courageous and sensitive people, called by Fontaneda the "Tequesta." (Fontaneda - 1575)

GLOSSARY

1) Potsherds or sherds — a fragment of broken pottery vessel
2) Radiocarbon dating — method of dating organic materials by analyzing the amount of radioactive carbon in the sample. The radioactive carbon analyzed is usually referred to as C-14 (Carbon - 14)
3) Tempering — Non-plastic material added to the clay, from which pottery is made, to prevent cracking.
4) Strombus gigas — giant conch shell found in south Florida waters
5) celt — hand tool usually made of stone carefully shaped for use as an adze or an axe; in south Florida celts are made from the lip of the Strombus gigas shell.
6) midden — refuse deposit
7) Busycon contrarium — the lightning whelk, also called the left-handed whelk, shell native to Florida waters.

WILMA B. WILLIAMS (MRS. JOSEPH F.)
Mrs. Williams has lived in Broward County since 1933. She serves as a Commission member for the Broward County Historical Commission and is active on several committees. She was President of the Broward County Archaeological Society for 13 years and is presently serving as Dig Master. She is presently President of the Florida Anthropological Society where she has been active for the last 17 years.
REFERENCES CITED

Bullen, Ripley P.

Crusoe, Donald L.

Fontaneda, D. d’Escalente
1575 Memoir of D. d’Escalente Fontaneda Respecting Florida, Historical Association of Southern Florida Reprint and Facsimile Series, University of Miami.

Goggin, John M.
1940 The Tekesta Indians of Southern Florida, The Florida Historical Quarterly, vol. XVIII, no. 4, p. 275
1964 Indian and Spanish Selected Writings, University of Miami Press, Coral Gables, Florida, p. 122

Griffin, John W.
1974 Archaeology and Environment in South Florida, Memoir 2 Miami Geological Society, Environments of South Florida: Present and Past, Compiled by Patrick Gleason
1968 Culture Sequence Chart
1976 Personal Communication

Harrington, M.R.

Laxson
1972 Personal Communication

MacKay, George

Miami-West India Archaeological Society
1974

Willey, Gordon R.
1949 Excavations in Southeast Florida, Yale University Press, pp. 118-119, pl. no. 15 (c)

Mowers, Bert
Williams, Wilma
1972 The Peace Camp Site, Broward County, Florida, Florida Anthropologist, vol. 25, no. 1, p. 18

Williams, John Lee

Parker, Gerald G.

Phelps, David S.
1966 Early and Late Components of the Tucker Site, Florida Anthropologist, vol. 19, no. 1

Sears, William H.
1967 Archaeological Survey in the Cape Coral Area at the Mouth of the Caloosahatchee River. Florida Anthropologist, vol. 20, no. 3-4, p. 102

Tebeau, Charlton W.
1971 A History of Florida, University of Miami Press, p. 17