Both scholars ask the same question: For several million years, the line that evolved into *Homo sapiens* coexisted with the other prehuman species called the australopithecines, which later became extinct; when did they diverge? Leakey contends it happened five to eight million years ago. Johanson believes that modern man evolved more recently, between two and three million years ago. In 1974–75, in Ethiopia, Johanson discovered a "whole population" of hominid bones (the most famous specimen, dubbed Lucy, is 40 percent complete). Their age: more than 3.5 million years. Johanson attributed great variations in the fossils to differences between males and females and concluded that he had uncovered an entirely new species, the common ancestor of both australopithecines and modern man's direct forerunners. Leakey contends that Johanson's find represents two species, maybe more—certainly no common ancestor. The feud has been public and sometimes nasty.

Luck plays a big part in paleoanthropology, writes Holden. "Leakey had the luck to be born into the ruling dynasty of East African paleoanthropology" (his parents were Louis and Mary Leakey, both noted paleoanthropologists). "Johanson had the good fortune to find Lucy." As a result, she writes, paleoanthropology will probably always be dominated by a few individuals—the ones who make the major finds, get the research grants, and stay in the public limelight.

But some of the most important research into man's past has been taking place in laboratories, not in the field. X-rays of cross sections of bone can reveal areas of stress and strength and tell us much about our ancestors' physical activities and capabilities. Paleoneurologists such as Ralph Holloway of Columbia are analyzing casts of the insides of early skulls, hoping to determine when speech developed. Microbiologist Jerold Lowenstein of the University of California School of Medicine in San Francisco is working to identify species-specific proteins. Projects such as these, says Holden, may one day untangle the very puzzle over which Leakey and Johanson now argue.

Stones and Stars

"Stone Age Science in Britain?" by Alvar Ellegård, in *Current Anthropology* (Apr. 1981), 5801 Ellis Ave., Chicago, Ill. 60637.

A 5,000-year-old astronomical observatory, revealing an understanding of algebra, geometry, and trigonometry—this recent explanation of Stonehenge, the mysterious circle of boulders southwest of London, has aroused the interest of many admittedly skeptical archaeologists. If correct, it may mark the first known instance of scientific endeavor in a rural, preliterate society.

However, the facts suggest otherwise, writes Ellegård, professor of English literature at Sweden's University of Göteborg.

As early as the fourth millennium B.C., he writes, Briton farmers probably noticed that the sun's point of rising "moves" north and south between two extreme positions (the solstices). And they no doubt ob-

served the moon's similar monthly cycle. These they eventually marked with permanent reference points at Stonehenge and elsewhere on the British Isles. But some scientists, chiefly British engineer Alexander Thom, claim that the builders of Stonehenge could accurately *predict* solar and lunar movements and that they had discovered the moon's orbital "wobble," enabling them to forecast lunar eclipses.

Each lunar wobble—caused by the sun's pull at different points along the moon's path—takes 173.3 days to complete. This perturbation is in turn part of an 18.6 year "in-out" lunar oscillation perpendicular to the moon's orbit. England's chronically cloudy weather, argues Ellegård, would have prevented enough sightings to firmly establish the wobble's regularity. The region, although dryer and 2°C warmer 5,000 years ago, probably enjoyed only one clear day out of every two or three. Further, roughly one-third of all moonrises are invisible to the naked eye, occurring by day and at a phase when the illuminated portion of the moon is small. Stone Age astronomers could have seen no more than one moonrise out of six, Ellegård reckons. And the distortion of moonlight by the Earth's atmosphere would have prevented accurate "readings" of what they did see.

The ancient Babylonians were ignorant of the wobble, but they were able to predict eclipses by referring to meticulous archives. The ancient Britons were "observers," concludes Ellegård, but "we have no evidence that they were really calculators"—and by extension, genuine scientists.

Senility Virus

"The Senility Virus" by Richard Trubo, in *Science Digest* (Aug. 1981), 224 West 57th St., New York, N.Y. 10019.

Senility is widely viewed as a natural, though by no means inevitable, consequence of aging. But most cases may be triggered by a slow-acting, infectious virus, reports Trubo, a free-lance medical journalist.

Senility has many causes, including arteriosclerosis, which blocks the flow of blood to brain tissue. The chief villain, however, is a "degenerative neurological disorder" called Alzheimer's disease. Over one million Americans age 45 and older are afflicted with Alzheimer's (representing 50 to 60 percent of all senility cases). An untreatable disorder, it may be the fourth-leading killer in the United States today. Alzheimer victims usually survive a few years after severe mental deterioration sets in; its early symptoms often emerge gradually, as words are occasionally mispronounced and acquaintances' names forgotten. Impaired judgment and substantial memory loss follow, with disorientation and temper tantrums signaling the disease's final phase.

Alzheimer's symptoms resemble closely those of Creutzfeldt-Jakob disease, a rare form of senility that scientists have proved is caused by a slow-acting virus. Several instances of person-to-person infections of Creutzfeldt-Jakob senility have been documented. And autopsies on the brains of Creutzfeldt-Jakob victims reveal twisted filaments of nerve