

Bones of continuing contention

The old television game show "What's My Line?" featured contestants who questioned guests in the quest to figure out their occupations. An anthropological version of that show might be called "What's My Lineage?" with *Sivapithecus* sitting in as the contestant-stumping guest.

Fossil investigators are embroiled in efforts to identify the evolutionary "occupation" and standing of this ancient creature. The debate continues in the Nov. 14 NATURE. Richard Leakey, head of the National Museums of Kenya, and Alan Walker of Johns Hopkins University in Baltimore analyze fossils they discovered two years ago at the Buluk site in northern Kenya and initially identified as an early form of *Sivapithecus* (SN: 1/21/84, p. 41). The remains — parts of upper and lower jawbones and teeth — are found in sediments now estimated by their co-workers to be around 17.2 million years old. Larger *Sivapithecus* specimens from India, Pakistan and Turkey bear a close resemblance to the Buluk find, according to Leakey and Walker. The Buluk species, however, is much older than the rest. The earliest known *Sivapithecus* existed around 7.5 million years ago.

Some researchers believe *Sivapithecus* is an ancestor only of orangutans (SN: 5/18/85, p. 316). But Leakey and Walker say the new analysis confirms their view that the Buluk creature is an early type of *Sivapithecus* ancestral to modern apes and humans.

The identity of the Buluk fossils, however, is far from clear, notes Eric Delson of the American Museum of Natural History in New York City. They may belong to another class of hominoids — ancestors of apes and humans — known as *Kenyapithecus*, he reports in the same NATURE. It is not yet clear whether these creatures evolved along the same lineage as *Sivapithecus*. A wider comparison of the fossils with other known remains indicates, he says, that the Buluk animal is a male *Kenyapithecus*, similar in structure and slightly larger than female remains of the same species.

More extensive fossil finds should help to clarify this segment of "What's My Lineage?"

Bronze Age trade outpost uncovered

Scientists have unearthed evidence suggesting that eastern Mediterranean mariners were trading with coastal Egyptians during the 14th century B.C. Over the summer, researchers from the United States and England conducted excavations on a tiny island in a saltwater lagoon about 300 kilometers west of the Nile Delta.

Artifacts discovered on the island, which borders the harbor of the modern city of Marsa Matruh, include pieces of several small buildings, pottery, lamps and metal tools. Many of the ancient remains were manufactured on Cyprus, Crete or other eastern Mediterranean locations, according to expedition director Donald White of the University of Pennsylvania in Philadelphia. The island settlement probably was a way station for Bronze Age (3000 B.C. to 1000 B.C.) traders sailing from Crete toward the Nile Delta and the Syro-Palestinian coast, he explains.

In addition, says White, artifacts uncovered last summer indicate that Marsa Matruh was part of the overseas trading empire of Iron Age Greece, nearly 300 years earlier than was previously suspected.

Further clues to trade networks among Mediterranean peoples around 1400 B.C. come from last year's discovery of a shipwreck off the southern coast of Turkey (SN: 12/8/84, p. 359). The origin of the trading vessel is unknown; it contained artifacts from Greek, Cypriot and early Phoenician cultures. Expedition director George F. Bass of Texas A&M University in College Station suspects the ship was Greek.

Tincture of iodine keeps radiation away

Researchers at Pennsylvania State University's medical center in Hershey have stumbled onto what may be an effective home remedy to prevent serious radioactive contamination of the thyroid gland from iodine-131 emitted in the event of a major nuclear plant mishap. They swab the skin with a tincture of iodine.

Of the many radioactive gases that can be emitted during a nuclear plant release, iodine-131 causes special concern. Because iodine is readily accumulated in the thyroid, exposure to radioactive iodine can lead to serious, concentrated doses in the small metabolism-regulating gland. For years scientists have considered prescribing community-wide ingestion of potassium iodide in regions downwind of a serious nuclear accident to block the thyroid's uptake of radioactive iodine.

The body can't distinguish between radioactive iodine and the iodine in the drug, so taking potassium iodide would fulfill the thyroid's need for the element. Should any radioactive iodine be inhaled or ingested later, studies show most of it would be excreted. This would prevent the radioactive damage — including thyroid cancer — it might otherwise have initiated.

But potassium iodide is a prescription drug, and its post-accident distribution could exacerbate the traffic tie-ups and panic that nuclear crises would inevitably foster. In fact, says Kenneth Miller, director of health physics at the Hershey Medical Center, his team's decision to look at skin absorption of household iodine sources resulted from discussions over how they would have tried to manage potassium iodide's distribution in the immediate hours after the neighboring Three Mile Island accident in 1979.

In their study, the Hershey team injected 2 microcuries of iodine-131 into 72 rats. Half got no further treatment; the others were treated with one of the following: a paw dipped in tincture of iodine or povidone iodine (an over-the-counter germicidal solution), skin swabbing with tincture of iodine (some with a covering bandage) or oral administration of potassium iodide. Writing in the November HEALTH PHYSICS, Miller and his colleagues report that all skin applications of household iodine solutions were comparable to oral potassium iodide in blocking thyroid uptake of iodine-131; they limited the gland's accumulation to between 3 and 10 percent.

While cautioning that these were animal studies, Miller told SCIENCE NEWS, "We think there is a fairly good possibility that this technique will also work in humans." Moreover, since these skin compounds are approved for human use, and since the effective dose in rats suggests human skin swabbing need only cover an area the size of a hand or scraped knee, Miller sees little concern over safety. His team is now preparing to conduct the necessary human tests.

Beware long-pent-up radium

A physicist with the Air Force Institute of Technology at Wright-Patterson Air Force Base near Dayton, Ohio, was about to order a new radium source for an experiment when he found an old one left by a predecessor. While he was attempting to open it, however, the top of the sealed glass vial unexpectedly "shot off like a bullet," recalls George John. His subsequent investigation shows that radiation-induced decomposition of water in the vial had, over 22 years, generated enough hydrogen to substantially increase the pressure in the void above the radium solution. He says that's why it exploded upon opening.

Alpha particle emitters, like radium, are most prone to this hydrogen buildup in sealed containers, according to John's calculations in the November HEALTH PHYSICS. So, he warns, "If you have old radium samples — I'd say anything over five years old — you had better be cautious" or risk contaminating the environment with a jettisoned radioactive spray.