Anthropology

Bruce Bower reports from Washington, D.C., at the annual meeting of the American Anthropological Association

Bronze Age chariots roll back in time

While conducting research in several former Soviet republics last year, David W. Anthony and Dorcas R. Brown of Hartwick College in Oneonta, N.Y., met a Russian archaeologist who told them about some remarkable finds. His research team and several others had uncovered the remains of chariots placed in graves from a culture that flourished in the steppes along the Russia-Kazakhstan border about 4,000 years ago.

New radiocarbon dates for bone samples taken from horse skulls in one of these graves – at an excavation directed by that same scientist, Nikolai B. Vinogradov of the Chelyabinsk State Pedagogical Institute – range between 2200 B.C. and 1800 B.C., making the associated chariots the oldest such vehicles preserved anywhere, Anthony reports.

This evidence does not, however, resolve a long-standing scholarly dispute about whether chariots first emerged in the Eurasian steppes or in the Near East, Anthony notes. Clay impressions of chariots found at a Turkish site date to as early as 1950 B.C., making them nearly as old as the Russian finds.

"The complex carpentry involved in chariot making suggests that this [type of] vehicle was invented in one place and then rapidly diffused elsewhere," Anthony contends. "I'm leaning toward the steppes as the chariot's place of origin."

In the last decade, Russian and Kazakh archaeologists have uncovered at least 25 fortified sites belonging to this Bronze Age culture. Cemeteries at these settlements contain graves that have yielded pieces of wheels and spokes from 14 chariots, Anthony reports.

Chariot wheels were found fitted into slots on the floors of the graves. A distance of about 3.5 feet between the vehicles' two wheels suggests that they carried only one person, according to Anthony. Ancient inhabitants of the region may have devised chariots as high-speed platforms from which warriors could shoot arrows or hurl spears, he maintains.

'Co-sleeping' gives babies a boost

Human babies may have evolved to sleep best – and perhaps most safely – when they snooze next to a parent rather than alone in a crib. Evidence for this contention comes from a pilot study directed by James J. McKenna of Pomona College in Claremont, Calif., and Sarah Mosko of the University of California, Irvine, Medical Center.

"When sleeping alone, babies sleep too soon, too long, and too hard," McKenna asserts. "Contact with a parent's body helps to regulate an infant's physiology throughout the night."

McKenna's group studied six mothers and their approximately 3-month-old babies. Each pair alternated between sleeping in the same bed and in adjacent rooms for three consecutive nights.

Infants' heart rates, breathing patterns, and sleep stages largely coincided with those of their mothers during co-sleeping nights, McKenna reports. Moms and babies also woke each other briefly throughout the night while sleeping in the same bed. McKenna suggests that this may give co-sleeping babies practice in arousing from prolonged breathing pauses that may, in some cases, result in sudden infant death syndrome (SIDS).

SIDS rates rise sharply in societies where babies usually sleep apart from their parents, he notes. His team plans a larger study to address the effects of sleeping alone on infant breathing and arousal during the night.

Only in the last several hundred years of human evolution have some cultures promoted isolated sleeping arrangements for babies (SN: 8/1/92, p.78). "The push in America for infant independence from parents while sleeping may be out of line with what infants are physiologically capable of," McKenna proposes.

Biomedicine

Fish oil may ward off 'sudden death'

About 250,000 people in the United States die quickly and unexpectedly each year from heart disease. Much of this "sudden cardiac death" occurs when the heart's normally rhythmic pulsing turns inexplicably chaotic – a condition known as ventricular fibrillation. Conditions that can predispose the heart to these arrhythmias include atherosclerosis, heart attack, congestive heart failure, use of certain drugs (even those prescribed to curb arrhythmias), and abnormal thickening of the heart muscle. People suffering from any of these might be advised to eat fish, a new study suggests.

Peter L. McLennan and his co-workers at Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) in Adelaide studied the effects of dietary fat on a monkey's susceptibility to ventricular fibrillation. The CSIRO team fed 20 adult marmosets diets in which 31 percent of the calories came from fat – an amount typical of most human diets in Western industrialized countries. While holding the saturated- and monounsaturated-fat content constant, the researchers varied the type of polyunsaturates in the diet. Half of the monkeys received their polyunsaturates as omega-6 fats from sunflower oil, half as omega-3 fats from fish oil.

After 16 weeks, the researchers delivered electrical pulses to the heart of each animal and measured the threshold current needed to induce a ventricular defibrillation. Under normal conditions, monkeys fed sunflower-oil diets experienced arrhythmias at currents equal to half those needed to induce heart flutters in animals fed fish oil. Even when the researchers cut off oxygen to the heart – a condition that occurs during heart attacks – the fish-oil-fed animals withstood the destabilizing currents much better, the team reports in the November AMERICAN JOURNAL OF CLINICAL NUTRITION.

These data indicate not only that omega-3 fats are preferentially incorporated over omega-6 fats into heart muscle, but also that omega-3 fats are more potent arrhythmia fighters, the group says. Moreover, the CSIRO scientists note that the fish-oil concentrations in this study, while relatively high, "approached those that might be achieved in a Western diet."

Anxious men risk hypertension

Being anxious puts middle-aged men at increased risk of developing hypertension, whereas female and older male worrywarts aren't prone to hypertension, researchers report.

Psychological factors have long been suspected of influencing blood pressure, but previous studies of the problem were flawed or provided mixed results, according to Jerome H. Markovitz of the University of Alabama School of Medicine in Birmingham and his colleagues. Nor had earlier studies found a gender difference in how anxiety predicts hypertension, they report.

How people express their anger – whether they hold it in or take it out on others, for example – does not relate to whether they go on to develop hypertension, the group writes in the Nov. 24 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Other studies have found that suppressing anger may contribute to the development of hypertension. Some researchers point to a similar link between anger and heart disease (SN: 10/16/93, p.244).

Markovitz' group also finds that weight and glucose intolerance are associated with the development of hypertension in middle-aged women but not in men.

From 1965 to 1967, the team interviewed 1,123 healthy white men and women between the ages of 45 and 77 about their emotions and other factors that may predict hypertension. Eighteen to 20 years later, the investigators analyzed who developed hypertension and which factors predicted it. About half of the group became hypertensive.