



Grave Misunderstandings

The fashions of death are deceptive

By BRUCE BOWER

Dead men tell no tales, but their graves—and those of their female compatriots—utter intriguing stories to archaeologists. Traditional theories hold that an elaborate burial site containing an elegantly appointed corpse signifies the deceased belonged to a privileged social class. Ostentatious graves also supposedly illuminate a society's reverence for the dead. On the other hand, archaeologists tend to associate simple burial trappings with lower social classes and an unsentimental attitude concerning death.

But it may be time to write an epitaph for these seemingly self-evident interpretations, says archaeologist Aubrey Cannon of the University of Toronto. Mortuary practices, like tastes in clothes and etiquette, follow fads and fashions, Cannon asserts. Depending on the historical circumstances, a body in a fancy casket topped by a monumental headstone is as likely to have been a working stiff as a nobleman.

From ancient Greece to Victorian England, funerals have offered mourners an occasion to express their social status, or at least the status to which they aspire, Cannon proposes in the August-October *CURRENT ANTHROPOLOGY*. Typically, in his view, the well-placed and wealthy have distanced themselves from the masses by devising magnificent funerals and graves for their kin. In turn, lower classes and even downright poor people made great sacrifices to mimic the extravagant displays when their own loved ones died, sparking a competition among social classes to devise the most stunning funeral pageantry. At some point, the wealthy threw in the towel and reverted to simple funerals as the clearest way to distance themselves socially from the masses.

Thus, status competition leads to historical periods during which mourners

favor either elaborate or simple funerals, Cannon says. Fundamental shifts in beliefs about death, he contends, seem largely irrelevant to burial styles.

Consider 19th-century Victorian England. The growing affluence of farmers in the early 1800s led them to emulate the urban gentry in fashions of house building, household goods, clothing and funerals. In a study of 3,500 19th-century grave monuments from 50 rural villages in England, Cannon finds the diversity of monument shapes increases until the middle of the century, then markedly declines. Higher social classes tended to employ certain monument styles before they peaked in popularity, Cannon asserts, whereas lower-status individuals were often memorialized by monuments that were fast becoming unfashionable with the trend-setting upper crust.

Historical records of British undertakers document an increasing restraint in funeral arrangements among the upper classes as early as 1843, he notes. The lower classes gradually followed suit. Today, only a minority of the poorest segment of British society prefers elaborate funerals, and civic and church authorities promote simple burials.

Similar shifts in funeral fashion occurred throughout the history of ancient Greece, Cannon maintains. For example, the number and types of metal offerings placed in Greek graves increased significantly from 1125 B.C. to 760 B.C., followed by a sharp decline initially appearing in the graves of socially elite individuals. Early Athenian ceramic-vase grave markers first emerged around 900 B.C., and their flamboyant features probably reflect the search for new status symbols among upper-class mourners, Cannon says.

Cycles of burial fashion also occur in societies lacking complex economic and political hierarchies, he adds. In the early 17th century, Iroquois living in what is now the northeastern United States began to pack graves with beaver-skin robes, shell beads, axes and other items of value. The practice was eventually adopted even by those who endured great hardship to come up with appropriate offerings. But tribal fashions quickly changed in the 18th century, when simple graves and restrained funeral ceremonies gained favor. Simplicity still holds sway among the Iroquois, who today prohibit burial with glass beads or anything red.

Cannon's contention that status competition produces historical trends in how people of diverse cultures are buried deserves careful testing, says Curtis Runnels of Boston University. If the theory holds up, he notes, it suggests societies do not simply evolve from primitive to more complex forms, but instead share general historical trends in the use of goods and possessions.

Cannon correctly emphasizes the status and aspirations of mourners rather than the social position of the deceased, remarks Richard Bradley of the University of Reading in England. "The dead did not bury themselves, yet attempts to read social position from grave goods often seem to suggest otherwise," he says.

However, some archaeologists argue that Cannon oversimplifies burial practices.

A burial is only one link in a chain of related ceremonies, including body preparation, ritual services and mourning, asserts Brad Bartel of San Diego State University. To confirm Cannon's contention, he says, researchers must study

historical evidence concerning each link.

Status competition is not the only important influence on burial practices, Bartel adds. As populations grow, shifts in family structure and living arrangements inevitably alter burial arrangements, he contends.

Another problem for Cannon's theory is that the decorative aspects of a grave are not the only status symbols available to the upper classes, says Jeffrey Quilter of Ripon (Wis.) College. For example, the Victorian elite may have been buried more frequently in family vaults, in exclusive cemeteries or even in "better" sections of public cemeteries.

And while the historical pattern described by Cannon characterizes the simple burials of Greece during the 7th century B.C., frugal funerals again appeared in the 5th century B.C. as a result of laws reserving monumental tombs for the war dead, maintains Ian Morris of the University of Chicago.

Future research will help determine whether general historical forces such as status competition outweigh specific cultural influences in determining how people are buried, Cannon says.

For now, however, the Canadian investigator has struck a scientific nerve. Even if his theory has flaws, Morris remarks, "it remains a major contribution to the archaeology of death." □



Aha...

GAMES FOR THINKERS

An exciting, new way to learn creative problem solving! Games designed by university professors improve thinking skills using fun, strategy and challenging competition. Like chess, each game can be played at many levels from young children to intelligent adults. Fascinating for everyone!

Write for free catalog and studies that show how WFF 'N PROOF Games can:

- double math achievement
- cut school absenteeism by 2/3 and
- raise I.Q. scores by 20 points

ORDER YOUR GAMES FOR THINKERS TODAY!

WFF 'N PROOF (logic)	\$22.50*
QUERIES 'N THEORIES (sci. method)	22.50*
EQUATIONS (creative mathematics)	17.50*
ON-SETS (set theory)	17.50*
ON-WORDS (word structures)	17.50*
PROPAGANDA (social studies)	17.50*
CONFIGURATIONS (geometry)	12.50*

Complete 7-game Special **\$115.00***

All prices include postage and handling.
Satisfaction Guaranteed

Order from: **WFF 'N PROOF**
1490-GK South Blvd., Ann Arbor, MI 48104



SCIENCE for KIDS!

SCIENCE KIT-OF-THE-MONTH PROGRAM unlocks secrets of biology, chemistry, physics, and mathematics! Every month, a new science kit is sent to members with safe, simple materials and instructions for dozens of exciting experiments.

THINGS OF SCIENCE has been fascinating bright and curious 9- to 14-year-olds with science learning and fun since 1940. Kids, parents, teachers love it! Satisfaction guaranteed.

Start a gift membership for your child, grandchild, or other young friend today! Send your name and address, the name and address of your young "scientist" (we'll also send a gift card), and a check/money order for \$36 for a one-year, 12-kit membership. Or write for information:

THINGS OF SCIENCE, Dept. 202-H
1950 Landings Blvd., Sarasota, FL 34231
IN CANADA, ADD \$9 POSTAGE

News of the week continued from p. 327

Selecting survivors: Mother knows best?

In the novel *Sophie's Choice*, a Nazi doctor forces the title character to select one of her two children to send to an extermination camp. In some plants and animals, such choices may be a common part of natural selection, according to two ecologists in Europe.

Scientists have long recognized that many plants and animals mass-produce their eggs, only a few of which survive. An avocado tree, for instance, forms about 10,000 flowers for every fruit, and a pronghorn antelope produces only one birth from 50 to 100 eggs. Now, a novel mathematical analysis indicates organisms can sometimes benefit by taking an active — though not necessarily conscious — role in selecting which of their many fertilized eggs should survive. The researchers say they are the first to model the conditions under which it may pay a parent, in evolutionary terms, to kill its progeny.

Stephen C. Stearns, an American directing the Zoology Institute in Basel, Switzerland, and Jan Koslowski of the Institute of Environmental Biology at Jagiellonian University in Krakow, Poland, created mathematical models to test two hypotheses formulated earlier this decade to explain why many organisms overproduce zygotes, or fertilized

eggs. Under the "bet-hedging" hypothesis, a plant or animal in an environment that fluctuates yearly should produce as many zygotes as can survive in a good year. "And if it becomes clear that it's going to be a moderate or bad year, then she should cut back," Stearns says.

Under the "selective abortion" hypothesis, the organism somehow recognizes genetic weaknesses in developing zygotes and aborts those individuals.

The mathematical models confirm theoretically that both approaches, whether applied independently or together, can work to increase zygote production. Stearns and Koslowski say two key factors determine overproduction: year-to-year environmental fluctuations and the energy cost the plant or animal must pay in order to produce and carry a zygote. One model predicts that "the cheaper the zygotes, relative to fully reared offspring, and the more variable the optimal offspring number between the seasons, the greater the expected overproduction of zygotes," the researchers write in the November *EVOLUTION*.

"I think the most interesting part of this [the selective abortion hypothesis] is that natural selection would create an

adaptation which itself used selection to work," Stearns says.

Evolutionary biologist Andrew G. Stephenson of Pennsylvania State University in University Park says the new work is important because it recognizes that "parallels [between plants and animals] exist and can be modeled" and generates testable predictions. But Stephenson thinks there are other ways to explain why some zygotes survive, including competition among unborn "siblings."

In humans, Stearns says, the relatively high miscarriage rate early in pregnancy may offer an example of unwitting selective abortion. Researchers last year detected a 31 percent miscarriage rate among women attempting to conceive (SN: 8/6/88, p.86). Others have noticed that women who experience consecutive spontaneous abortions often genetically resemble the father of their fetuses (SN: 10/11/86, p.235). Babies who inherit similar genes from their parents may be especially prone to disease, Stearns notes. If the mother's body can biochemically discern such genetic disadvantages in a fetus, "then it actually pays her to throw that embryo away because she has a good prediction that it's going to die of disease," he says.

Stearns and Koslowski dedicate their paper to their mothers, "who let us through."
— D.E. Loupe