



*Creating the Nation's first BioPark*

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Letter from the Desk of David Challinor  
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You may have seen bumper stickers that read "Love animals, don't eat them." This attitude of avoiding eating animals is ancient and is ingrained in many cultures. Perhaps the best known adherents of this practice are the Jains in India, a group that arose in the 6th Century B.C. in reaction to certain aspects of Hindu teachings. My clearest memory of Jain behavior is of a white-robed elderly man brushing off the bench surface before seating himself lest he accidentally sit on and crush an insect. Such sensitivity to the protection of life might seem exaggerated to many Westerners, but the consistency of their behavior deserves our respect.

Western eating habits are quite varied, and what is appropriate or acceptable to consume defies logic. The broad spectrum of food we eat can be linked to our being omnivorous, like goats and pigs. We harbor and produce enzymes, gut flora and powerful gastric juices that permit us to eat almost anything palatable. Our diets, however, are for the most part culturally imprinted with great variation according to individual preferences and dislikes.

This letter will consider how new and novel foods are accepted and how markets for new and exotic meats are established. Perhaps because we are also mammals, many people are reluctant to try new sources of mammal flesh because of the association of some meat with its source. Very few of us stop to consider where hamburger or hot dog meat comes from, but venison cutlet from a "Bambi-like" deer may trigger a strong reaction, to say nothing of monkey stew. The Western world has long considered cannibalism taboo, even in ceremonial rituals, although I venture that there are those non-Christians who notice the inconsistencies about this taboo in many Christian (albeit symbolic) rites.

Meat eaters, however, may be resistant to consuming flesh from non-traditional animals. For example, beef eaters will generally eat cuts of meat from bison, a bovid relative of cattle. Slightly fewer will consume cervids or other members of the deer family, perhaps as a delayed reaction to the "Bambi syndrome." This anthropomorphic story of a buck deer of that name was written by Felix Salton in the 1930's and became even more popular and influential with Disney's animated cartoon film adaptation in the 1950's.



The pendulum of the deer's emotional appeal to the public may now be swinging back as a result of the increasing conflict between people and deer, especially in the suburbs where the latter have proliferated to nuisance proportions as traffic hazards, garden and crop destroyers, and recently as carriers of the tick which causes Lyme disease. The change in attitude is reflected in the Smithsonian's own experience. In October 1982, the Zoo scheduled its fourth controlled deer hunt at its Front Royal Conservation Research Center. A public campaign against the hunt developed that was powerful enough to trigger a two-day Congressional hearing, at enormous expense to the taxpayer. At its conclusion the Smithsonian was obliged to cancel the hunt, but the sad and unpublicized result was that by the following late February when the snow had melted, the Front Royal staff counted over one hundred carcasses of deer that had starved to death over the winter. The Washington Post on October 18, 1993, exactly 11 years later, ran a story that the Secretary had approved a controlled deer hunt at the Smithsonian's Environmental Research Center (SERC), a 2,300 acre tract on the Chesapeake south of Annapolis. The incentive for this deer herd reduction was not only crop damage on adjacent farms, but more importantly, that 20 of SERC's staff had contracted Lyme disease in the last two years.

The "Bambi attitude" toward eating deer has never been as strong in Europe as in the United States. There the best urban restaurants regularly feature venison, some of which is imported from New Zealand where red deer (the same genus and species as our wapiti) were introduced from Europe and have multiplied astronomically, free from native predators. In New Zealand's mountainous South Island, red deer are so numerous and valuable as meat that it is economical to hunt them from helicopters and fly their dressed carcasses to Europe. In fact, the demand on the continent for venison reached such heights a decade ago that commercial breeding of sika deer (Cervus nippon) was initiated in Ireland. This species, which is about the size of a white-tailed deer, is crossed with European red deer (Cervus elaphus) and the hybrid young grow rapidly.

There are several sika subspecies which are native to Eastern Asia from Japan south to Formosa. The fertile hybrids with red deer are an ideal size to market for venison, but they are expensive to raise as the sika bucks must be dehorned for ease of handling during the rut when they become very aggressive. The carcasses are sold with their hides attached. Evidently some buyers inadvertently bought skinned goat carcasses that had been substituted for deer. To avoid such fraud, deer hides are retained when exported. If the husbandry of these exotic animals were strictly followed, there would be little problem, but sika have escaped from breeding herds and have hybridized with the native red deer in Southeast Ireland. Feral sika are thriving

elsewhere and compete with native deer in habitats as widely separated as coastal Maryland and southeast Alaska. Fortunately, sika do not cross with white-tail deer, which belong to a quite different genus.

The demand for venison seems to be building here in the United States and some ranchers in Montana are taking advantage of the new markets by raising elk. Their efforts have raised some thorny issues, the most basic one being whether wildlife should be raised commercially at all. Shooting reserves where breeder-raised pheasants and mallards are routinely released as targets have been in business for a long time, but only occasionally generate much attention. Elk are more visible than birds and state officials are trying to resolve conflicts between ranchers, hunters and federal game wardens and regulate this new industry. From the state's perspective, it is difficult to distinguish between a ranch-raised elk and one that was lured to the ranch from a nearby wild herd. Besides this dilemma, there is the risk of bovine tuberculosis outbreaks when and where elk are confined too narrowly. In fact, a disastrous outbreak of this disease struck in Alberta, evidently introduced by an infected elk from Montana bought by a Canadian game rancher. Before the outbreak could be controlled, 2,700 elk had to be killed and disposed of.

Just as bison have now become marketable for their meat, it is likely that elk in time may also become common on restaurant menus. It is unlikely, however, that game ranching in this country will ever develop into a really big business. Beef and lamb consumption is already declining, although a small luxury market for exotic meats will probably endure.

From the bison and elk examples, we can see that food tastes are often faddish and unpredictable. There are still vast food sources available from living, self-replicating organisms. Growing and harvesting certain bacteria, for example, may be acceptable as food even to the strict Jains once we have learned to exploit this source in bulk. We already use bacteria in yogurt and similar dairy products, and the idea of broadening its use may not be as far-fetched as once thought.

The bumper sticker's message is that it is wrong to eat meat because one has to kill a living thing to get it, but plants and even bacteria are alive, and in the case of plants, we even eat their "babies" -- seeds and fruits. Living organisms have to die for humans and virtually all other multicellular life to live. Eventually we may be able to produce enough animal and vegetable products by massive tissue culture (growing muscle or plant tissue in artificial media) to feed the world, but that seems a long way off.

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As humans we clearly must eat to survive, and as the planet's increasing population leaves less space in which to grow edible food, we will face new challenges. We have very different diets from our parents and grandparents, and the successful future of our genus and species may depend on how adaptable we are to new food sources.

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