CHAPTER 6

Eat Not of Their Flesh

THE TWO most important Judeo-Christian-Moslem myths about the origins of the human species describe the consequences of eating. According to the book of Genesis, Yahweh created Adam on the sixth day, entrusted him with dominion over all the animals, and then created Eve as a helpmeet. In Eden the humans and animals lived in harmony until Adam and Eve broke a taboo against eating a certain fruit. (The fruit, by the way, was certainly not an apple, a species that did not grow in the ancient Holy Land, but was probably an apricot.) Adam and Eve were expelled from Eden, condemned to eat bread “in the sweat of thy face” (Genesis 3:19). The second myth is concerned with the origins of meat-eating in the human diet. To cleanse the earth of wickedness, Yahweh unleashed a catastrophic flood. Along with Noah and his family, a pair of each kind of animal was kept safe from the waters in an ark. After the flood receded, Yahweh allowed the previously prohibited sacrifice of animals, thereby giving humans the right to kill and eat many — but not all — of the beasts with whom they share the earth.

The original dogma of Creation, as set forth in the story of Adam and Eve, was that all animals possess a spirit which resides in the blood. This is why until the time of Noah it was forbidden to eat flesh. In return for the permission given Noah to sacrifice animals, the Hebrews had to obey strict laws regulating slaughter (followed to this day in kosher procedures): The blood must first be drained from the animal so that its spirit can flow into the earth. The myths of a fall from grace through eating a forbidden food, and the establishment between humans and animals of the relationship of predator to prey, are an attempt to account for the paradox of the various taboos against eating certain otherwise desirable foods. Such foods are not necessarily avoided because of cultural revulsion, as North Americans and Europeans avoid eating dogs, rats, and worms. The forbidden foods are usually animals and not plants — except most notably in Polynesia, where both are subject to prohibition, and where the word “taboo” itself originated. Prohibitions include fishes in many parts of Africa, the duck regarded as unclean in Mongolia, and the camel meat that makes the Ethiopian Christian who eats it subject to excommunication. Prohibitions are sometimes applied to the mixing of foods that are normally permitted. Jews are permitted to eat both milk products and many kinds of meat, but not at the same meal; some Eskimo groups prohibit mixing foods from the sea with those from the land. Almost without exception, prohibited foods are edible, nutritious, and likely to be considered a delicacy in other societies. In light of all this, are not food taboos irrational and indeed detrimental to the society?

Not at all — and a case in point is the prohibition on pork in the books of Moses, and subsequently endorsed for Moslems in the Koran. Of the many explanations that have been offered for the prohibition, one of long standing (dating back at least to Maimonides in the twelfth century) is hygienic. Pork is said to spoil more rapidly than other meats in the hot climate of the Near East; pork is known to harbor trichinosis, an often fatal disease caused by a microscopic parasite; and the pig is considered filthy because it wallows in and even eats its own excrement. Temperatures in the Holy Land, though, are no higher than in many other parts of the world where pork is regularly consumed. The danger of trichinosis can hardly have been the rationale for the Mosaic prohibition, since the parasite, which was not even observed by scientists until 1821, was considered harmless to humans until 1860. Not only would it have been very difficult to establish a causal connection between pork and the disease, since the symptoms of trichinosis do not appear for several days after eating tainted meat, but there is in fact a strong possibility that trichinosis was unknown to the Holy Land in Biblical times. It may also be asked why Moses did not prohibit the meat of cattle, sheep, and goats, which are transmitters of several diseases, such as brucellosis and anthrax, that cause human death at about the same rate as trichinosis. The assertion that the pig is tabooed because it is a filthy animal likewise will not stand up. In the wild state, the pig is not filthy; it wallows in mud and excrement only
when it has been confined in the barnyard, as a way of keeping
its skin cool through evaporation, since it lacks sweat glands. If
everyone had regarded the pig as filthy, it would never have been
domesticated in the first place or be devoured as it is in many
parts of the world.

The prohibition against pork does not appear in the Bible until
after the Exodus from Egypt. Before that, Noah had been told
that “every moving thing that liveth shall be meat for you” (Gen-
esis 9:3). During their bondage in Egypt, the Israelites had resided
near Tanis (called Zoan in the Bible), where an Egyptian cult
worshiped swine as sacred animals. Accordingly, the Mosaic ban
might reflect a desire to set the Israelites apart from their Egyp-
tian masters, so as to bind the Israelites into a cohesive society.
The difficulty with this explanation of cultural identity is not only
that many of the same foods were prohibited both by Moses and
by the Israelites’ hostile neighbors, but also that the meat from
cattle, sheep, goats, and other animals was in fact eaten by both.
The Israelites might possibly have prohibited cooking meat with
milk because this was a practice of nearby pagan societies — but
at the same time they gave a central place to animal sacrifice, just
as many of these same pagans did. The central question of why
a taboo was placed on pork remains unanswered by any hypothesis
involving cultural identity.

At the time of the Mosaic prohibitions the Israelites were
pastoral nomads, moving through arid plains and hills, to which
cattle, sheep, and goats are adapted, whereas swine are not. Swine
require the shade and the large amounts of moisture that prevail
in humid forests, but not in the arid Near East. This ecological
explanation, though, still does not explain why the pig was for-
bidden rather than being simply ignored. After all, other animals
of the Near East were not adapted to certain environments, but
no religious taboos were promulgated against eating them.

The problem of the pork taboo can be solved if the symbolism
surrounding the dietary and religious laws found in three of the
books of Moses — Leviticus, Numbers, and Deuteronomy — is
taken into account. In other words, Moses the Prophet should
be taken at face value rather than being looked upon as Moses
the Trichinosis Expert, Moses the Sociologist, or Moses the Ecol-
ogist. The crucial dietary prohibitions are in Leviticus, chapter
11, and they divide the beasts into clean, which may be eaten,
and unclean, which “shall be even an abomination unto you; ye
shall not eat of their flesh, but ye shall have their carcasses in
abomination” (Leviticus 11:11). Yahweh then presents what
amounts to a natural history of the animals of the land, sea, and
air, telling which may be eaten and which may not, and some-
times giving a justification for the rules.

The central theme of the book of Leviticus is that the wholeness,
completeness, and perfection of Yahweh are to be reflected in
worship at the holy Temple. The animals offered in sacrifice
there must be perfect and without blemish, and no one with a
physical impairment could approach the Temple without first
being ritually cleansed. Ideas concerning perfection permeated
the entire religious life and culture of the ancient Israelites. Any
kind of hybrid or confusion was therefore anathema. Diverse
things must not be mixed; and so it was prohibited to plow with
an ox and an ass together (Deuteronomy 22:10), to sow two kinds
of seed in one field (Leviticus 19:19), and to let one kind of cattle
breed with a different kind (Leviticus 19:19). In society as in eat-
ing, the social classes are to be kept separate, and the Israelites
must not form a marriage union with pagans.

The animals fit to be eaten are therefore the domesticated
cattle, sheep, and goats that had been blessed by Yahweh as com-
plete, whole, and perfect when the pastoral Israelites first inhabited
the Holy Land. Also permitted are certain wild animals similar to
the domesticated ones that have cloven hoofs (walking on two
hoes, each of which is encased in a layer of horn) and that “chew
the cud” (that is, are ruminants with several stomachs that re-
gurgitate and chew again the food that has already been swal-
lowed) — among them gazelles, antelopes, ibexes, and wild forms
of sheep and goats. Other land animals are dissemblers, seemingly
perfect but not really so. The hare and the coney (also known as
the hyrax or rock badger) grind their teeth as though chewing a
cud, but they do not have cloven feet. The pig and the camel have
cloven hoofs, but are not ruminants.

The same sort of distinction between perfection and confusion
is made concerning creatures of the earth, air, and water. Each
animal must conform perfectly to its class; any that do not are
regarded as unclean. Animals that live in water are expected to
have scales and to propel themselves by fins as fish do; sea crea-
tures such as the mollusks, which lack fins and do not move about,
and the lobsters, shrimps, and crabs, which have the appendages of land animals, are therefore anomalies to be avoided. Four-legged animals are expected to hop, jump, or run; so such land animals as the mouse, the weasel, the shrew, the mole, and various lizards which seem to possess only two feet (the front limbs being like hands) are imperfect and thus prohibited for food. Birds are expected to inhabit the air; that makes an abomination of the ostrich, which does not fly, and of the swan, the pelican, and the heron, which spend most of their time in water. The "creeping things"—such as serpents, snails, and most insects—do not conform in their mode of locomotion with the fish in the water, the birds in the air, or the running mammals of the land; in other words, they are neither fish, fowl, nor flesh. Other anomalies are the owl that flies at night instead of during the day, the eagle and the vulture that feed on prey and therefore consume the unkosher blood, and the bat, a land mammal that flies as if it were a bird. Such a division of animals into edible and abomination meant that at every meal, and even during much of the day in preparation for mealtimes, the Israelites were forced to contemplate afresh the perfection and wholeness of Yahweh's world.

The pig is no more singled out in Leviticus for abomination than the coney or any other animal. Not a single word indicates that it is repugnant because of "unclean" scavenging habits, or is a threat to health, or is associated with pagan enemies. The Mosaic prohibition against it is mentioned only twice, once in Leviticus and again in Deuteronomy. Both references are brief and matter-of-fact: The pig must not be eaten because "though he divide the hoof, and be clovenfooted, yet he cheweth not the cud" (Leviticus 11:7). The pig is simply an anomaly, and in light of the Israelites' feelings about perfection would be expected to be prohibited. How then did swine achieve such notoriety as typifying the Old Testament dietary abominations? The answer is not to be found in the books of Moses but in the much later history of Judas Maccabaus, as it appears in the apocryphal books of the Old Testament. In the second century B.C., the land of Israel was under the domination of the monarch Antiochus IV, a notorious persecutor of the Jews, who desecrated the Temple of Solomon. He gave an order that swine were to be sacrificed there, and that Jews were to eat pork as an act of submission to Syria. He might just as well have forced the Jews to eat camels, vultures, conies, or other animals prohibited in Leviticus, but he no doubt chose swine because they were readily available from pagan neighbors. By this edict he gave prominence to what had been only one of numerous dietary taboos.

In response to the persecutions by Antiochus, Judas Maccabaus and his family organized a guerrilla army that defeated an expedition sent from Syria to destroy them, captured Jerusalem, and in 165 B.C. reestablished the Temple (an event celebrated to this day by the Jewish feast of Hanukkah). The pork that Antiochus had made a token of submission was singled out for special anathema by the Maccabees; avoiding it became for the Jews an assertion of purity, of allegiance to the ancient Law of Moses, and of opposition to pagan rule.

Ideology, interacting with the cultural system and ecology, can similarly explain the Moslem prohibition against eating pork. Islam arose in the seventh century A.D., and its sacred book, the Koran, incorporated many Mosaic dietary laws, including this prohibition. In fact, the taboo against pork is much more forcefully stated in the Koran than in the Old Testament. Apparently to some extent a tactical decision on the part of Mohammed, it gave Islam a point of clear distinction from the Christians, who were its major adversary and who had no objection to pork; it also encouraged the support of its Jewish neighbors in the Near East. The possible conversion of the latter to Islam would have been encouraged by incorporating the taboo, in much the same way that Christianity had made Easter coincide with the pagan festivals of the vernal equinox.

Ecologically, it would have been maladaptive for Mohammed to allow his followers to raise swine. Ever since the time of Moses, the landscape of the Near East had been changing drastically as a result of intensive agriculture and pastoralism. Forests (in which pigs live easily enough) were converted to grassland and desert (in which pigs can survive only with human intervention). Under the arid conditions of Arabia, the raising of animals that do not eat grass and cannot be herded over long distances was uneconomic. Pigs compete with humans and with other domesticated animals for the same foods—grains, tubers, and nuts—and for the water, without providing secondary benefits. Pigs do not grow wool to be sheared nor do they give milk; they cannot pull a plow, carry loads, or be ridden. It was therefore imperative to forbid
an animal that would have been an ecological and economic disaster if people had continued to breed it in large numbers.

Several points should be emphasized about the Jewish and Moslem abomination against pork. No evidence whatever exists that it was due to hygienic considerations, or that the environment of the Near East, the cultural separateness of Jews or of Moslems, or ideology in itself can explain it. Rather, at various times all three must have been in interaction. The priestly authors of the books of Moses and the Koran placed special emphasis upon dietary laws in part because foods can serve as badges that distinguish one people from another. If conditions had been such that it was ecologically rational to raise swine, then it can be assumed that the eating of succulent and nutritious pork would have been permitted. Indeed, the Koran specifically provides (in The Bee, 115) that the devout Moslem is permitted to eat the flesh of wild swine, which were scarce, and the hunting of which did not pose the same ecological threat as raising herds of domesticated swine would do. In modern Israel, where the ancient prohibitions on pork still prevail among Orthodox Jews, some agricultural communes have found it adaptive to raise swine, for the reason that the animals convert into flesh the refuse that might otherwise go unused.

In India today, where tens of millions of people are hungry, sacred cows wander without hindrance through the markets, helping themselves to the very foods that humans need so badly. Nearly two hundred million cattle — possibly a fifth of those in the world — inhabit India. In a largely vegetarian nation, they not only contribute little in the way of meat, but compete for food with starving humans. Nor are they worth their keep because they provide much milk; the udders of a scrawny zebu cow produce barely enough to nurse a single calf to maturity, and each year more than half of the cows of India produce no milk whatever. A North American farmer expects to get approximately ten thousand pounds from a milk cow, but in India perhaps five hundred pounds a year per head on the average is obtained — a scant return that does provide some valuable nutrients, but which hardly accounts for the huge numbers of seemingly worthless animals wandering almost everywhere.

The prohibition against eating beef is often pointed to as the supreme example of an irrational food taboo and as the ultimate triumph of religion over appetite. The Indians’ reverence for all living things, except the hungry humans of their own country who might eat these cattle, is said to have existed for so many thousands of years that it is now ingrained. Historical actuality does not sustain this view. The Vedas, the sacred texts of Hinduism, dating back a little less than three thousand years, contain an occasional objection to the eating of beef, but elsewhere the texts approve the slaughtering of cattle. They make clear that the priestly Brahman castes ate beef, and were taught rules for carving and distributing portions of it at feasts. The Buddha placed a taboo on eating the flesh of humans as well as that of elephants, horses, lions, tigers, panthers, bears, dogs, hyenas, and serpents — but not cattle. Nor was the eating of beef specifically prohibited when King Asoka made Buddhism the state religion about 250 years ago, even though cruelty and animal sacrifice were condemned in principle.

Somewhat less than two thousand years ago, the slaughter of cattle finally became a religious and civil offense — and the cow has been venerated in India ever since. Prayers are offered for cows that are sick, and garlands are hung about their necks on festive days. In some places, pigs are actually slaughtered and sacrificed to benefit the cattle. Gandhi preached veneration of the cow, finding in it a symbol around which he could rally the nation. When India finally became independent in 1949, the constitution included a bill of rights for cattle. Nowadays the police even round up stray cattle that have fallen ill and nurse them back to health.

Admittedly, a certain degree of hypocrisy prevails in India concerning the sacredness of cattle. Some farmers do cull their herds, as is clear from such statistics on cattle as those from the state of Uttar Pradesh, where there are more than two hundred oxen (male cattle) alive for every one hundred cows — a discrepancy that could exist only if farmers were systematically killing the cows. Nor does this always mean butchering a cow outright. The same effect is arrived at by other, slower, but equally certain methods: neglect, tethering an old or sick animal until it has starved to death, or selling an animal to a Moslem or Christian, who can be expected to slaughter it.
neighbors are not likely to loan him a pair of oxen. Every year numerous Indian farm families lose their land because of this lack. They may work for a while as laborers on someone else’s farm, but sooner or later they will migrate to the cities, adding their numbers to the destitute and homeless millions already living there. It is no wonder that an Indian farmer can be seen crying over the death of a beloved cow, or paying for a religious service in behalf of one that is ill; a farmer who loses a cow has lost almost everything. A farmer would presumably rather eat a sacred cow than watch his family starve, but he knows, consciously or unconsciously, that the eventual penalty for slaughtering such an animal is that the family assuredly will starve.

This explanation of why India’s cattle are treated as sacred was offered as long ago as the eleventh century, by a Moslem scientist, Al-Biruni. “We must keep in mind,” he wrote, that the cow is the animal which serves man in traveling by carrying his loads, in agriculture in the works of ploughing and sowing, in the household by the milk and the products made thereof. Further, man makes use of its dung, and in winter-time, even of its breath. Therefore it was forbidden to eat cows’ meat.

Granted this economic necessity, a well-intentioned Westerner might suggest the substitution of a superior breed that would produce large quantities of milk as well as give birth to oxen. It may be answered that the zebu, a native breed, has become adapted over thousands of years to the pattern of erratic rainfall that prevails in India — the torrential monsoon followed by long periods of drought. Zebu cattle can survive for weeks with virtually no food and water; they are highly resistant to diseases that affect other breeds of cattle in the tropics; and like camels, they store water and food in their humps and recover quickly when both are available again. A foreigner might also wonder why, if the cows are really so valuable, they are allowed to roam untended. The fact is that in this way the cows are being fed. During the dry months in particular, the cows maintain themselves by scavenging on clumps of grass along roads or railroad tracks and on the waste food at market stalls. Hungry cows may also be rounded up by the government as strays, to be reclaimed by their owners on payment of a small fine after the animals have been boarded and nursed back to health. The religious prohibi-
tion against eating beef is therefore a form of disaster insurance during the difficult dry months of the year, when Indian farmers would be most tempted to butcher their cows for food. This insurance is of benefit not only in restraining the small farmers from acting against their own best interests, but also indirectly to all of India, which must be fed from their seventy million farms.

Even when cows appear to be wandering unawares, they are providing the dung which is used as fuel and fertilizer. Cow dung is actually the preferred fuel of India because it burns slowly, allowing farm families to work in the fields while food on the hearth is cooking. The cattle of India are estimated to produce eight hundred million tons of manure annually—the energy equivalent of nearly two hundred million tons of coal, which would cost billions of dollars in foreign exchange if it had to be imported. A study in West Bengal has shown that very nearly all of the dung is recovered. Cattle that have been allowed to stray are followed from place to place by the owners' children, who collect the dung.

It must be asked, finally, why the Indians do not slaughter and consume cattle that are too decrepit to pull loads, produce calves, provide milk, or even furnish much dung. This failure to slaughter demonstrably useless cattle for food, or to sell them to a slaughterhouse run by Moslems, is less irrational than it might appear. The survival into old age of some decrepit animals is, first of all, a small price to pay for the protection given to all cattle. Moreover, a farmer can never be certain that an animal has become totally worthless. An animal that appears beyond hope might nevertheless recover, whereas once a cow or ox has been killed the farmer will have destroyed his hope of surviving as a farmer. In any event, most of these decrepit cattle do provide meat eventually to members of the lowest-ranking castes, who dispose of the bodies of the twenty million cattle that die from natural causes every year. That they consume this meat, notwithstanding the teachings of Hinduism, is a fact known to every upper-caste Hindu. Little is said publicly about it, since strict enforcement of the prohibition against eating beef would oblige the high-caste people to find some other way of providing essential proteins to tens of millions of the lower castes.

When the conditions prevailing in the ancient Near East made it uneconomic to raise swine, which could provide no other benefit besides meat, a ban on the animal naturally followed. Given the social and physical environment of India—with its dense population, limited technology, eroded lands, and erratic rainfall—raising cattle for meat likewise became uneconomic. Whereas the problem presented by swine in the Near East was that people were tempted to divert their resources in order to raise them, the problem in India was to stop not the raising of cattle—which offered other benefits—but the slaughtering of them for meat. So in the Near East the pig became an abomination, but in India the cow became a sacred animal.

The proscriptions placed upon eating such foods as beef and pork raise one final problem. After a taboo develops for good ecological and cultural reasons and has been sanctioned by resort to the supernatural, how is it to be maintained? During the thousands of years in which taboos against pork and beef have been in effect, assuredly some Jews, Moslems, and Hindus have occasionally flouted divine prohibitions and consumed the forbidden flesh—without dire consequences. Why, then, have such taboos not been abandoned? In certain instances, indeed, they have been. Early in the nineteenth century, when the native society of Hawaii was disintegrating as a result of disease, foreign conquest, and an imposed Christianity, King Kamehameha II bravely decided to test the efficacy of his entire system of belief. He and other members of the royal family sat down to a meal that transgressed virtually every one of the most sacred taboos. No dire consequences having occurred as a result, that was the end of food taboos in Hawaii.

More often, enough consequences either real or imagined do ensue to sustain a taboo. Where the belief is widespread that eating forbidden foods will have an untoward effect, just such an effect becomes likely. In Antony and Cleopatra, Shakespeare has Octavius praise Mark Antony by saying, "On the Alps it is reported thou didst eat strange flesh, which some did die to look on"—a reminder that the mere sight of forbidden food may be dangerous. The punishment for breaking a taboo may be a self-fulfilling prophecy, as in certain Bantu societies: A deficiency disease affecting young children is said to be the punishment for a violation of the taboo against sexual intercourse between the parents of an infant before it is weaned. The taboo works because
if intercourse does result in conception, the child will have to be prematurely weaned; lacking substitutes for mother’s milk, the child will probably suffer from a deficiency disease, just as the taboo had forewarned.

Most people in Western societies have experienced vomiting and other physical reactions after the discovery that a reviled food has been unknowingly eaten, and the same thing holds true for people in non-Western societies. Melanesians brought up from birth to believe that the violation of a food taboo will be followed by illness can be expected to vomit after learning that they have unwittingly eaten meat from a tabooced stingray or bush pig. Members of the Wind Clan of the Omaha Indian tribe are forbidden to eat or even to touch shellfish — a prohibition that is explained to young people at their initiation as being a matter of physical fact. The consequence of such psychosomatic pressure is that a transgression may lead to paralysis, skin eruptions, and other ailments.

A study of violations of food taboos made two decades ago on Ponape, one of the Caroline Islands of the South Pacific, revealed physical reactions very similar to the diarrhea, hives, dermatitis, shortness of breath, and other allergic reactions that have been observed by physicians in Western societies. Almost everyone who ate a forbidden kind of fish broke out in hives that resembled the spots on the fish; those who violated a taboo against eating turtle meat were likely to suffer shortness of breath or a skin reaction. Even those “modern” Ponapeans who knowingly violated the taboos nevertheless often believed they were suffering the culturally appropriate symptoms. For example, one man who had violated a taboo attributed to that act a roughening of the skin on his face that appeared several years later.

Interesting enough, many of the foods tabooed on Ponape are widely regarded by physicians as being allergenic, particularly certain species of fish and shellfish. Allergic reactions occur in response to eating or touching particular foods to which an individual has become sensitized. A person might be allergic to eggs but not to milk, to strawberries but not to cherries. But how can a reaction occur when there is a taboo on a broad category of unrelated plants and animals rather than on a specific one? On Ponape, for example, certain people are forbidden to eat the “run” of any plant or animal, whether it be an immature coconut or breadfruit, a puppy or a piglet. It is significant that the violation of this taboo is supposed to cause not an allergic symptom but the birth of a deformed child. Enough children are presumably born from time to time with some physical defect or other to maintain the belief that one of the parents had violated the taboo.

Actual deaths because of the breaking of food taboos have been widely reported from virtually all parts of the world. It has been supposed that the deaths were due to poison secretly administered by witch doctors or shamans to maintain their powers. Sheer terror, though, is sufficient to account for such deaths. A devout man who has eaten a food prohibited in his society will feel a deepening sense of dread as he awaits the consequences, and this will be increased by his social isolation; such a man can expect no sympathy from kin and friends. The body’s reaction to fear is to prepare for an emergency by producing increased amounts of sugar and adrenalin and by causing certain blood vessels to dilate. In the evolution of mammals, this was an extremely beneficial adaptation, providing the burst of energy necessary for either fight or flight. But if the physical activity for which his entire system has been prepared does not take place, at the same time that the dread continues to increase, the effects will be those of severe shock: a drop in blood pressure, reduction of oxygen in the blood, and coronary collapse. Until his fear is alleviated — as is unlikely so long as his society provides no channel for expiration — continued fear may simply kill him. All in the society will thereby receive confirmation that the taboo works.

“Bait shyness,” a mechanism that has been studied in both animals and humans, suggests a way in which the physical effect of violating a food taboo might serve to prevent further violations. Animals that survive a harrowing experience connected with poisoned bait — observing the fate of another animal, or having themselves been made sick — thereafter avoid such foods. Rats that have recovered from a single episode of poisoning usually reject, for the rest of their lives, any food with the same taste as what made them sick. Bait shyness thus appears to be a special way of learning long-term avoidance from a single bad experience. This is quite different from classic Pavlovian conditioning, in which several pairings of stimuli are necessary to produce a conditioned response, and in which the response is gradually extinguished unless it is reinforced from time to time by repetition.
The kind of learning seen in bait shyness must have evolved as an adaptation that saved mammals from having to carry around extra mental baggage to cope with the same experience each time it occurred. Humans, whose brains are so much larger and more complex than those of rats, would seem to have no need for this special kind of learning. Yet a study of the food avoidances of nearly seven hundred North Americans, ranging from young children to the elderly and including members of many ethnic groups, showed that a single pairing of the food in question with an upset stomach was sufficient to produce the aversion. Most of the aversions had begun in childhood, and some of them had gone on unabated for as long as fifty years.

The prevalence in every society of food taboos — which to outsiders appear foolish, uneconomic, and often meaningless — has long posed an intellectual problem. But, as this chapter has attempted to show, there really is nothing very mysterious about them. Taboos become established for very sound cultural, economic, and ecological reasons. They are then usually bolstered by divine sanctions, and continued repetition during the impressionable years of childhood is usually sufficient to inculcate a lifelong observance. Feelings of revulsion about certain foods are very much bound up with a person's own culture: Robinson Crusoe was filled with revulsion, and Friday with happy anticipation, at the thought of the same meal of human flesh. Sometimes, for one reason or another, individuals in the society will transgress a prohibition. If no consequences followed, the taboo would soon cease to operate. But usually something does happen: an upset stomach, an allergic reaction, or indeed any ill fortune that might be blamed upon the flouting of the taboo. Once a consequence has been paired with the breaking of a specific taboo, the evolutionary mechanism of bait shyness insures that the event will never be forgotten.