CHAPTER 4

The Life Passage

IN ALMOST EVERY SOCIETY, the milestones of passage from one stage to another in the biological and social development of the individual are celebrated with food and drink. The birth of a child becomes the occasion for a feast. Initiation rites and graduation ceremonies are celebrated to mark the launching of a new breadwinner. A marriage frequently entails the exchange of scarce or prestigious foods between the two families. And the dead pass to another world feasted by those who remain in this one.

The customs of virtually all societies recognize the pregnant woman's need for special foods. Even before they become pregnant, the Mbum Kpau women of Chad in equatorial Africa are exhorted to eat no chicken or goat so as to escape pain in childbirth or the birth of abnormal children; and after becoming pregnant, they avoid still other foods, such as the meat from antelopes with twisted horns, which might cause them to bear deformed offspring. Since failure to bear healthy children is a major tragedy for a Mbum Kpau woman, these prohibitions do not have to be enforced; the women themselves react with horror at any suggestion that they might eat a prohibited food. Such beliefs, found in all cultures, seem to be foolish; but they are nevertheless valid as a recognition that the eating habits of pregnant women affect the health of their children. In North America, a pregnant woman is warned that she must eat for two, and it is expected that her husband will cater to her cravings for pickles, ice cream, and chocolate.

A study of the pregnancy cravings of about two hundred and fifty women in Albany, New York, showed everyday beliefs about both cravings and aversions to be not as irrational as they sometimes appear. Most women reported strong aversions to alcohol
and to coffee, both of which they knew might cause birth defects. Their strong cravings for ice cream, other dairy products, and sweets (including chocolate and fruit) were possibly due to the need for extra calories and for calcium during pregnancy. When a pregnant woman's diet is deficient in calcium, the fetus will draw upon the calcium stored in her teeth and bones — thus explaining the folk statement that each child costs a tooth. The increased demand for calcium during pregnancy and lactation is a special problem for women living in societies in which milk and milk products are not consumed. Cultural attitudes toward other foods and methods of preparation do, however, often provide substitutes. In China, many expectant mothers express a craving for sweet-and-sour spareribs, which is nutritionally adaptive because the vinegar used in the recipe leaches calcium from the rib bones into the meat, thereby making it available for digestion.

In the United States, pregnant women of African ancestry are often reported to experience a craving for clay — and the cause seems to be a combination of history, nutritional needs, and the culture of slaves in the southern states. In many of the African societies from which the slaves were taken, the biological need for calcium and other minerals by pregnant and lactating women is partially met by eating clays from nutrient-rich sources, such as that from termite mounds, which contain concentrations of minerals deposited by the insects. These clays are collected, baked, and then sold or bartered. A number of the villages of the Ewe people of Ghana, for example, have made this a thriving industry. At certain sites, which are held in particularly high regard for the quality of their edible clay, it is shaped into the form of eggs, to be marketed in the Ewe lands and elsewhere in West Africa. Samples of these clay eggs that have been analyzed for their mineral content — calcium, magnesium, potassium, copper, zinc, and iron — have been shown to compare favorably with the mineral supplements prescribed for pregnant women in modern societies. The United States Food and Nutrition Board has estimated that pregnancy demands about twenty percent more nutrients in addition to the Recommended Dietary Allowances; for lactation, the increased need is approximately fifty percent. The iron content of clay in the amounts typically eaten by a pregnant woman in Ghana ranges between sixteen and sixty-four percent of the RDA; for copper, it is between fifteen and thirty-three percent.

With the nutritional value of eating clay beyond doubt, and with clear anthropological evidence that it is a cultural trait in West Africa, the eating of clay by black Americans, particularly pregnant women, becomes more understandable. Most of the slaves brought to North America came from West Africa, and in their new environment they continued to eat clay for both nutritional and cultural reasons. As the cotton plantations moved inland from the Atlantic coast, relocated slaves often asked friends and relatives from the old plantations to send them bags of clay because they did not consider what they found in the new places good enough. Even today, clay is shipped to farmers' markets in Georgia, where it is sold by the shoebox, and visitors to new mothers in hospitals often bring gifts of clay. Among blacks who have migrated to northern ghettos, pregnant women sometimes ask relatives still in the South to mail them clay dug from a favorite pit. Others, unable to obtain clay, have settled on laundry starch as a substitute. Despite its superficial resemblance to clay, starch is almost entirely lacking in valuable minerals and is a harmful stomach irritant besides.

The food taboos observed by pregnant women in some societies are occasionally difficult to understand. To outsiders, it seems contrary to reason that males who greatly desire healthy infants, and who also often understand the need for an adequate diet during pregnancy, should deprive the women in their society of adequate nutrition. The truth is, though, that the taboos do more to bolster male dominance in reserving the most desirable foods for themselves than they adversely affect female nutrition. The taboos are not usually very effective. The tabooed foods may simply be unavailable; the chickens and goats prohibited to the Mbum Kpau women, for example, are butchered only on rare ceremonial occasions. On the other hand, pregnant women may have their choice of substitute foods that are just as nutritious as the prohibited ones. The Sanio—Hiowe of Papua, New Guinea, prohibit their women from eating four kinds of mammals, but six others that are equally nutritious are eaten exclusively by women, and there are nine more that may be eaten by either sex. Finally, some taboos may be ignored altogether when food is in short supply or when those foods regarded as proper for females are not available.
never prepare their own meals but depend totally upon females to provide them for them. Furthermore, the Gurage place many values on food — such as for curing illness, for ritual activities, and as compensation for services — that have nothing to do with nutrition; indeed, every social and ritual event among the Gurage begins and ends with eating. So it is not surprising that psychological studies of the Gurage have isolated several personality characteristics that seem related to their anxieties over food: selfishness, the notion of a hostile environment, feelings of unworthiness, and the emotional detachment shown by parents toward their children.

Human milk fills all of the infant’s nutritional needs, just as whale milk — which is laden with fats suitable for mammals that live in cold water — specifically fills the different needs of infant whales. Human milk also furnishes the infant with antibodies from its mother that protect its immunologic system, which is immature at birth, from infectious organisms and allergens. And for about six months after birth it provides a powerful growth stimulator — a substance that is five times more powerful than the other growth factors found in the blood. Despite the demonstrated benefits of breast feeding, the bottle has increasingly been substituted for the breast. In the United States, breast feeding declined from a nearly universal practice in 1900 to a mere eighteen percent in 1966; and in most countries of western Europe the situation is about the same. Studies made since 1966 indicate a slow return to breast feeding, at least among more highly educated women. A survey made in the vicinity of Boston showed that about seventy percent of women married to university students breast-fed their infants, and that about forty percent of upper-class women did so, as compared to only about thirteen percent of those belonging to lower socioeconomic classes.

In developing countries, though, mothers are rapidly switching from breast feeding to bottle feeding. In 1966, ninety-five percent of Chilean mothers breast-fed their infants beyond the first year; just a decade later, only six percent did so. A laborer in Chile will sometimes spend twenty percent of his total wages to buy milk for a single infant; in Kenya the annual cost of the formulas that are being bought as substitutes for breast milk amounts to about a fifth of the foreign aid that country receives. Families spend this disproportionate share of their earnings despite the

The infant’s earliest emotional experiences are linked inextricably with eating, and its feelings about these experiences are almost always intense. The absence of love while food is being provided can lead to rage or desperate anxiety on the part of the infant. The primitive emotional connections formed within the first months of life, linking food with the mother, remain in the unconscious of the growing child and even of the adult, where they are being continually reinforced and modified by later experiences. By adulthood, the connections have become complex indeed. No adults ever really eat alone, for always with them are the earliest eating experiences associated with the mother.

The way in which mothers give food a meaning beyond nutrition can be seen in the Gurage, a horticultural people of southwestern Ethiopia. An hour after birth, the godmother ritually administers the first feeding by placing a small amount of butter in the infant’s mouth. Several hours later the infant is given the breast — and from then on crying for any cause is interpreted as a desire for milk. After five days a feast is held for kin and friends to celebrate the infant’s survival — a true milestone, given the high infant mortality that plagues the Gurage. The mother then goes into seclusion, devoting herself exclusively to the care of her infant and constantly suckling it, whether or not its discomforts stem from hunger. Two months later the mother shifts most of the responsibility for the care of the infant to a female relative or servant. Since the surrogate mothers do not usually give it much attention, the infant cries almost continuously because of hunger and lack of care. Although the mother offers the breast whenever she is present, both to satisfy hunger and as a pacifier, the infant remains unfed for hours while she is gone. As the infant approaches the age for weaning, when it is between two and four, the periods allotted for breast-feeding will have declined to only a few minutes at a time. At each feeding, the infant makes a frantic attempt to satisfy its hunger quickly. Weaning is eventually enforced when the mother applies a bitter substance to her nipples.

The inconsistent behavior of the Gurage mother establishes a pattern of alternating gluttony and want, which some psychologically oriented anthropologists believe contributes to the extreme anxiety about food displayed by the Gurage. The anxiety is greater among boys and men than among girls and women, because males
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observable fact that the mortality of bottle-fed infants — as a result of gastrointestinal infections, malnutrition, and other ailments — is considerably higher than for those who are breast-fed. In Chile, for example, the mortality rate at the age of three months for bottle-fed infants is two and a half times higher.

The shift to the bottle in developing countries is one of the most perplexing dietary changes seen in this century. Mothers there often lack not only the knowledge, but also even the pure water, needed to prepare a formula correctly and hygienically. From a nutritional standpoint, moreover, human milk is dissimilar from cow’s milk, the basis of most formulas, in nearly all respects. The proteins in human milk, for example, are specifically matched to the metabolic requirements of newborn humans rather than of newborn calves. The fats in human milk are less saturated and are utilized more effectively than the saturated fats found in cow’s milk. With mother’s milk demonstrably superior, the spread of bottle feeding apparently has only status to recommend it. Mothers in many parts of the world often consider breast feeding to be a vulgar peasant custom, to be abandoned as soon as the bottle can be afforded.

A folk belief in numerous societies states that breast feeding prevents the conception of another child. The fellahin of Egypt, for example, believe that a woman cannot conceive while she is observing the two-year nursing period demanded by Islamic law for each child; a father who wants another child sooner than that must give his permission for the previous child to be weaned. For the Chaga of East Africa, a taboo prohibits sexual intercourse between a mother and her husband until the infant is weaned; social disapproval of women who become pregnant less than three years after the birth of the last child is so strong that those who conceive earlier have been known to kill themselves or to commit infanticide.

Studies of many populations around the world have shown that mothers who nurse their infants for one or two years experience considerably longer intervals between pregnancies than those who do not nurse. Conception while nursing, even though contraception is not practiced, is dramatically lowered during the first six months, and is not usual during the next six months; after that, however, the correlation diminishes greatly. San mothers, for example, nurse their infants for the first two or three years of life, and often longer than that. During much of this time the mother’s sexual life is active, yet conception does not occur; in fact, lactation suppresses ovulation in so many women for so much of the time that in one group of San who have been closely studied, the average interval between births is 3.7 years.

All the available evidence indicates that nursing limits fertility, but it does not explain how. For the San and for mothers in other societies in which the custom prevails of nursing frequently and on demand, day and night, the stimulation of the nipples apparently leads to the secretion of prolactin and other hormones which tend to suppress ovulation. Even in societies where nursing is not so frequent, lactation still suppresses ovulation. One explanation for this is the critical-weight hypothesis, according to which a critical storage of body fat may control the cessation or resumption of the menstrual cycle. Reproduction requires an enormous expenditure of energy by the mother, with the result that an undernourished female begins menstruation later and enters the menopause earlier than a well-nourished one. Nursing can delay the resumption of menstruation because it delays the buildup of energy reserves in the female’s body, owing to the caloric demands made on it by nursing that amount to about a thousand calories a day. Accordingly, the diet must allow a mother to provide milk for one nursing infant and at the same time have the surplus of energy needed to bring another infant to term. Body fat thus acts as a signal to the mother’s reproductive system as to whether or not her body is capable of supporting the demands of a new pregnancy. The temporary suspension of ovulation is obviously an ecological adaptation to a reduced supply of food, and is less wasteful than mass mortality in regulating excess population.

Weaning is a critical time for any child. The danger of disease and psychological stress are both intensified by the poor nutrition that may occur while the adjustment to another kind of feeding is made. Often the transition must be enforced. Among the Bemba, mothers squeeze the red juice from certain fruits onto their breasts; the juice looks like blood and frightens the child. Thonga mothers in southern Africa wean a child by covering their breasts
with pepper; in Iran, children are told that a witch has eaten the mother's breasts, which by way of proof are shown smeared with a black substance. These measures, and others such as ritual offerings to ancestors, are a recognition of weaning as an important transition. A newly weaned child is exposed to a great risk of infection from foods that are tainted or that have been prepared with polluted water. Infections increase the need for certain nutrients, particularly protein, and at the same time they not only reduce the body's capacity to absorb nutrients, but also cause a loss of appetite. Children who are marginally nourished as they undergo the stress of weaning may thus cross the thin borderline into outright malnutrition by contracting even a slight infection. Malnutrition in turn further lessens the resistance to infection and adds to the stress, again increasing the need for the very food that is in short supply.

After the vulnerable years of weaning, the problem of malnutrition becomes less severe. One reason for this is that by the age of five children grow less rapidly and therefore need fewer of the nutrients that had previously been essential. Another reason is that they can now chew and digest a wider range of foods. This is the period in life at which children in all societies learn to forage on their own for tidbits of food. In modern societies they may do so by searching in the cupboard or by begging, but in simpler societies children go out looking for wild fruits and berries, insects, and bird eggs. Such gathered foods are nutritionally important, particularly for children in a horticultural society where the staple foods are often deficient in vitamins and minerals. The diet of such children who forage out of necessity during a famine may actually improve.

During a famine, differences in what is fed to male and female children become starkly evident. In Nigeria during the 1970 war over Biafra, the daughters in many families suffered from severe malnutrition while the sons were adequately fed. Indeed, in many cases the sons belonging to high-status families showed almost no signs of malnutrition. In many societies of the world, male children are better fed at all times. Among the Gurage of Ethiopia, mentioned several pages back, brothers are fed before their sisters; they receive better food and more of it. A boy who receives food as a special treat is expected to share it with other boys but not with girls, including his own sisters. On ceremonial and festive occasions, boys are almost always allowed to eat with the adults, girls almost never. The preference shown in the distribution of food, beginning in early childhood and continuing throughout adult life, is one means by which the Gurage implant notions of male dominance. For the Gurge implant notions of male dominance. For many East African pastoralists, disparities in diet between the sexes are linked to differences in their subsistence tasks. Whereas the diet of the men and boys who herd the livestock includes milk and blood, the women and girls who remain in the settlement eat only the crops they grow in their gardens. Subsistence tasks also lead to differences in the diets of male and female hunter-gatherers, the males often eating a portion of the animals they have killed before carrying meat back to camp to be shared.

Every parent has seen young children display marked preferences concerning foods. Those they favor generally are soft in texture; those they object to tend to be dry, highly spiced, or very hot or cold. They prefer thin puddings to thick ones, mashed potatoes to baked, white to whole-grain bread, and juicy hamburgers to chops. Their preference for foods that are soft and moist can be explained by their lack of an abundant supply of saliva to lubricate the food. The reason they prefer lukewarm foods to those that are very cold or very hot is not clear, but it may be the effect of extremes of temperature on receptors in the brain that tend to suppress the sense of taste. This is, of course, true for adults as well, but they have a lessened ability anyway to detect flavors and so this suppression is not as crucial. Most parents also say that their children are sensitive to flavors that go undetected by most adults—such as vegetables that have been scorched or milk that is just slightly curdled. Children have as a result been credited with a heightened awareness of flavors, but no experimental evidence supports this notion. In this case also, the explanation probably is that adults deviate from the norm and have become habituated over a long period of time to foods with strong or unusual flavors.

Although the predilections of young children are often difficult to explain scientifically, a number of observations can nevertheless be made. Aside from milk, which continues to be used as a food after weaning in some (but by no means all) societies, no single food can be associated with children everywhere. In each culture, children are gradually exposed to what adults eat and
probably never consciously ask whether this is what they ought to be eating. In Mexico, peasant children are exposed from the day they are born to the odor of tortillas, beans, and the spicy sauce made from chili peppers and tomatoes. The children absorb the flavors of these foods in their mothers’ milk, smell them on the breath of older siblings, and take them in with the first bite of solid food. They grow up immersed in these smells and tastes — so it is no wonder that as adults they consider a diet of tortillas, beans, chili peppers, and tomatoes to be the normal one, and would look with suspicion on any other.

The growing child also gradually becomes conscious of kinship and of social distinctions through customs connected with eating. Among certain Bantu tribes of Zimbabwe that are organized matrilineally, children are free to run into the hut of a maternal aunt and take food without asking, but in the house of a paternal aunt they must ask politely — whereas among the patrilineal tribes of the southern Bantu the situation is exactly the reverse. In fact, relations with kin, and social relations generally, are learned better through customs connected with eating than through direct explanation. Just as children in modern societies learn sharing through the exchange of toys with other children, in southern Bantu society they are trained through the sharing of food. The complex rules concerning hospitality — to whom it is offered and in what degree of lavishness — that are part of the system of clan obligations are established through the lessons of early childhood. Children early become aware of who eats with whom, and in what order, thereby defining the roles of the sexes and the age groups in Bantu society. They learn that they are prohibited from taking food from the pot in the presence of elders, and that when given food by an adult, even in a miserly amount, they are to take it in both hands as though acknowledging an act of largesse.

By the time a Bantu child is eight or ten years old, distinctions of age and sex have become very important. Male children are forbidden to eat any longer with their mothers and sisters around the family hearth; rather, they must eat with other males of about the same age. Even older boys and girls who work together in the fields at harvest time eat their meals separately. The younger boys, who act as herdsmen in the settlement, are divided from those slightly older, who care for the cattle and are permitted to eat in the quarters of the unmarried men. These and

still other groupings according to age and sex eat apart from one another, even though all the food comes ultimately from one family hearth. The mother who continues to cook the food — thus maintaining a kind of monopoly — now has it delivered by a young child to the boys' group or to the men's quarters.

The end of childhood is marked in many of the world's societies by some kind of initiation rite. Initiation ceremonies sometimes involve circumcision and the revelation of hitherto secret knowledge; almost always they entail a change in diet and the relaxation of previous taboos — as, for example, the drinking of coffee and wine at dinner by older children in modern societies. Among the southern Bantu, initiation ceremonies take place when a sufficient number of boys have reached the appropriate age or when the chief's own son has done so. The male child is now separated both symbolically and in fact from the mother's household. Initiation makes him aware of a network of obligations that bind him to other huts and to other families; he learns to measure prestige by the ability to offer hospitality and by the company in which one eats.

People in many simple societies, and some complex ones as well, view the onset of menstruation as a stage of life in the female that is a threat to males. Men who have been near a woman in menstruation often will not risk the dangers of hunting — a taboo that is still unconsciously observed in modern societies by those men who allow no women at their weekend hunting camp. Even plants are considered not immune from contamination by menstrual blood. According to Pliny the Elder in his Natural History, it "turns new wine sour; crops touched by it become barren, grapes die, seeds in gardens are dried up, the fruit of trees fall off." Menstruating women are supposed to have a particularly baneful effect on food when it is halfway between one state and another, as in the fermentation of cider, the refining of sugar, the baking of bread, or the churning of butter.

One explanation for the custom in numerous societies of segregating men and women at meals is that females might begin menstruating at any time, supposedly with dire consequences to the males at the table. The precautions might have originated as a result of observations concerning the behavior of women at the time of their periods. These changes are now known to be due to sharp fluctuations in the production of hormones, particularly
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of estrogen and progesterone, which can affect emotional states at these times. Studies show that women are more likely to commit acts of violence, attempt suicide, become involved in serious accidents, and seek admission to hospitals for imaginary ailments in their first few days of each period than at other times of the month.

The passing from a single to a wedded state is marked in most societies by feasting (whence the word “bridal,” a compound of Middle English “bride” plus “ale”), by the sharing of food between the newly married couple, and by an exchange of choice foods between the two families. For the Trobriand Islanders, no marriage can be considered valid without an intricate series of exchanges of food, consisting of eight distinct steps, by the kin of the two partners—first an offering by the woman’s family to signify its consent to the marriage, followed by counterpart gifts on both sides, and finally a large gift from the groom’s father to the bride’s father. As part of the marriage ceremony on Tikopia, the unmarried friends of the couple gather to share a farewell meal with them. All eat from the same basket what is referred to as “food of parting from the unmarried state.” Eating in common, dipping into the same food container, is a symbolic farewell, even though all the participants continue to be members of the same society and may even meet daily, because the pair now belongs to a different social category from those who are still unmarried.

The onset of adolescence begins a close association between food and sex that is a feature of all societies. According to the Judeo-Christian tradition, eating the Fruit of Knowledge in the Garden of Eden was followed by sexual shame; first came food, then sex. Breasts evolved among the mammals as structures for the feeding of offspring, and they have remained no more than that for all the primates except human beings, in whom they are permanently fatty and protuberant whether or not the female is pregnant or lactating. For other primate females the nipples have the same relative position as in the human female, although the fat is distributed much more evenly over the entire chest. The fatty tissue in the breast of a human female expands with age and with the number of children she has borne; it is liberally distributed throughout the tissue of the mammary gland itself, and tends to displace that tissue with advancing age. But the common belief that large breasts guarantee a copious supply of milk is false. Actually, the size of the areola is much more indicative of the size of the gland behind it than the prominence of the breast as a whole.

The eroticization of the breasts, a uniquely human phenomenon, possibly evolved as a sexual signaling device—though at a cost to the human infant, who finds the nipple more difficult to grasp as a consequence. The mouth, over the course of evolution, likewise became a major erogenous zone, thereby forming so powerful a link between the two essential human concerns, eating and sexual gratification, that the same descriptive terms can be applied to either one: hungry, starved, sated, and satisfied, among others.

More words from the lexicon of eating than from any other human activity have been used to describe sexual relations and organs. A woman is referred to as spicy, a dish, a hot tomato, a honey pot, a bit of mutton, a piece of cake, somebody who in fact looks good enough to eat. To lose one’s virginity is to lose a cherry. Breasts are apples, melons, grapefruits, or fried eggs; testicles are nuts; the penis is a hot dog, a banana, or meat, the female organ is a bun. When the Aborigines of central Australia ask the question, “Utna ilkukabaka?,” it may mean either “Have you eaten?” or “Have you had sexual intercourse?” The Aborigines characterize a young girl as either “unripe” or “ready cooked” (that is, nubile). Ngaiala means “hungry,” either for food or for sexual intercourse. Similarly, on the island of Tikopia, eating and the sex act are often equated linguistically, as when during copulation the female’s organ is said to “eat” that of the male. For the Sinhalese of Sri Lanka, cooking for a man implies sexual relations with him. A woman refers to her lover euphemistically as “the one I cook for,” and the word kanava can refer either to eating or to sexual intercourse. The close connection between eating and sex is not hard to explain, if it is assumed that early in the evolution of the human species males and females were brought together primarily by the two basic necessities for survival: food and procreation. Now many people eat without being hungry and copulate without producing offspring.

People often reveal through their taboos, myths, and rituals the connections they make between food and sexuality. Among the
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Eastern Tukano Indians of Colombia, children below the age of puberty are forbidden to eat the meat from such important game animals as deer, peccary, tapir, and monkey. The Tukano believe that if a youth who could not yet reproduce ate this meat, he or she would be accumulating useless energy, thereby diminishing the total energy in the environment without being able to add a new life. For the Tukano, potential foods in the environment are identified as masculine or feminine — those of the forest being generally in the masculine category and those of the rivers and gardens being thought of as feminine. One anthropologist who has studied these people describes the relationship between the hunter and his prey as “erotic.” The hunter feels sexual excitement during the hunt. After the kill, he examines the genitals of the animal, and if he has killed a female he expresses his regret to have shot “such a pretty beast.” When the hunter returns with the dead animal, the entranceway to the shelter, which is the female domain, is thought of as resembling a uterus, and the act of bringing meat to the shelter is described by words that also mean “to inseminate.” The woman who receives the meat now subjects it to culinary processes that are equated with gestation. The hearth itself is a uterine microcosm for transforming the bounty of the forest into a meal.

The association between the production of food and the production of offspring is so close in most horticultural societies that the two sometimes amount to a single event. The Fipa of Tanzania, who associate copulation and ritual masturbation with the growing of food, are just one example. The night before they begin cultivating the garden, the husband and wife have sexual intercourse. After orgasm, the man spends the rest of the night with his hands touching his own genitals and those of his wife. The next morning, without washing their odors from his hands, he sfts the seeds he is going to sow in his gardens and then sits naked with the tray of seeds between his legs. While his penis rests on the seeds, he rubs millet porridge mixed with a magical substance over it until he achieves an erection. In this way, he believes, he is insuring the future crop that will grow and become big like his distended organ.

Associations between food and sex were probably made by the earliest hunter-gatherers. Eating, like the mutual grooming of apes and monkeys, brought males and females into close proximity in a situation that did not call for defensive tactics. Eating can bind a pair together more effectively than sex, simply because people eat more often and predictably than they have sexual relations. This is a function that continues in modern societies. When a man and a woman have been separated for one reason or another, they will often celebrate their reunion with a special meal. The close association between eating and sex is biological as well as social. Sexual intercourse makes people hungry because a considerable number of calories are quickly expended in the process. There is also a close parallel in the way the nervous system deals with both hunger and sexual excitement. A particularly sensitive nerve structure, known as “Krause’s end bulbs,” is found in the sex organs (the clitoris and the tip of the penis) and in the mouth (the tongue and the lips). Some neurophysiologists see a correspondence between the sensory surfaces of the sex organs and the taste buds in the mouth, which may explain why sexual desire and a delicious aroma both cause the mouth to water.

Claims have long been made that all sorts of foods increase sexual potency beyond the most optimistic fantasies. No complete listing has been made of these, but the number may run into the thousands. A random sampling includes hippopotamus snout and hyena eyes (both recommended by Pliny), pine nuts (from a long list given by Ovid), dried marrow and liver (Horace), camel’s hump (an Arabian specialty), curry and chutney (recommended by Asiatic Indians), shark’s fin and bird’s nest soup (endorsed by the Chinese), haggis (a Scottish specialty), chocolate and cocoa (forbidden to their women by the Aztec) — along with fish eggs, clams, oysters, sea slugs, lobsters, cuttlefish, eels, snails, snakes, dove brains, goose tongues, the genitals of swans, the eggs of various birds, calf brains, the musk glands of deer, and various parts of goats and rabbits. Also extolled in one society or another for their effect on sexual desire and potency are such common plants as apples, bananas, cherries, dates, figs, peaches, pomegranates, pistachios, artichokes, asparagus, celery, cucumbers, garlic, leeks, onions, peppers, both sweet and white potatoes, and tomatoes. Prunes were so highly regarded as aphrodisiacs in Elizabethan times that they were served free in brothels.

The reason claims are made for the efficacy of particular foods is sometimes obvious — as for the sexual organs of animals, plants
that resemble human sexual organs in shape, and meat from animals that have a reputation for fecundity, such as rabbits and goats. But in other instances the origin of the belief is not clear. Some foods, such as chili peppers, curry, and other condiments, do stimulate the body, or at least the heartbeat and the gastric juices. The reputation of cinchona bark, the source of quinine, as an aphrodisiac may have come about because people suffering from malaria, whose symptoms had been relieved by quinine, would feel less weak and consequently be more potent sexually. Indeed, the reason for the apparent efficacy of a great number of foods eaten as aphrodisiacs may simply be that they add to physical or mental well-being. In this sense, almost any food has the properties of an aphrodisiac because the very act of eating causes an increase in the pulse rate and the blood pressure, raises body temperature, and sometimes even produces sweating — physiological changes that also occur in connection with an orgasm.

Foods from the sea had been recommended as aphrodisiacs long before modern knowledge of their nutritional benefits. In the ancient Mediterranean world, the Greco–Roman goddess of love, known as Aphrodite or Venus, was said to have emerged from sea foam where Uranus' genitals had fallen, thus linking venery with the sea. A seventeenth-century French physician observed that those who eat large quantities of fish and shellfish are ardent in love. "In fact," he confessed, "we ourselves feel most amorously inclined during Lent." Although fish is of nutritional value in building up long-term health and virility, evidence is lacking that it produces immediate sexual stimulation. Fish roe has been widely recommended nevertheless for the obvious reason that it is directly related to reproduction — especially caviar, which is also, as a rare and expensive food, a symbol of one's high regard for another. The sea slug has long been a favorite sexual stimulant among the Arabs and the Chinese because it swells and enlarges like a penis when touched. The oyster, which resembles the female genitalia in both appearance and texture, has been considered especially stimulating, though it likewise is not an aphrodisiac.

Two other reasons must be included in any explanation for the singling out of particular foods for use as aphrodisiacs. The first is rarity or novelty. The Age of Exploration suddenly flooded the markets of the world with exotic plants whose very strangeness suggested the existence of secret powers. Tomatoes brought back from South America were at first thought to be the forbidden fruit of Eden, and were known as "love apples." When potatoes first arrived in Europe — the sweet potato probably brought back by Columbus and the white potato somewhat later — they were immediately celebrated as potent sexual stimulants. In Shakespeare's *Merry Wives of Windsor*, Falstaff says to a woman he is about to embrace: "Let the sky rain [sweet] potatoes; . . . let there come a tempest of provocation, I will shelter me here." A book of recipes for the English housewife published in 1596 tells how to bake a tart with sweet potatoes "that is a courage to a man or woman" and a work dated 1650 tells the English reader that the white potato will "incite to Venus."

A second explanation has to do with the ancient Doctrine of Signatures, according to which the hidden virtue of a plant or animal is revealed through its external appearance. The shape, the texture, or even the color of an edible substance might thus indicate whether or not it had the properties of an aphrodisiac. Various bulbs and tubers — onions and potatoes, for instance — that somewhat resemble testicles could be expected to improve sexual potency. Bananas, asparagus shoots, and carrots obviously resemble the male organ, as artichokes and dates resemble the female. The English word "vanilla" comes from the Latin one for the vagina because of a similarity in shape between the vanilla root and the vaginal canal. The oldest known example of the application of the Doctrine of Signatures to an aphrodisiac concerns the mandrake, a forked root uncannily resembling a man's thighs and penis, and occurs in the book of Genesis: Leah is said to have used a mandrake root to make Jacob lie with her, with the result that she conceived a son. Apparently mandrake does contain pharmacologically active compounds that steady the nerves and might have the side effect of improving a high-strung lover's sexual performance.

The preparation known as "Spanish fly" or cantharides — derived from the dried and pulverized remains of a beetle found in southern Europe — when eaten as an aphrodisiac produces acute irritation of the gastrointestinal system and dilation of the blood vessels, all of which stimulate the genitals. Violent erections of both the penis and clitoris occur, but only at the expense of damage to the kidney that could prove fatal. Yohimbene, another sub-
stance producing the same effect, is obtained from the bark of a
tree that grows in South America and in West Africa. It irritates
the bladder, the urethra, and the lower end of the spinal cord,
thus stimulating erection.

Although beer and wine have been known since antiquity, the
use of alcohol as an aphrodisiac did not become common until
Arab chemists invented ways to distill it in the ninth century.
In the twelfth century, the physician and scholar Moses Maimonides
wrote: “Drinking honey water promotes erections, but even more
effective in this regard than all medicines and foods is wine ... it
arouses the erections all the more when one enjoys the wine with
desire.” Chaucer’s zestful Wife of Bath recommended strong liq-
our because, as she pointed out, a lecherous mouth has a lecher-
ous tail. More recently Ogden Nash observed that for seductions
“candy is dandy, but liquor is quicker.” Notwithstanding such
testimonials, alcohol is basically a sedative that progressively damp-
ens the activity of the mind, and too much of it will produce a
clumsy and incompetent lover. In small amounts, alcohol relieves
mental stress and thus can serve as a psychological stimulant to
both partners. Although champagne is a noted ingredient in sed-
duction scenes, whatever effectiveness it may have is probably
due to the flattery of being offered an expensive commodity — as
well as possibly the titillation produced by the ejaculative pop as
the bottle is opened.

The elderly, whose taste buds have withered and whose palates are
jaded, need fewer calories and have a lessened biological incentive
to eat. As a person ages, the proportion of the body that is lean
tissue (muscle and bone) decreases, while the proportion that is
fat increases. Because fat requires less energy than lean tissue,
and because people usually become less active in their later years,
the need for calories declines each decade after the age of twenty
—which means that a person who does not eat considerably less
at sixty than was eaten at twenty will gain weight. At the same
time that the need for calories lessens, the requirements for basic
nutrients remain about the same; more nutrients obviously have
to be packed into less food, and there is less room in the diet for
junk foods that are high in calories and low in nutrition. Al-
though the ability to taste salt, which gives flavor to food, also
diminishes with age, the receptivity to sweetness does not diminish,
and this may tempt the elderly into the consumption of junk
foods. By the age of sixty, the salivary glands have degenerated,
and a decrease in the secretion of saliva is noticeable. Other en-
zymes can take over the role of saliva in the digestion of carbo-
hydrates, but not as a lubricant for food — which leads the elderly
to prefer soft, moist foods such as mashed potatoes and thin soups,
which do not provide sufficient fiber.

As a result of these and other biological changes, the elderly
tend to eat progressively less. A study of more than five hundred
elderly people in California, begun in 1948 and ended in 1962
when 141 were still alive, showed this strikingly. With each decade
of life beyond the age of fifty-five, a clear decrease in the con-
sumption of food was observed, particularly marked in those
older than seventy-five. Contrary to common belief, though, the
relative proportion in the diet of proteins, carbohydrates, and fats
continued even though the total intake decreased. Those individ-
uals who in 1948 had a low intake of animal protein, for example,
tended to maintain the same pattern in 1962. A question of great
interest not answered by the study was whether the nutritional
habits of those who lived to an advanced age contributed to their
longevity. Perhaps heredity had enabled these elderly people to
survive; perhaps, more precisely, hereditary tendencies played a
part in their selecting the diets they did. Some specialists are con-
vinced, at any rate, that a healthy old age is more likely in those
who had healthy and long-lived grandparents — so long as nutri-
tionally alert parents have prepared them for old age by instilling
wise dietary habits in childhood.

Since people tend to eat what they learned to eat when young,
poor nutrition is likely to follow people into old age. Beneficial
food habits may, however, be difficult to maintain in old age if
one is poor, as old people generally are: In 1974 half of those in
the United States over sixty-five had yearly incomes of less than
$1500. With less money available, they tend to substitute less ex-
pensive bread and cereal for fresh fruits and vegetables — one
reason why many elderly persons suffer deficiencies of vitamins
A and C. Furthermore, the longer an individual lives, the greater
the likelihood of losing the teeth. Out of every hundred people
in the United States older than seventy, sixty-six no longer have
any of their own teeth — and of these, eighty percent either have
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not replaced them at all or have done so with ill-fitting dentures. Finally, an elderly person living alone often lacks the motivation to prepare varied meals. It is not unusual to find erratic eating patterns among the elderly: a day or two of nibbling, followed by a day of overeating, for example, with an intake of calories that fluctuates between 800 and 3700 a day.

The question of whether particular nutrients promote longevity is so hedged by unknowns that general statements on the subject are almost impossible to make. Humans nevertheless go on looking for something magical to eat or some elixir to drink to insure prolonged youth. In certain populations of the world, an exceptional number of people are said to live to advanced ages because they eat one food or another. The inhabitants of the rugged Caucasus Mountains of southern Russia, for example, are said to owe their longevity to the consumption of a cultured milk product similar to yogurt. Although no great numbers of centenarians have been confirmed, a remarkable number of these people do live into their eighties and nineties — for causes that seem much more related to their entire diet and way of life than to yogurt itself. The genetic component of longevity does not appear to be particularly important for these people, given that the large numbers of elderly persons include Georgians, White Russians, Armenians, Turks, and Jews — all of whom differ markedly from one another in genetic makeup.

One factor common to the Caucasus Mountain peoples, whatever their ethnic group, is a varied and balanced diet consisting of milk products, cereals, nuts, and fresh vegetables and fruits. Meat is eaten only a few times a week, and the intake of calories is low in comparison to the typical United States diet. The food is usually eaten when it is very fresh, while vitamins and other nutrients are still retained. For breakfast, an individual might go into the garden and pick a salad of watercress, tomato, and cucumber, to be eaten with goat cheese and a cereal. The people of the Caucasus have traditionally emphasized hospitality and feasting, but they consider overeating to be in poor taste, and obesity is looked upon as an illness.

Scientific research has not settled whether and to what extent diet has contributed to longevity in the Caucasus. Other influences may be at work in conjunction with the small amounts of animal fat, the low number of calories, and the high content of vitamins. Exercise, for example, is built into these people’s way of life, and they go on walking great distances over rugged terrain for nearly as long as they live. Retirement is unknown; everyone does at least some work even into the nineties. The aged are respected for their accumulated wisdom, and play an important part in village councils. The Fountain of Youth of the Caucasus may be composed of nothing more than a good diet, the expectation of living to a great age, and continuing to have an active part in social life.

Whatever the true explanation for exceptional longevity, death does come inevitably — and when it does, food still plays an important role. Death is an occasion when the routine of life is broken not simply for the deceased, but also for many other people. Kinship ties must now be reshaped, inheritances distributed, and new roles assumed by the survivors. Recognition by the community of this upheaval has its effect on the one activity common to everyone: the preparation and distribution of food. The disruption of community life is often symbolized by basic changes made in customs of eating — fasting, temporarily extinguishing the hearths, placing new taboos upon foods, and special offerings of food to the gods.

In many of the Polynesian and Melanesian islands, symbolic distinctions are made at a funeral between prepared and raw foods. The environment of these people provides many raw foods — such as coconuts, fruits, and edible roots — that can be easily obtained (except, of course, during times of drought or hurricane). Prepared foods, on the other hand, demand human intervention, and are symbolic of the social and domestic life that has been disrupted by death. On the island of Tikopia, the mourners are given prepared foods, such as puddings, which they associate with the continuity of life. At the burial itself, raw food from the dead man’s garden is placed on the grave, symbolizing the product of his labors.

Although this first section has been primarily devoted to the biology of eating, it has been impossible even here to separate that biology altogether from such symbolic aspects as the distinction
between raw and prepared foods, the consciousness of sexual metaphors, and ritual abstentions from eating at various stages of life. The humans' basic biological need to eat cannot be separated from symbols and metaphors of status, gift-giving, feasting, social and kin relations, and sacred ritual — all of which will be considered in detail in the next section of this book.