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India's Sacred Cow

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Structural-functional reasoning in sociology looks at cultural items such as norms, beliefs, institutions, and behavior patterns in terms of their consequences for social groups. When all the consequences are thoroughly assessed, a seemingly irrational belief or practice may appear more reasonable because of the functions it serves for the group. For example, a primitive tribe doing a rain dance to end a drought may seem irrational to an observer. But the collective ritual of the dance may keep tribal morale high until rain does come and thereby help preserve the group in the face of a crisis.

A cultural practice that strikes many observers as highly irrational is the strong reverence for cattle in India. Westerners (and even some Indians themselves) have long considered cattle worship to be a key element in India's continual flirtation with famine. Indian people go hungry while sacred cows are fed by the government. What could be more irrational? In his analysis of the Indian ***ecosystem*** *(the system of living things, their environment, and their interrelationships), Harris finds these critics to be shortsighted. As an ecologist, he is concerned with how a population adapts to its environment, given the technology and resources available. He is also interested in the prominent place cattle occupy in India's system of agricultural production. Most Indian farmers have small plots of land, so cattle are useful for fertilizer and for hauling. They also supply the farm family with milk, and their waste products serve as fuel and floor covering material. And cattle supply meat and leather for the larger economy. Most important, since cattle primarily eat what is inedible to humans, the two species are not in competition with each other for food. Devotion to cattle ensures that even when famine threatens, Indians will not slaughter their cattle to prevent starvation. To do so would cause even more severe problems in the long run.*

. . . Hindus venerate cows because cows are the symbol of everything that is alive. As Mary is to Christians the mother of God, the cow to Hindus is the mother of life. So there is no greater sacrilege for a Hindu than killing a cow. Even the taking of human life lacks the symbolic meaning, the unutterable defilement, that is evoked by cow slaughter.

According to many experts, cow worship is the number one cause of India's hunger and poverty. Some Western-trained agronomists say that the taboo against cow slaughter is keeping one hundred million "useless" animals alive. They claim that cow worship lowers the efficiency of agriculture because the useless animals contribute neither milk nor meat while competing for croplands and foodstuff with useful animals and hungry human beings. A study sponsored by the Ford Foundation in 1959 concluded that possibly half of India's cattle could be regarded as surplus in relation to food supply. And an economist from the University of Pennsylvania stated in 1971 that India has thirty million unproductive cows.

It does seem that there are enormous numbers of surplus, useless, and uneconomic animals, and that this situation is a direct result of irrational Hindu doctrines. . . .

Love of cow affects life in many ways. Government agencies maintain old age homes for cows at which owners may board their dry and decrepit animals free of charge. In Madras, the police round up stray cattle that have fallen ill and nurse them back to health by letting them graze on small fields adjacent to the station house. Farmers regard their cows as members of the family, adorn them with garlands and tassels, pray for them when they get sick, and call in their neighbors and a priest to celebrate the birth of a new calf. Throughout India, Hindus hang on their walls calendars that portray beautiful, bejeweled young women who have the bodies of big fat white cows. Milk is shown jetting out of each teat of these half-woman, half-zebu goddesses.

Starting with their beautiful human faces, cow pinups bear little resemblance to the typical cow one sees in the flesh. For most of the year their bones are their most promi-

nent feature. Far from having milk gushing from every teat, the gaunt beasts barely manage to nurse a single calf to maturity. The average yield of whole milk from the typical hump-backed breed of zebu cow in India amounts to less than 500 pounds a year. Ordinary American dairy cattle produce over 5,000 pounds, while for champion milkers, 20,000 pounds is not unusual.But this comparison doesn't tell the whole story. In any given year about half of India's zebu cows give no milk at all—not a drop. . . .

Mohandas K. Gandhi was an ardent advocate of cow love and wanted a total ban on cow slaughter. When the Indian constitution was drawn up, it included a bill of rights for cows which stopped just short of outlawing every form of cow killing. Some states have since banned cow slaughter altogether, but others still permit exceptions. The cow question remains a major cause of rioting and disorders, not only between Hindus and the remnants of the Moslem community, but between the ruling Congress Party and extremist Hindu factions of cow lovers. . . .

To Western observers familiar with modern industrial techniques of agriculture and stock raising, cow love seems senseless, even suicidal. The efficiency expert yearns to get his hands on all those useless animals and ship them off to a proper fate. And yet one finds certain inconsistencies in the condemnation of cow love. When I began to wonder if there might be a practical explanation for the sacred cow, I came across an intriguing government report. It said that India had too many cows but too few oxen. With so many cows around, how could there be a shortage of oxen? Oxen and male water buffalo are the principal source of traction for plowing India's fields. For each farm of ten acres or less, one pair of oxen or water buffalo is considered adequate. A little arithmetic shows that as far as plowing is concerned, there is indeed a shortage rather than a surplus of animals. India has 60 million farms, but only 80 million traction animals. If each farm had its quota of two oxen or two water buffalo, there ought to be 120 million traction animals—that is, 40 million more than are actually available. . . .

The shortage of draft animals is a terrible threat that hangs over most of India's peasant families. When an ox falls sick a poor farmer is in danger of losing his farm. . . . The Indian farmer who can't replace his sick or deceased ox is in much the same situation as an American farmer who can neither replace nor repair his broken tractor. But there is an important difference: tractors are made by factories, but oxen are made by cows. A farmer who owns a cow owns a factory for making oxen. With or without cow love, this is a good reason for him not to be too anxious to sell his cow to the slaughterhouse. One also begins to see why Indian farmers might be willing to tolerate cows that give only 500 pounds of milk per year. If the main economic function of the zebu cow is to breed male traction animals, then there's no point in comparing her with specialized American dairy animals, whose main function is to produce milk. Still, the milk produced by zebu cows plays an important role in meeting the nutritional needs of many poor families. Even small amounts of milk products can improve the health of people who are forced to subsist on the edge of starvation. . . .

Agriculture is part of a vast system of human and natural relationships. To judge isolated portions of this "ecosystem" in terms that are relevant to the conduct of American agribusiness leads to some very strange impressions. Cattle figure in the Indian ecosystem in ways that are easily overlooked or demeaned by observers from industrialized, high-energy societies. In the United States, chemicals have almost completely replaced animal manure as the principal source of farm fertilizer. American farmers stopped using manure when they began to plow with tractors rather than mules or horses. Since tractors excrete poisons rather than fertilizers, a commitment to large-scale machine farming is almost of necessity a commitment to the use of chemical fertilizers. And around the world today there has in fact grown up a vast integrated petrochemical-tractor-truck industrial complex that produces farm machinery, motorized transport, oil and gasoline, and chemical fer-

tilizers and pesticides upon which new high-yield production techniques depend.

For better or worse, most of India's farmers cannot participate in this complex, not because they worship their cows, but because they can't afford to buy tractors. Like other underdeveloped nations, India can't build factories that are competitive with the facilities of the industrialized nations nor pay for large quantities of imported industrial products. To convert from animals and manure to tractors and petrochemicals would require the investment of incredible amounts of capital. Moreover, the inevitable effect of substituting costly machines for cheap animals is to reduce the number of people who can earn their living from agriculture and to force a corresponding increase in the size of the average farm. We know that the development of large-scale agribusiness in the United States has meant the virtual destruction of the small family farm. Less than 5 percent of U.S. families now live on farms, as compared with 60 percent about a hundred years ago. If agribusiness were to develop along similar lines in India, jobs and housing would soon have to be found for a quarter of a billion displaced peasants.

Since the suffering caused by unemployment and homelessness in India's cities is already intolerable, an additional massive build-up of the urban population can only lead to unprecedented upheavals and catastrophes.

With this new alternative in view, it becomes easier to understand low-energy, small-scale, animal-based systems. As I have already pointed out, cows and oxen provide low-energy substitutes for tractors and tractor factories. They also should be credited with carrying out the functions of a petrochemical industry. India's cattle annually excrete about 700 million tons of recoverable manure. Approximately half of this total is used as fertilizer, while most of the remainder is burned to provide heat for cooking. The annual quantity of heat liberated by this dung, the Indian housewife's main cooking fuel, is the thermal equivalent of 27 million tons of kerosene, 35 million tons of coal, or 68 million tons of wood. Since India has only small reserves of oil and coal and is already the victim of extensive deforestation, none of these fuels can be considered practical substitutes for cow dung. The thought of dung in the kitchen may not appeal to the average American, but Indian women regard it as a superior cooking fuel because it is finely adjusted to their domestic routines. Most Indian dishes are prepared with clarified butter known as *ghee*, for which cow dung is the preferred source of heat since it burns with a clean, slow, long-lasting flame that doesn't scorch the food. This enables the Indian housewife to start cooking her meals and to leave them unattended for several hours while she takes care of the children, helps out in the fields, or performs other chores. American housewives achieve a similar effect through a complex set of electronic controls that come as expensive options on late-model stoves.

Cow dung has at least one other major function. Mixed with water and made into a paste, it is used as a household flooring material. Smeared over a dirt floor and left to harden into a smooth surface, it keeps the dust down and can be swept clean with a broom.

Because cattle droppings have so many useful properties, every bit of dung is carefully collected. Village small fry are given the task of following the family cow around and of bringing home its daily petrochemical output. In the cities, sweeper castes enjoy a monopoly on the dung deposited by strays and earn their living by selling it to housewives.

From an agribusiness point of view, a dry and barren cow is an economic abomination. But from the viewpoint of the peasant farmer, the same dry and barren cow may be a last desperate defense against the moneylenders. There is always the chance that a favorable monsoon may restore the vigor of even the most decrepit specimen and that she will fatten up, calve, and start giving milk again. This is what the farmer prays for; sometimes his prayers are answered. In the meantime, dung-making goes on. And so one gradually begins to understand why a skinny old hag of a cow still looks beautiful in the eyes of her owner.

Zebu cattle have small bodies, energy-storing humps on their back, and great powers of recuperation. These features are adapted to the specific conditions of Indian agriculture. The native breeds are capable of surviving for long periods with little food or water and are highly resistant to diseases that afflict other breeds in tropical climates. Zebu oxen are worked as long as they continue to breathe. . . .

But sooner or later there must come a time when all hope of an animal's recovery is lost and even dungmaking ceases. . . . By slaughtering or selling his aged and decrepit animals, a farmer might earn a few more rupees or temporarily improve his family's diet. But in the long run, his refusal to sell to the slaughterhouse or kill for his own table may have beneficial consequences. An established principle of ecological analysis states that communities of organisms are adapted not to average but to extreme conditions. The relevant situation in India is the recurrent failure of the monsoon rains. To evaluate the economic significance of the antislaughter and anti-beef-eating taboos, we have to consider what these taboos mean in the context of periodic droughts and famine.

The taboo on slaughter and beef eating may be as much a product of natural selection as the small bodies and fantastic recuperative powers of the zebu breeds. During droughts and famines, farmers are severely tempted to kill or sell their livestock. Those who succumb to this temptation seal their doom, even if they survive the drought, for when the rains come, they will be unable to plow their fields. I want to be even more emphatic. . . . Cow love with its sacred symbols and holy doctrines protects the farmer against calculations that are "rational" only in the short term. To Western experts it looks as if "the Indian farmer would rather starve to death than eat his cow." The same kinds of experts like to talk about the "inscrutable Oriental mind" and think that "life is not so dear to the Asian masses." They don't realize that the farmer would rather eat his cow than starve, but that he will starve if he does eat it. . . .

From a Western agribusiness viewpoint, it seems irrational for India not to have a meat-packing industry. But the actual potential for such an industry in a country like India is very limited. A substantial rise in beef production would strain the entire ecosystem, not because of cow love but because of the laws of thermodynamics. In any food chain, the interposition of additional animal links results in a sharp decrease in the efficiency of food production. The caloric value of what an animal has eaten is always much greater than the caloric value of its body. This means that more calories are available per capita when plant food is eaten directly by a human population than when it is used to feed domesticated animals.

Because of the high level of beef consumption in the United States, three-quarters of all our croplands are used for feeding cattle rather than people. Since the per capita calorie intake in India is already below minimum daily requirements, switching croplands to meat production could only result in higher food prices and a further deterioration in the living standards for poor families. I doubt if more than 10 percent of the Indian people will ever be able to make beef an important part of their diet, regardless of whether they believe in cow love or not.

I also doubt that sending more aged and decrepit animals to existing slaughterhouses would result in nutritional gains for the people who need it most. Most of these animals get eaten anyway, even if they aren't sent to the slaughterhouse, because throughout India there are low-ranking castes whose members have the right to dispose of the bodies of dead cattle. In one way or another, twenty million cattle die every year, and a large portion of their meat is eaten by these carrion-eating "untouchables". . . .

Like everything else I have been discussing, meat eating by untouchables is finely adjusted to practical conditions. The meat-eating castes also tend to be the leather-working castes, since they have the right to dispose of the skin of the fallen cattle. So despite cow love, India manages to have a huge leathercraft industry. Even in death, apparently useless animals continue to be exploited for human purposes.

I could be right about cattle being useful for traction, fuel, fertilizer, milk, floor covering, meat, and leather, and still misjudge the ecological and economic significance of the whole complex. Everything depends on how much all of this costs in natural resources and human labor relative to alternative modes of satisfying the needs of India's huge population. These costs are determined largely by what the cattle eat. Many experts assume that man and cow are locked in a deadly competition for land and food crops. This might be true if India's farmers followed the American agribusiness model and fed their animals on food crops. But the shameless truth about the sacred cow is that she is an indefatigable scavenger. Only an insignificant portion of the food consumed by the average cow comes from pastures and food crops set aside for their use. . . .

The major constituent in the cattle's diet is inedible by-products of human food crops, principally rice straw, wheat bran, and rice husks. . . . Probably less than 20 percent of what the cattle eat consists of humanly edible substances; most of this is fed to working oxen and water buffalo rather than to dry and barren cows. Odend'hal found that in his study area there was no competition between cattle and humans for land or the food supply: "Basically, the cattle convert items of little direct human value into products of immediate utility."

One reason why cow love is so often misunderstood is that it has different implications for the rich and the poor. Poor farmers use it as a license to scavenge while the wealthy farmers resist it as a rip-off. To the poor farmer, the cow is a holy beggar; to the rich farmer, it's a thief. Occasionally the cows invade someone's pastures or planted fields. The landlords complain, but the poor peasants plead ignorance and depend on cow love to get their animals back. If there is competition, it is between man and man or caste and caste, not between man and beast. . . .

Cow-slaughter enthusiasts base their recommendation on an understandable error. They reason that since the farmers refuse to kill their animals, and since there is a religious taboo against doing so, therefore it is the taboo that is mainly responsible for the high ratio of cows to oxen. Their error is hidden in the observed ratio itself: 70 cows to 100 oxen. If cow love prevents farmers from killing cows that are economically useless, how is it there are 30 percent fewer cows than oxen? Since approximately as many female as male animals are born, something must be causing the death of more females than males. The solution to this puzzle is that while no Hindu farmer deliberately slaughters a female calf or decrepit cow with a club or a knife, he can and does get rid of them when they become truly useless from his point of view. Various methods short of direct slaughter are employed. To "kill" unwanted calves, for example, a triangular wooden yoke is placed about their necks so that when they try to nurse they jab the cow's udder and get kicked to death. Older animals are simply tethered on short ropes and allowed to starve—a process that does not take too long if the animal is already weak and diseased. Finally, unknown numbers of decrepit cows are surreptitiously sold through a chain of Moslem and Christian middlemen and end up in the urban slaughterhouses.

If we want to account for the observed proportions of cows to oxen, we must study rain, wind, water, and land-tenure patterns, not cow love. The proof of this is that the proportion of cows to oxen varies with the relative importance of different components of the agricultural system in different regions of India. The most important variable is the amount of irrigation water available for the cultivation of rice. Wherever there are extensive wet rice paddies, the water buffalo tends to be the preferred traction animal, and the female water buffalo is then substituted for the zebu cow as a source of milk. That is why in the vast plains of northern India, where the melting Himalayan snows and monsoons create the Holy River Ganges, the proportion of cows to oxen drops down to 47 to 100. As the distinguished Indian economist K.N. Raj has pointed out, districts in the Ganges Valley where continuous year-round rice-paddy cultivation is practiced have cow-to-oxen ratios that approach the theoretical optimum. This is all the more remarkable since the region in question—the Gangetic

plain—is the heartland of the Hindu religion and contains its most holy shrines. . . .

Do I mean to say that cow love has no effect whatsoever on the cattle sex ratio or on other aspects of the agricultural system? No. What I am saying is that cow love is an active element in a complex, finely articulated material and cultural order. . . .

Since the effective mobilization of all human action depends upon the acceptance of psychologically compelling creeds and doctrines, we have to expect that economic systems will always oscillate under and over their points of optimum efficiency. But the assumption that the whole system can be made to work better simply by attacking its consciousness is naive and dangerous. Major improvements in the present system can be achieved by stabilizing India's human population, and by making more land, water, oxen, and water buffalo available to more people on a more equitable basis. The alternative is to destroy the present system and replace it with a completely new set of demographic, technological, politico-economic, and ideological relationships—a whole new ecosystem. Hinduism is undoubtedly a conservative force, one that makes it more difficult for the "development" experts and "modernizing" agents to destroy the old system and to replace it with a high-energy industrial and agribusiness complex. But if you think that a high-energy industrial and agribusiness complex will necessarily be more "rational" or "efficient" than the system that now exists, forget it.

Contrary to expectations, studies of energy costs and energy yields show that India makes more efficient use of its cattle than the United States does. In Singur district in West Bengal, Dr. Odend'hal discovered that the cattle's gross energetic efficiency, defined as the total of useful calories produced per year divided by the total calories consumed during the same period, was 17 percent. This compares with a gross energetic efficiency of less than 4 percent for American beef cattle raised on Western range land. As Odend'hal says, the relatively high efficiency of the Indian cattle complex comes about not because the animals are particularly productive, but because of scrupulous product utilization by humans: "The villagers are extremely utilitarian and nothing is wasted."

Wastefulness is more a characteristic of modern agribusiness than of traditional peasant economies. Under the new system of automated feed-lot beef production in the United States, for example, cattle manure not only goes unused, but it is allowed to contaminate ground water over wide areas and contributes to the pollution of nearby lakes and streams.

The higher standard of living enjoyed by the industrial nations is not the result of greater productive efficiency, but of an enormously expanded increase in the amount of energy available per person. In 1970 the United States used up the energy equivalent of twelve tons of coal per inhabitant, while the corresponding figure for India was one-fifth ton per inhabitant. The way this energy was expended involved far more energy being wasted per person in the United States than in India. Automobiles and airplanes are faster than oxcarts, but they do not use energy more efficiently. In fact, more calories go up in useless heat and smoke during a single day of traffic jams in the United States than is wasted by all the cows of India during an entire year. The comparison is even less favorable when we consider the fact that the stalled vehicles are burning up irreplaceable reserves of petroleum that it took the earth tens of millions of years to accumulate. If you want to see a real sacred cow, go out and look at the family car.

Review

1. What effects does India's love of cows have on life in that country?
2. What are the negative aspects of India's cow love, according to its critics?
3. What actual functions does cow love serve for the Indian people?

Applications

1. Many Westerners maintain that cow love as practiced in India is irrational, especially considering India's need for more food for the people in times of