symbolic and empirical reality: a new approach to the analysis of food avoidances

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In recent times there have been two major schools of thought regarding the analysis of food taboos or proscriptions. They have been explained by symbolists as systems created for the avoidance of ambiguity and cognitive dissonance (e.g., Douglas 1966); or as vehicles for embodying social ideas metaphorically (e.g., Tambiah 1969); and by utilitarians as lessons learned from the environment (e.g., Harris 1966, 1977). These approaches reflect two conflicting paradigms of anthropological theory which Sahlins (1976) characterizes as culture and practical reason. The former is based on the idea that human action is mediated by cultural design, while the latter conceives the cultural order as a codification of pragmatic action.

Rather than debate the merits of symbolic versus utilitarian approaches, I will assume a multivalent nature of cultural patterns. Their formulations give symbolic coherence to the underlying values and world view of a culture and provide signposts for behavior. Although symbolic systems are never merely reflections of the natural world, within them we may discover biological and ecological codes and models that provide criteria for the simplification of the decision-making process (cf. Lindenbaum 1977; Gladwin 1979).

According to Sahlins (1976:55), the opposition between "meaningful" and "practical" logic can never be compromised since "there is never a true dialogue between silence and discourse: on the one side the natural laws and forces 'independent of man's will' and on the other the sense that groups of men variously give to themselves and their world." While there is a lack of isomorphism between the natural world and the meanings we give to it, the dialogue nevertheless proceeds, with all the insights, delusions, and ambiguities of which dialogues are capable.

Food avoidances have been explained either as fitting into a cognitive system which operates through symbolic logic, or as part of a society's largely unconscious codification of pragmatic strategy. An examination of the Malay humoral system and the concept of bisa *shows that pragmatic and symbolic reasoning are not mutually exclusive. On the most abstract level, the strength of the system comes from its internal logic and coherence; on a middle level of abstraction, it provides metaphors for reasoning and understanding; on the most concrete level—that of direct sensory experience—the system is reinforced by moorings in empirical reality that act as structural supports to the symbolic edifice.* [food avoidances, humoral systems, cultural ecology, symbolism, Malay studies]

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The Malays often couch this dialogue in a "humoral"[1] idiom that reflects a belief in the fourfold elementary nature of being. Malays equate order and balance of these basic elements with health in the universe, in the body politic, and within the human body. Each conceptual domain contains marked and unmarked features that delineate the symbolic form. Elucidating these features aids in discovering how critical points of congruence with empirical observations support a cultural code whose internal logic makes it satisfying on a symbolic level.

In two Malay systems of food avoidance, symbolic logic is reinforced at strategic points by empirical perceptions. This interrelationship of symbolic and empirical logic encourages an integrated approach to the analysis of food avoidances. The first set of food avoidances is a subset of the Malay humoral system. The second involves a concept that is less pervasive but equally important: the concept of *bisa*. My analysis of the Malay humoral system will show the relationship of symbolic and empirical reality within a system similar to those in many other parts of the world. My analysis of the concept of *bisa* will demonstrate in detail how a system of food avoidance can incorporate both the principles of magic and pollution, and biomedical and other practical considerations.

humoral pathology

The Malays, in common with people from many past and present cultures, categorize foods, diseases, and treatments according to intrinsic qualities, which they refer to as "heating" or "cooling" properties. Although temperature may be one consideration used in classification (e.g., heating the beds of women in the puerperium, believed to be in a "cold" state), such a quality is not equivalent to thermal measurements. In the Malay system, humoral qualities of foods are not changed by altering their temperature. Thus, squash hot off the stove is still considered humorally "very cold," while alcohol, even if iced, is still "extremely hot." Since illness is thought to occur when the equilibrium of these opposing elements is disturbed, the practical application of this theory aims at restoration of the body's balance, using foods and treatments that decrease the element in excess and/or increase the deficient humor.

Humoral pathology, versions of which are found in Arabic, Chinese, and Indian Ayurvedic medicine, was part of European medical tradition from before the time of Hippocrates until well into the 17th century A.D. It traveled to the New World with the conquistadores (Foster 1953), and later to the Philippines (Hart 1969). Malaya, an early trading center for travelers from China and India, exchanged medical ideas as well as goods with representatives of these cultures and received a further injection of humoral theory when Arabic medicine came to Southeast Asia along with Islam.

Here the humoral system may have found ready acceptance because it shares a point of resemblance with beliefs of Malayan aborigines that center on childbirth. Their food avoidances are found primarily within the context of pregnancy and the puerperium. After delivery, restrictions are imposed on the mother's diet which may last from ten days, in some groups, until the baby begins to walk, in others (Skeat and Blagden 1906; Bolton 1972; for a complete discussion of food restrictions among the Semai see Dentan 1965). Sakai (Blandas) mothers are forbidden to drink or wash in cold water for ten days following delivery (Skeat and Blagden 1906, II:10). This practice has a direct counterpart in the Malay system, which assumes a new mother is in a "cold" state that must be treated by prescribing warm substances and proscribing cold. The practice of "roasting" the new mother over or beside a fire, common throughout Southeast Asia (Hart, Rajadhon, and Coughlin 1965)

and observed by the aboriginal peoples of Malaya as well as by Muslim Malays (Skeat and Blagden 1906, II:2), is also consonant with the tenets of humoral pathology.

Outside observers have generally considered contemporary humoral systems to be symbolic, or magical, and have explained them in psychological or sociological terms. Burgess and Dean (1962:68) believe that giving "heating" and "cooling" foods to patients is a magical attempt to evade or appease an apparently external threat that is actually a projection of internal stresses. A similar view is taken by Currier (1966:251), who considers this type of system to be a model of social relations—the ideal of balance within the human body echoes the ideal of balance within the social body, and the fear of "cold" diseases is an extension of the child's loss of maternal warmth during weaning.

In contrast, those who believe in the reality of humoral distinctions perceive of them as having an empirical basis. The ultimate criterion informants give for determining whether a substance is "hot" or "cold" is its effect on their bodies. Orso (1970:49) found that when a Costa Rican's experience disagreed with a learned classification, the classification of that substance changed for that individual. Harwood (1971) remarked on this tendency among Puerto Ricans. When South Indians were asked how they would determine the correct category for a new food, they said they would have to eat it regularly for several days to see whether it had heating or cooling effects on their own bodies (Beck 1969:571). In a study largely devoted to the symbolic aspects of shamanistic curing in Mexico, Fabrega and Silver (1973:86) state that humoral beliefs and practices "are virtually the only place in Zinacanteco medicine where notions of cause and effect involving bodily events and processes are linked in a clear and specific manner to illness and to the action of remedies."[11] Despite this strongly empirical aspect of humoral pathology, few investigators have examined the system for possible insights into human ecology (Logan 1972: McCullough 1973; and Lindenbaum 1977 are notable exceptions). Instead, most have criticized it as a barrier to acceptance of hospital-based medicine[2] and as a contributor to ill health, particularly malnutrition (for the Malay case see Siti Hasmah 1968; Chen 1972, 1973, 1974–75; Wilson 1970, 1971, 1973;[3] Wilson, White, Seng, Chong, and McKay 1970; Millis 1958).

variability and the individual

Although many anthropologists are now more interested in variability than consensus of thought and behavior within a population, investigators of humoral systems have been disturbed by their informants' lack of agreement in categorizing food items. In the same community, some people classify an item as "cold," while others call it "neutral" or "hot." Discussions of humoral systems often feature extensive food lists, some merely indicating into which (occasionally contradictory) categories a particular food has been placed (e.g., Hart 1969:79–89), while others show the number of respondents who classified each food differently (e.g., Wilson 1970:286–290). These apparent inconsistencies have been attributed to differing family traditions (Wilson 1970:286) and have been said to lack any systematic basis (Burgess and Dean 1962:34).

The problem, however, is not intrinsic to the data; rather, the problem is created by the investigators' expectations of finding a taxonomy with clear-cut boundaries, a classificatory system in which categories are forever frozen like flies in amber.

Humoral systems are dynamic rather than taxonomic. They not only admit the possibility of variation, they incorporate it into the model.[4] Variability within a system is a hallmark of Malay belief about the essential nature of life. Humoral, and all other, beliefs are subject to alteration and interpretation. Not only are individuals considered to be different from

one another physically and temperamentally, but it is also assumed that people change as they pass through the stages of life, the seasons of the year, and the hours of the day.

Bodies of babies and young children are considered to be colder than those of adults, evidenced by the youngsters' greater tendency toward (generally "cold") stomachaches. Healthy adult bodies are neither "hot" (*panas*) nor "cold" (*sejuk*), but *sederhana* (the proper mean; Wilkinson 1959:1033). Within this norm, women are slightly cooler, men slightly warmer. Old people return to the beginning of the cycle and become colder than normal adults, evidenced by "cold" rheumatic pains.

Just as people are colder in the morning and evening of their lives, so too are they colder in the morning and evening of each day. Thus, it is considered safer to eat "cooling" foods during the late morning, afternoon, and evening than in the early morning or at night. Conversely, if one is taking "hot" medicine, it is wise to take smaller doses around noon, so the essential humoral balance will not be disturbed.

A person's humoral circumstances are also governed by the seasons of the year. On the east coast of Malaysia there are three seasons: the monsoon season (*musim banjir, musim bah,* "the season of floods"; and *musim sejuk,* "the cold season"), the extremely hot, dry season (*musim kemarau,* "the season of drought"), and the months between the two extremes, a period not given a name. During the dry season, when the weather is sometimes unbearably hot, people will eat "extremely cold" foods which they avoid during cooler months. In the chilly monsoon season the diet is reduced to dried salted fish (a "hot" food) and rice (*sederhana,* neither "hot" nor "cold"), with the addition of whatever wild vegetables one is able to gather. High winds and torrential rains make it impossible for fishermen to take their boats out, and few cultivated vegetables are available. None of the wild vegetables falls into the "extremely cold" category; some are considered neutral while others are even "hot." Nature, it seems to the Malays, has made available only foods that will not intensify the unpleasant coldness of the rainy season. By so doing, foolish people—who may desire "very cold" foods such as gourd or papaya—do not have the opportunity to indulge in such harmful practices.

When I first arrived in Malaysia, my neighbors assumed that since I came from a cold climate my body would need vast quantities of "hot" beefsteak to function properly. Rural Malays rarely eat beef, but during the days of British Malaya, they had become aware of the British predilection for beef, which they interpreted humorally. When my first dry season arrived, my assistant suggested that I cut down on animal protein ("hot") and eat a lot of "cooling" fruits and vegetables. Otherwise, he feared, my body, unaccustomed to the heat of the tropics, would quickly dehydrate.

This preliminary discussion points the way to an analysis of the Malay humoral system. First, the importance of balance has been touched upon; second, the dynamic nature of the system has been alluded to; and third, the marked and unmarked features have begun to emerge. *Markedness* refers to the need for specification. A feature that is assumed to be present unless otherwise specified is called *unmarked;* if it needs to be specified it is *marked.* Within the Malay humoral system there is, between the two extremes of hot and cold, a neutral category, which can be designated as the proper mean. This is the unmarked category, the most common and least problematic within each domain. Of the ages of man, the one that lasts longest and is considered the healthiest is also the one that does not have to be specified linguistically. *Orang,* the general term for human being, can be used without modifiers for those who have passed childhood but not yet attained old age. Children, on the other hand, are referred to as *budak,* while old people are called *orang tua.* The least problematic and longest time of the year has no inclusive name whatsoever, while the extremes of cold and wet, hot and dry are specifically named. It is only the marked features that call for attention in terms of action as well as language.

the bodily humors

An integral part of the Malay humoral system is that of the complementary body fluids. Blood is conceived of as the "hot" humor, while phlegm (*lendir*) is the "cold." *Lendir* includes substances Westerners might consider quite diverse. The organizing principle is that of sliminess: the mucus of a runny nose, lymph, semen, egg whites, the viscous matter in okra, certain bananas and other "slimy" fruits and vegetables, and the slime on the skin of certain fish.

Since it is a "cold" element, *lendir* can coagulate within the human body. A *tongkol berlendir* (lump of phlegm) is the term for a "knotted" muscle. Clotting can be helpful, as when *lendir* acts like cement to mend broken bones. However, when it forms clots it causes pain which some lay people call "a spirit eating at you"; in contrast, indigenous medical practitioners (*bomoh*) explain that the pain is caused by the clot of phlegm which stops the flow of blood through the veins. When blood, the "hot" element, does not flow normally and is therefore not present in normal amounts, the area becomes "cold" and the muscles move from their true places.[5] This can result in legaches, backaches, or even pain and paralysis of muscles controlling facial expression (this seems to be Bell's Palsy, which responds to massage, the Malay treatment of preference). Massage breaks up the clots of *lendir,* allowing the blood to flow freely once more.

Malays consider blood to be so "hot" that it cannot clot within the body, though it can do so when it comes into contact with cold air. Changes in body temperature, however, can affect the speed of blood flow. A "hot" illness produces a rapid pulse and a "cold" condition a slow pulse, since cold thickens the blood. Some people develop abnormally "hot" blood, either because of an illness that causes the blood to become "dirty" (for instance *sembap,* characterized by edema) or because of *darah tinggi* (literally, "high blood"). Since "overheated" blood is thought to rush to the head, considered normally "hotter" than the rest of the body, causing dimmed vision, headache, dizziness, and faintness, it may be possible to ease this condition by draining off some of the "dirty" or excess blood by means of cupping. Since bloodletting does, in fact, temporarily relieve the symptoms of severe hypertension[6] (and was the preferred treatment in Western medicine until modern times), the success of the therapy reinforces belief in the humoral system (cf. Harwood 1971:1156).

In similar humoral systems in Latin America, pregnant women are believed to be "hotter" than normal (Fabrega 1974:239). This concept is unknown to Malays and would not be congruent with their beliefs about conception and gestation, as heat is considered antithetical to the formation and development of the fetus; in fact, attempts at abortion usually include ingesting some "hot" substance. Conception is thought to take place only on those days when the bodies of both the prospective parents are "cooler" than usual. After childbirth, a woman enters a "cold" state because she has lost some of her blood; the loss is due to the many internal lacerations which Malays believe result from the birth process.

This postpartum "cold" state is physiological as well as symbolic, a fact illustrated by a manual written for American nursing students (Anderson, Camacho, and Stark 1974:246):

> During this first critical hour of the fourth stage of labor [immediately following delivery], the mother may experience a shaking chill. This reaction does not commonly result in an elevation of body temperature nor is it associated with any type of infection. The mother should be covered with a warmed blanket and, if alert, can at this time be given warm tea.

That this physiologically cold period is transient and does not last for the 40-day postpartum period is no more prejudicial to belief in the humoral system than the fact that bloodletting only relieves the symptoms of hypertension temporarily. Immediate empirical

observations suffice to support the symbolic logic of the humoral system by giving "proof" of its validity.

the humors and diet

Like adherents of humoral systems in other cultures, Malays claim that they use their own bodies as the ultimate criterion for categorizing food. In a survey of humoral beliefs in two east coast villages ($n = 61$), 62 percent, or 38 individuals, said they could feel the effects of eating "hot" and "cold" foods. Twenty-five percent, or 15 individuals, said they themselves could feel only extremes of humoral temperature and relied on older or more sensitive people to judge less obvious foods. Thirteen percent, or 8 individuals, said that they never concerned themselves with such matters since they were exceptionally healthy no matter what they ate.

I postponed this survey for more than a year since I was convinced that simply asking people how they would classify individual food items would yield nothing more fruitful than the usual mystifying, contradictory charts. I hoped, rather, to be able to formulate questions that might uncover the basic underlying criteria Malays use for classificatory decisions—criteria on the surface of consciousness as well as those drawn out by elicitation. I had already collected a good deal of food-related data, to which I added information drawn from long discussions with three key informants, two male (my assistant and an indigenous medical practitioner) and one female (a neighbor respected for her knowledge of cooking and the use of wild plants, both edible and medicinal). I conferred with each separately, asking about individual foods and searching for possible organizing principles. They had never had any previous reason to think analytically about this topic but they were quick to agree or disagree with my tries at formulations. The questions I eventually used in the survey were phrased with their help and approval.

Some of my questions grew out of situational comments regarding foods. Since I was present at many births, I often heard women discussing which foods were advisable and which were inadvisable for a mother to eat after delivery. Coffee was all right to drink because it was "hot," tea was not since it was "cold." Upon inquiry, I was told that the difference between these two beverages, both of which were served thermally hot, was that coffee is bitter and tea is *kelat*.[7] By listing all bitter and all *kelat* foods and inquiring about the humoral qualities of each, I discovered that everything bitter is "hot" and everything *kelat* "cold."

Other questions were derived from humoral comments not associated with foods. When one of my neighbors gashed his leg, he was taken to the seaside to bathe it. The "heat" of the water would dry up the blood, I was told. What is there about seawater that makes it "hotter" than regular water? The salt, of course. Are the fish that live in the sea "hot"? No, they are *sederhana* (the proper mean); but if you add salt and dry them they become "hot."

Still other questions arose from those positions in which key informants placed certain foods along a hot-cold continuum. Some of the groupings appeared to have an obvious relationship, while other relationships were incomprehensible. Of the first sort, fats and fatty foods had been grouped as "hot." But what did beans, cucumbers, gourds, and sweet potatoes have in common? To me the connection was unclear, to my informants it was obvious—they are all creepers and climbers (*berjalar*).

All of my informants agreed, moreover, that while most bananas were *sederhana*, some were definitely "cold." Was it because some were eaten raw while others were cooked? No, I was told, it was because some are *berlendir* (slimy). This, then, helped to explain why okra and other viscous plants are classified as "cold."

Some of my attempted formulations were rejected, i.e., that orange or yellow plants were "hotter" than green plants; roots and tubers away from sunlight were "colder" than leaves and fruits exposed to the sun.

The questions employed in the survey were phrased neutrally: Are bitter foods "hot," "cold," or *sederhana*? They contained both concepts derived in the above manner and other distinctions invented by me as checks on my key informants (e.g., "Are wild plants "hot," "cold" or *sederhana*?). The differences in response to the agreed-upon questions and the checks were striking—all agreed that salt and salty fish were "hot," the majority (82 percent) agreed that creepers and climbers are "cold," that viscous foods are "cold" (68 percent), and that bitter foods are "hot" (68 percent). In contrast, only 8 percent believed that all fruits are "cold" and none believed that all wild plants could be placed en masse in any category. When they were confronted by a noncategory (i.e., wild plants, or all plants that do not creep or climb), people usually insisted on explaining that some of the items were "hot" while others were "cold."

Besides asking questions about groupings, I asked about individual items. Explanations were often volunteered when foods that conceptually should have been in one category appeared in another; if explanations were not offered, they were elicited. My final questions were: "How do you know whether foods are "hot," "cold," or *sederhana*? What happens if a healthy person eats a lot of "cold" foods? If a sick person does? What happens if a healthy person eats a lot of "hot" foods? If a sick person does? Does mixing "hot" and "cold" foods change their qualities? Does cooking?

Here are the results.

hot foods 1. Fats, both animal and vegetable, are considered "hot" because they satiate the appetite quickly and give the eater a feeling of well-being.[8] Durian, which has a higher fat content than any other fruit (except avocado, unknown on the east coast of Malaysia), is considered extremely "hot." Malays claim that overeating durian can produce fever in susceptible individuals. I, myself, felt warm after eating durian, possibly for a reason unknown to my informants. Studies at the Institute for Medical Research in Kuala Lumpur showed that durian's final chemical breakdown products are similar to those of alcohol (Wilson 1970:48).

2. Alcohol is "hot." Although Islamic religious law forbids the drinking of alcoholic beverages, Malays eat a mildy alcoholic dish called *tapai,* made from either fermented cassava root or glutinous rice prepared with yeast. *Tapai* is considered "very hot."

3. Spices in general are "hot." Malays have one term for thermal and humoral heat (*panas*) and another for spiciness (*pedas*). Spices are both *pedas* and *panas* since eating them produces heat in the mouth and perspiration on the skin, physiological "proof" of humoral doctrine.

4. Animal proteins, including eggs and milk but excluding fresh fish, are "hot".[9] Like fats, they produce satiety and well-being. However, the categorization of milk as "hot" is also backed up by humoral logic. If milk were "cold" it would give babies, whose bodies are "colder" than those of adults, a stomachache (a "cold" ailment). Since milk is good for babies, it must be at least "warm."

5. Salty foods are "hot." The designation applies to dried salted fish, one of the mainstays of the diet. It also refers, by extension, to plants that grow near the seaside and become "hot" due to the influence of the salty sea. One criterion for inclusion in this category is the effect of salty foods on people who have abnormally "hot" blood: they suffer headache, dizziness, and dimmed vision, all of which are symptoms of excessive heat rising to the head. Another criterion is the association with salty blood, the "hot" bodily fluid.

6. Bitter foods are "hot." The rationale appears to rest on two major considerations. First, a bitter wild herb (*lapeng budak—Clarodendron sp. Fam. Verbenaceae*) is used as the sovereign remedy for constipation. Malays believe that the herb's "heat" softens hard stools. Second, an infusion of bitter roots (*akar kayu*) is an important part of the Malay pharmacopoeia, used as a general tonic and especially important for women during the reproductive cycle. Most new mothers drink *akar kayu* since it is believed to restore body heat depleted during delivery by blood loss. Pregnant women avoid *akar kayu,* since heat is considered antithetical to the fetus. Following the same reasoning, women who are trying to abort drink *akar kayu.* If a particular vegetable is bitter at one stage in its growth it is "hot" during that stage, but not necessarily at any other. The same particularity applies to parts of plants: only those parts that taste bitter are "hot." The rest of the plant may be categorized differently.

"cold" foods 1. Juicy fruits and vegetables are "cold," as are fruits and vegetables that need a great deal of water for growth. The rationale is the close relationship of wet to cold. This is seen more clearly in the case of jungle vegetation, also usually classified as "cold." Contrary to the expectations of those who have never experienced jungle ambience, the exudation of the rain forest is cool and wet.

2. Fruits and vegetables, such as okra and certain varieties of plantain which exude viscous matter (*lendir*), are "cold" by association with phlegm (*lendir*), the "cold" body humor.

3. Sour fruits and vegetables are thought to be "cold" because many pregnant women crave sour foods and eat them without harm. Malays reason that if these foods were "hot" they would precipitate abortions since everything the mother eats finds its way to the fetus.

4. Plants that taste *kelat* are "cold" (again, see note 7). Thus, tea is "cold" while coffee, which is bitter, is "hot." Several types of leaves used for fever-lowering poultices are *kelat* themselves or come from a plant whose fruit is *kelat*. Classification of these plants as "cold" rests on their ability to relieve a "hot" illness.

5. Vines, creepers, and climbers tend to be "cold." Although the Malay language does not include rules for gender, Malays categorize some natural objects, such as anthills, dew, brine, and gravel, as male or female—the big, tall, or pointed being male, while the short, squat, or clinging are female. As "feminine" plants, vines and creepers partake of the naturally "colder" female quality.

When I asked people to classify individual items, most stayed close to these patterns. For the minority who relied on other people's classifications, variation may well be a function of informal education based upon differing family traditions, i.e., someone whose mother classified a food in an unexpected category because it gave her digestive problems may continue to classify that food in the same way, even though it did not produce that effect on him. The usual reason, however, for classifying an item in an unexpected category was its effect on the person doing the classifying. For instance, one man told me that although everyone else said *lapeng budak* is "hot" since it relieves constipation, he would not classify it as "hot" since it did not produce the same result for him. By the same token, although the majority classified taro as "cold," people who could eat large amounts without getting stomachaches classified it as neutral (*sederhana*).

neutral (unmarked) foods Less than one-fourth of my informants classified foods only as "hot" or "cold." The rest recognized a sometimes extensive category which, for them, was neutral. *Sederhana* foods can be eaten with no danger. Even for most who recognized only a simple dichotomy, two items—rice and fresh fish—stood outside the humoral system. They are neither "hot" nor "cold"—within the domain of food they are unmarked.

Malays conceive of their foods hierarchically: rice is necessary for survival, animal proteins (for all practical purposes, fish) are necessary for strength, vegetables are simply additives to improve the taste of rice, and fruits are "pleasant things to keep the mouth busy" (Wolff 1965:50; see also Laderman 1979:62–104).[10] The only items considered essential are rice and fish. The Malay gloss for "to eat a meal" is *makan nasi* (literally, "to eat rice"). Even when peole knew that my breakfast had consisted of coffee and wheat cakes, they referred to the meal as *makan nasi. Lauk,* the generic term for side dishes served with rice, is also used, unmodified, to mean fish. In some parts of Malaysia, the cry of the fish-sellers is "*Lauk*" (Wilkinson 1959, II:661). My language teacher in Kuala Lumpur translated *lauk* as "the fish that is served with rice." I learned later that the term can cover a multitude of other items, with appropriate modifications.

"Hot" and "cold" foods, the marked features of this domain, are considered nonessential to the daily diet. They may injure some people's health consistently and, even in the case of normal people with transient illnesses, must occasionally be cut out of the diet or eaten in reduced quantities. Marked themselves, they are associated with marked features in another domain. Good health, assumed to be present unless otherwise specified, is unmarked, while deviations are marked. Rice is never removed from the diet. Sick people are encouraged to eat rice; indeed, a sign of returning health is an improvement in appetite sufficient for the patient to consume the large plate of rice most Malays eat at least twice daily. Fish soup is considered to be very strengthening for invalids. Classifying rice and fresh fish as either "hot" or "cold" would be destructive to the internal logic of Malay belief, as well as to health.

regulating the daily diet Although most Malays have definite ideas about the intrinsic "heat" of their daily food, few actually regulate their diets on the basis of humoral principles. Normal adults whose bodies are balanced between humoral extremes do not have to concern themselves with dietary adjustments. With few exceptions, informants said that mixing "hot" and "cold" foods will produce the proper mean. They do not, however, refer to this concept as a guiding force when choosing foods. They feel that simply eating a normal diet will ensure proper humoral balance; but if balance is lacking in a given meal, most people will still experience no difficulty. On the whole, it is only those whose bodies congenitally deviate from the norm—either to the "hot" or "cold" polarity—who eliminate or cut down on foods in their daily diets. Markedness in the humoral system is bipolar: hot (+) and cold (−). A person who is already unbalanced toward either polarity will be wary of eating foods that will cause further imbalance.

Most people I questioned agreed that some individuals experience digestive problems because of eating large amounts of "cold" foods. Since most of these foods are fruits and vegetables containing residues of indigestible cellulose, hemicellulose, and lignin ("roughage"), one would expect that large amounts would irritate some peoples' digestive tracts while leaving others unscathed. In a humoral system, it makes sense to call the former "colder" than normal and to expect that their lists of "cold" foods will be more extensive than those of "warmer" people. Malays say, however, that even a normal person cannot live for long periods of time only on large quantities of "cold" foods, because he will eventually become weak. Since neither animal proteins nor fats are "cold," we can assume that an entirely "cold" diet may lack complete proteins, concentrated food energy, and fat-soluble vitamins. It would not be surprising to find that such a diet causes a lack of energy.

"Hot" foods, I was told, make one feel satiated and healthy. Since many of these are fatty (providing nine calories per gram, compared to four calories per gram for carbohydrates) and contain animal proteins (with a full complement of essential amino acids), one might

expect this effect. Some people, however, whose "high" blood has already unbalanced their systems toward the "hot" polarity, cannot eat large quantities of "hot" food without suffering headaches, dizziness, and blurred vision. All of these symptoms can be indicative of hypertension, a condition aggravated by ingestion of large quantities of sodium. Salted fish, a "hot" food, might well bring on these symptoms.[11]

When I was collecting foods to be analyzed chemically at the Institute for Medical Research in Kuala Lumpur, most of my informants assumed that a laboratory analysis would reveal the foods' humoral qualities as well as their nutritive content. The Institute staff considered this an amusing conceit, yet a study in India has shown that laboratory tests may indeed offer insights into humoral systems. Ramanamurthy (1969) put four individuals on "hot" diets (according to Indian humoral conceptions) for ten days and then on "cold" diets for the same length of time. Subjective feelings reported during the "hot" diet were burning eyes, burning urination, and a general feeling of warmth in the body. Analyses of urine and feces showed that while subjects were on the "hot" diet they displayed higher urine acidity and sulfur excretion and lower retention of nitrogen, although analyses of the diets for sulphur and nitrogen content did not show any significant differences.[12]

the humors and illness

Illnesses are classified by the following criteria, all of which interpret empirical evidence in the light of humoral reasoning.

1. *External heat.* Some "hot" illnesses, such as fevers and boils, make the patient feel hot to the touch.

2. *Internal heat.* Other "hot" ailments make the patient feel internally hot or experience burning sensations (e.g., sore throat and heartburn).

3. *Imitation of people's reactions to atmospheric temperatures.* Malaria, which is characterized by violent chills and shudders, is called "cold fever" (*demam sejuk*).

4. *Visible signs.* A bloody nose is an obvious sign that the "hot" element has become overheated and boiled over. Clotted phlegm indicates that the "cold" element has become still colder.

5. *Deficiency or excess of one of the body humors, deduced from internal evidence.* Anemia is "cold" since its sufferers are lacking in blood, the "hot" humor. Vertigo and hypertension are "hot" conditions, since an excess of blood is presumed to have gone to the head, overheating it.

6. *Pulse reading.* A fast pulse denotes "heat," since its speed is due to the rate at which the blood travels through the veins. A slow pulse is a sign that inner "cold" has thickened the blood, making it sluggish.

7. *Behavioral considerations.* Some forms of madness, characterized by violent behavior, are thought to occur when the head becomes overheated. Angry behavior, whether indulged in by the mad or the sane, is called *panas hati* (hot-livered), since the liver is considered to be the seat of emotions. A person quick to anger has a "hot" liver, as well as being hot-headed.

8. *Response to treatments.* If illnesses respond to treatments classified as "hot" or "cold," this shows that these illnesses have the opposite humoral quality. Asthma is "cold" since it responds to heat therapies such as steam inhalation; heatstroke, which responds to cold water applied internally and externally, is thereby "hot."

9. *In reference to other humoral criteria.* Since rheumatism is most often found in old people (humorally "colder" than younger adults) it is classified as "cold."

The Malay humoral system thus provides logical and empirically observable criteria for the classification of many disease states.[13]

of time and the weather Illnesses can be attributed to humoral variations related to changes of time and weather. A rise in the prevalence of upper respiratory and gastrointestinal diseases is noted when the seasons change and there is a significant rise or fall in the mean temperature. Malays say this happens because some people's bodies do not adjust quickly, leaving their inner temperature out of harmony with the outside world. Changes of season are interstitial times as well, neither exactly one thing nor another. People are thought to be particularly vulnerable to illness during such times.

Dangerously ambiguous times also occur daily, and cautious people guard against sudden changes in body temperature by not bathing at dawn (when night is changing into morning), at noon (when it is no longer morning, but not yet afternoon), and at dusk (when day is giving way to night). These are thought to be the hours when spirit activity is at its height. Since spirits successfully attack only those whose vitality has been lowered, or whose vital life force (*semangat*) has been startled, subjecting one's body to the shock of cold well-water would be imprudent. Similarly, people do not bathe immediately upon returning home after working in the hot sun, but wait until their bodies have cooled down.[14]

Ambiguous weather conditions can be potentially dangerous to health. Rain is associated with cold and sunshine with heat; so, when a sun-shower occurs, the regularity and harmony of nature have been disturbed and may intensify disharmony within the human body. While healthy adults may not suffer ill effects from *hujan panas* (literally, "hot rain"; the Malay term for sun-shower), mothers fear that the unnatural heat may cause fever in a sickly child.

The pattern of marked and unmarked features in Malay cognitive domains is now becoming clearer. Interstitial, ambiguous times, seasons, and weather conditions (marked features) are not dangerous per se; they are only dangerous to people who are themselves in marked states. People who become ill when the seasons change are those whose bodies are not in humoral balance; those who work in the hot sun find their humoral balance temporarily skewed from the unmarked norm to the hot polarity; healthy adults have little to fear from sun-showers, but sickly children, who are doubly marked—by age and ill health—cannot afford to be exposed to a marked feature from the domain of weather.

humoral treatments Many conditions are thought by Malays to respond, negatively or positively, to ingestion of foods. The types of foods that should be avoided are common knowledge, reinforced or amended by consultation with indigenous specialists.

For a "hot" fever, it is wise to omit very "hot" foods, which will drive the fever still higher, and very "cold" foods, which would make the body ache. For a "cold" sickness, including many gastrointestinal conditions, Malays advise limiting the diet to rice, fish, and fish soup.

Some medical treatments can be classified on the basis of external criteria, such as the thermal temperature they employ therapeutically. Others are classified by conditions they treat, or by association with foods.

Asthma, a "cold" condition, is treated by applying heat in as many ways as possible. A sufferer is encouraged to lie near a fire, drink coffee (both thermally and humorally hot), eat "hot" foods, and take "hot" medicines. One such medicine employs water buffalo meat, a "hot" food made still hotter by exposing it to a swarm of *kerengga* (*Oecophylla smaragdina*, red ants), whose painful bite leaves a raised inflammation. As they walk over the meat and eat bits of it, they leave behind small amounts of urine and saliva which give the meat a strong taste. To insure that it loses none of its "heat," the meat is cooked over

direct heat instead of boiling it in water, an intrinsically "cold" element. The "hot" taste of the "hot" meat, combined with the memory of the *kerengga's* "hot" bite, make this a potent remedy to balance the "cold" of asthma.

A fever may be eased by the application of a cooling poultice of soursop leaves (*Annona muricata*). Many people place sticking plasters treated with menthol on their foreheads for headaches and fever (both "hot" conditions). Bathing with water into which lime juice has been squeezed is a common treatment for headaches and dizziness, thought to be symptomatic of "heat" concentration in the head. All of these treatments actually do provide a feeling of coolness.

Other medicines are classified as "cold" because they taste *kelat,* one of the criteria for "coldness" in foods. Still others are classified by their association with "hot" or "cold" substances. A father told me that the proper medicine for a baby with weeping eczema ("hot") was the gratings of soft stones from the cold riverbed rubbed on the baby's skin. Conversely, a man with a gaping wound in his leg bathed it in seawater, since the "heat" of the salty water would dry up the blood and encourage healing.[15]

Aspirins are "cold" since they reduce a high fever and can even be used as an antidote for medicine that has proven itself too "hot." My assistant took an antihistamine for a runny nose and later asked for aspirin, saying the antihistamine had been so "hot" it had not only dried up his nose but his mouth and throat as well.

One of the treatments believed to be most effective for "hot" conditions was only part of local legend until I arrived. One day, after treating a neighbor's child for a spirit-induced illness, a *bomoh* (indigenous medical practitioner) came to my house to ask for an aspirin to ease his (naturally caused) headache. During the course of his visit, he noticed a still-life setup that my husband was painting. His eye was caught by a stone egg, which looked exactly like a real hen's egg. He had heard many times of stone eggs, which people of ancient times were supposed to have found in the hills, but he had never seen one. He offered to teach me some of his art in return for the egg. Before I left Malaysia I supplied many of the *bomoh* with stone eggs from China and Italy. I was told that they could be used not only for very high fevers, but also for poisoning and lockjaw, both extremely "hot" conditions. Some *bomoh* dipped the eggs in water to make the water "colder" (others grated infinitesimal bits of the eggs, mixed them with "cold" grated roots, and added the mixture to water), and then used it to wash the patient's head, where the heat was most concentrated. Since it was new to their armamentarium, the *bomoh* undertook a great deal of experimentation to see what conditions might be helped by a stone egg.

Although many Malay medicines can be classified as either "hot" or "cold," none is as "hot" as some of the medicines dispensed at the hospital, the "hottest" of which is a shot of penicillin. The idea that many hospital drugs are "hotter" than indigenous varieties leads Malays to believe that they are therefore quicker and more effective. One must take special precautions, however, when being treated with hospital drugs. Since they may be extremely "hot," it is important, while taking them, to avoid foods which are also extremely "hot." Within days of my arrival I was told to avoid eating cassava root and durian when taking hospital-type drugs lest I suffer the consequences of overheating: headaches, dizziness, nausea, and blurred vision.

With some illnesses, the consequences of taking hospital drugs are believed to be much more serious. Measles cannot be treated with hospital medicine as the heat of the drugs will cause the disease to turn inward on the patient and make him very ill.[16] Even the village schoolteachers felt it was better to have the *bomoh* treat their children's measles with spells and "cold" remedies than to rely on clinic or hospital physicians. When the rash of measles appears on the skin, it signals the exit of "heat" from the patient's body.

Buah and *barah,* two stomach conditions conceived of as internal abcesses, cannot be

treated with "hot" hospital drugs, since the combined "heat" of the disease and medication can cause death.

Very high fevers can become even more dangerous if treated with "hot" medicine. One young man was considered to have gone mad as a result of this intense heat, which had reached his brain and caused him to become *panas* (angry and violent, as well as humorally and thermally hot). He was taken to a *bomoh,* who gave him "cold" medicine and recited incantations. This treatment calmed him down (caused him to become less *panas*), so that he was no longer violent, but neither was he entirely normal in his behavior. People said his brain had been permanently burned out. As one often cannot know which of many hospital drugs will be used and whether they are "hot" or "cold," many people feel it is better not to take a chance.

Not all humoral treatments simply provide the patient with the opposite of the humoral quality of his illness. Sometimes, when the heat of the condition is not too strong, it is advisable to give "hot" medicines, following a fire-eat-fire theory. Frequently medicines are mixed, providing "hot" and "cold" substances in one dose to make the mixture the right "temperature" for the illness.

Just as there are illnesses that stand outside the humoral system, there are medicines that are neither "hot" nor "cold." In fact, *bomoh* have told me that humoral classification of many medicines is ex post facto in relation to the ailments they cure. The important thing about treatments, they assert, is not their humoral quality but whether or not they work.[17]

extensions of the Malay humoral system

Malay humoral thought reaches far beyond the everyday concerns of diet, sickness, and treatment. Land, water, and metals are classified humorally. Sandy soil, found near the salty sea, is the "hottest"; rich, muddy soil is "colder"; clay is the "coldest." Among the metals, gold and copper are the "hottest," followed by iron, silver, and tungsten; tin is the "coldest." Inland regions are said to be colder than areas near shore, due to the cold air which people claim can be felt rising from the tin deposits underground, and the lack of warming properties that the salt air imparts to breezes blowing over the ocean. Ocean water, since it is salty, is the "hottest" naturally occurring water, followed by river and well water. Rain water is "colder," except for sun-showers, which are unnaturally "hot." Dew is "coldest": staying out in the dew can lead to "cold" fevers.

People living in inland regions are known to suffer more often from "cold fevers" (malaria) than those on the seaside. Malaria is now found primarily in edge areas near the jungle. In my parish, the only cases were in the hamlet closest to the jungle and furthest from the sea. The most important vector, *Anopheles maculatus,* is a night feeder, shy of human habitation, whose feeding peaks about midnight (Sandosham 1959:144). Those who stay out when the dew is on the ground, especially in inland regions, may well fall victim to its bite. Empirical observation, here again, reinforces the symbolic system.

spirits, divination, and exorcism Humoral concerns permeate Malay theory regarding the nature of spirits (*hantu*), their influence on human well-being, and methods of divination and treatment. The *hantu* were created when the Archangel Gabriel allowed God's breath to escape while carrying it to the still lifeless body of Adam. Having no body to enter, the Breath of Life became a race of bodyless spirits composed of superheated air. The *hantu* lack the balance provided by the earth and water of which the original human body was made. They are our older siblings, who resent the unequal inheritance lavished upon the children of Adam, and they occasionally find ways to vent their spleens by mak-

ing their younger siblings ill—most commonly by blowing their superheated breath on human backs, upsetting the victim's humoral balance and bringing on disease.

This view of supernaturally caused illness is congruent both with the medieval Arabian view, which characterized fever as "an exhalation of Hell" (Browne 1921) and with aboriginal Malay exorcisms: "Be cold what was hot, be cold and cool" (Skeat and Blagden 1906, I:695), and "Let go the demons and the devils that dwell within this flesh and sinews and let the hot grow cold" (Skeat and Blagden 1906, II:296). One of the meanings of *panas* (heat) is "unholy," particularly in reference to black magic (*ilmu panas*). Treatment for supernaturally induced illness involves restoring the natural balance of the elements by removing excess fire and air and increasing earth and water, but it does not involve dietary changes.

Before proceeding with the treatment, it is sometimes necessary to divine both cause and prognosis. This can be done by several methods, two of which are basically humoral. The first employs rice popped by dry heat. In the course of the healing ceremony, the shaman places handfuls of the popped rice on a pillow and counts out the grains in pairs, two each for earth, air, fire, and water. If the count ends on earth, it might point to a "cold" illness, or one caused by the spirits of the earth, or a particularly tenacious ailment. If it falls on fire, it might signify that the patient has incurred someone's hot wrath, whether human or genie, or it might simply mean that the condition was "hot." The shaman usually knows a good deal about the patient and the circumstances surrounding his difficulties before he begins, and the many possible meanings for each category give him considerable leeway in diagnosis and prognosis.

Popped rice is also used to attract spirits to the seance, since the dry heat makes it humorally congruent with the *hantu*. It is used in conjunction with incense—heat and air whose smell is pleasing to the spirits. On the other hand, plain rice, the fruit of the irrigated earth, repels *hantu*.

Another method of divination is reading the flame of a beeswax candle. No other type of candle can be substituted. The bee partakes of the *hantu*'s unholy "heat" (as does honey, used only medicinally). Found in the jungle, beyond human control (at least on the east coast of Malaysia), and commanding a remarkably "hot" sting, bees are called the friends of the *hantu*.

The *bomoh* has several methods of increasing the "cold" and wet elements of the patient's body. Spells are recited with the patient's back to the healer. At strategic times during the recitation the *bomoh* blows on his patient's back. His breath, "cooled" by the incantation, counteracts the "hot" breath of the *hantu*. *Bomoh* frequently prescribe that the patient drink and bathe in magically treated water and lime juice, already "cold" and wet by their nature and made "colder" still by the *bomoh*'s breath. Another powerful balancer is the rice paste used in many magical ceremonies. Made of rice—the quintessential fruit of the earth—which has been ground and mixed with water, the cold and wet properties of this paste are used to balance the excess fire and air of the *hantu*.

But the victim of a spirit attack becomes ill not only because the normal harmony within his body has been disrupted, but also because things are out of place in the universe. Spirits should remain within their own domain and not encroach upon the world of the spirit made flesh. Besides restoring the balance of elements within the patient's body, the *bomoh* must exorcize the afflicting spirit and restore order in the universe. The *bomoh*'s exorcism ends by exhorting the spirits to return to their place so that peace and health can once again reign in the universe and within Man, the universe in microcosm.

***sakit berangin*—the sickness of frustration** Many of the illnesses treated by shamans, while conforming to a humoral model, are believed to be caused neither by spirits nor by

the types of impersonal systemic causes previously discussed. These illnesses, called *sakit berangin* (wind sickness), are not caused by the wind that blows through the trees or by a magical wind sent by human or nonhuman enemies. Within the context of the shamanistic curing ceremony (*Main Peteri*), this is the wind that blows through the heart, an airy component of the four elements. *Angin* (wind or air) in this context is similar to temperament in medieval Europe. People are composed of earth, air, fire, and water, but all the elements are not necessarily present in equal amounts. Those with more fire are quicker to anger than those with a preponderance of earth or water. People with an overabundance of air are more susceptible to *sakit berangin*.

We all possess *angin*—inherited characters, talents, and desires—but some have more, or stronger *angin*. If such people can express their *angin*, they will lead untroubled lives; and, in fact, they may be among the community's most respected people by virtue of their strong and gifted characters. If they cannot express themselves adequately, their *angin* gets shut up within them and may cause illness. A midwife or *bomoh* who is not popular can suffer from *sakit berangin*, as can a person who longs without success to act in the Malay opera, or even a masseur who does not have a steady call on his services. The most prevalent type, *Angin Dewa Muda* (Young God), results when the desire to be attractive, pampered, and admired is frustrated. According to *bomoh*, many people have inherited this *angin*, but few can satisfy it fully. Symptoms of *sakit berangin* are similar to those in our own category of psychosomatic disorders: backaches, headaches, digestive problems, dizziness, asthma, depression, and general malaise.

Malays believe that when *angin* builds up within the body, it destroys the balance of the four elements of which the world is made. The treatment of choice for *sakit berangin* is to put the patient in trance, allowing him to behave in ways that might ordinarily result in public censure. Patients in trance laugh and cry, dance in the manner of the Malay opera (if that is their *angin*), attempt to contact a spirit (if they have the unsatisfied *angin* of a *bomoh*), or flirt with the shaman (Laderman 1980). Acting out one's desires in an approved setting allows excess *angin* to escape from the body so that balance, and with it, health, can be restored. Since the etiologies of *sakit berangin* and spirit-induced illnesses are understood as not proceeding directly from the body, there are no accompanying food beliefs, avoidances, or prescriptions.

markedness of person, role, and language Excessive heat as a metaphor for baleful influences extends beyond concerns for individual health to the health of the body politic. The successful rule of a Malay sultan is harmonious—the heat of war will not destroy the nation, the heat of anger will not cause internal dissension, and the heat of nature will not destroy the crops. Historically, the Malay ruler was considered to be as intimately connected to the unseen world and its control, on a national level, as the *bomoh* on an individual level (for a discussion of the political symbolism of Malay healing see Kessler 1977). State shamans were of royal descent, frequently brothers of the ruling sultan. The ruler himself kept familiar spirits. On important occasions within the last century sultans have officiated as shamans in seances of national importance (Winstedt 1951:9–11; Endicott 1970:94). The name and authority of the sultan is still invoked by villagers (without his permission) when confronted by a spirit whose power cannot be challenged by any lesser personage. The hamlet in which I lived was nicknamed Feverville (*Kampung Demam*) because of the high incidence of fevers. A *bomoh* divined that they were due to one of the Great Spirits who lived in a large tree in the middle of the hamlet. The only way to get rid of these fevers was to cut down the tree, thus depriving the *Hantu Raya* of his home. This, however, was very dangerous since the *Hantu* was bound to resent their actions and take revenge. The solution was to counterfeit a letter from the Sultan of Trengganu ordering the

villagers to cut down the tree and, in effect, giving the spirit his eviction notice. This letter, along with another, signed by the village headman, was placed in the crotch of the tree. The second letter explained that none of this was the fault of the people: they were only following orders.

The power of the Malay ruler to keep or restore peace and harmony within his kingdom rests, metaphorically, in his ability to provide the "coolness" that balances the destructive heat threatening the body politic. Within his own person, the successful sultan embodies this coolness, made explicit by such expressions as *Perentah-nya sejok* (usually translated as "His rule was full of benign influences," but literally meaning "His rule was cold"; Zainal-Abidin bin Ahmad 1947:43).

The ruler, the *bomoh,* and the ordinary man correspond to descending orders of markedness, both in their control over the forces of "heat" and in the language associated with them. Since the ruler embodies "cooling" balance and control, and is in every respect an uncommon person, the language used to him, by him, and in reference to him is always the marked form. Ordinary people eat (*makan*), sleep (*tidur*), and die (*mati*). The ruler does none of these: he never eats, he regales himself (*bersantap*); disdaining sleep, he reposes (*beradu*); he does not die, he is wafted aloft (*mangkat*). Royal words are never used by commoners to refer to themselves. Indeed, in earlier times use of the royal personal pronoun by a commoner was a criminal offense (Wilkinson 1959, I:132).

The *bomoh* is marked in his role rather than in his person. When not acting in his professional capacity, his speech is the ordinary language of everyday village life. In his role as master of spirits who, by virtue of his "cooling" remedies can nullify destructive heat, he uses those marked forms which identify his language as ritual speech. He does not recite (*baca*) his spells, he incants them (*bangkit*); his words do not call (*panggil*) spirits, they summon (*aboh*). Just as the language of royalty is never employed toward common people, so, too, the language of ritual is reserved only for encounters with the spirits.

The common man is marked neither in his person nor in his role, but can enter into a marked state with his prayers. The language of Malay prayer is not marked in the same manner as royal or ritual languages, which build their differences from the ordinary upon a base of everyday Malay. Prayer is offered in Arabic, the holy language of Islam, whose words are learned by rote. Village Malays understand their prayers in a general way, but cannot tell you what any particular word means. Recitation of the "blessed cooling prayer" (Zainal-Abidin bin Ahmad 1947:43) takes the ordinary man out of the confines of profane existence and places him in the realm of the sacred. For the moment, he shares the "cool" polarity with the *bomoh* and the sultan and can be a force for universal harmony by balancing spiritual "heat."

the concept of *bisa*

Less pervasive than the Malay humoral system, but even more important within its narrow range, is the concept of *bisa*. Like the humoral system, it is strengthened by observable phenomena which, by their force, carry along the belief system as a whole.

Wilkinson's (1959, I:145) definition of *bisa* is "blood-poison, anything that gives a septic wound, venomous. Of the stings of hornets, scorpions and centipedes; the bites of snakes, the poison used on darts; the septic nature of bites of tigers and crocodiles; and of wounds from krisses of laminated steel." This definition is accurate as far as it goes, but it leaves out the core meaning of the term and neglects, as well, its most common usage.

Malays refer to magical power, whether used for good or evil, as *bisa*. The words of the *bomoh,* neutral when he is not speaking in his professional capacity, become *bisa* when he

recites an incantation. The words of the sultan are always *bisa* to his subjects. The inclusive meaning of *bisa* carries the connotation of power. There is no value judgment concerning the venomous nature of this power: the *bomoh*'s *bisa* words are usually used for their curative power (although he may also use them to harm), and the ruler's *bisa* speech is for the well-being of the nation (although it may prove painful to some of his subjects). The word is also incorporated into spells for the expulsion of sickness, but here it refers to inimical influences of any kind, rather than to sepsis in particular.

The most frequent use of the word is in connection with foods and food avoidances. This system of food avoidance is not part of the Malay humoral system, although it has been confused with it (Skeat 1967 [1900]:343; Wilson 1971:96), since these proscriptions occur at the same times that foods are rejected for humoral reasons. Foods that are *bisa* and foods that are humorally "cold" are avoided simultaneously during certain disease states and life crises, particularly postcircumcision and postpartum. Dietary proscriptions for boys who have just gone through the rite of puberty are the same as those for women after parturition. These restrictions link the circumstances under which the sexes attain social maturity. For a male it is the rite of circumcision, which usually occurs during early adolescence; for a female it is neither circumcision (which occurs during infancy) nor menarche, neither of which is marked by any observance among Malays, but childbirth, which turns a girl into a woman.

Food restrictions of all kinds are called *pantang* in Malay, a word frequently translated as "taboo" (see, e.g., Colson 1971 on this subject). Taboo, however, usually connotes something that is forbidden due to supernatural strictures and entails an extranatural penalty, or at least a social one. *Pantang* might better be called guideposts for behavior, which leave the possibility for cautious experimentation open. Malay *pantang* have no jural or moral force; those who do not observe them will not call down the wrath of God, the vengeance of spirits, or punishment from human sources. The dangers are natural and by no means invariable. A new mother who eats food considered *bisa* and experiences no harmful consequences may even be complimented on her "cast-iron" stomach; and a woman who experiences postpartum hemorrhage or a stomachache after eating *bisa* food is not considered a sinner, merely a bit of a fool (see Dentan 1965 for similar findings among the Semai).

Malays do not think of *bisa* foods as toxic or poisonous, but rather as intensifiers of disharmonies already present within the body. *Bisa* foods have the power to aggravate a preexisting problem. Foods are not *bisa* per se, but only in context; and, even then, some people have constitutions so strong that they can eat them safely.

Social scientists have treated the concept of *bisa* as a laundry list devoid of structure (Wilson 1970, 1971) or as symbolism "succinctly expressive of the patient's dilemma as a social being. The symbolism is that of impure food. The *bomoh* usually extends the symbolism of the performance by prescribing a detailed diet for the patient (Provencher 1971:188–189). Wilson (1970:338) allies herself with the medical establishment in stating that these beliefs are extremely detrimental to the health of rural Malays since the long list of proscribed foods would seem to interfere seriously with good nutritional status. Millis (1958:141), a Malaysian nutritionist, is specifically concerned about postpartum protein intake, as all shellfish and many varieties of fish are considered *bisa* during the 40 days succeeding childbirth. These beliefs have never been examined for possible beneficial biomedical insights.

Rural Malays, however, believe in the avoidance of *bisa* foods as a practical health measure, grounded in empirical reality. Many of these foods come from a fairly standardized list, the contents of which are common knowledge. People draw upon it during illnesses and in other vulnerable conditions. There are also individuals who experience

adverse reactions when they eat particular foods not on the list. For them, these foods are *bisa*.

Two beliefs about *bisa* foods accord well with what we know about allergies. First, allergic reactions occur only after the patient has been sensitized to a particular allergen and may either be lifelong or transient. Malays believe that *bisa* foods have a relationship to preexisting disharmonies within an individual, who is usually aware of his condition, but that in some cases the illness may hide within the person's body unknown to him and emerge only when a *bisa* food is eaten.

Second, patients with allergic disorders have an inherited tendency to develop sensitivity to substances harmless to others. Similarly, although most people avoid certain foods on the standard *bisa* list only during periods of special vulnerability, some individuals avoid them at all times, usually because of digestive disturbances. Gastrointestinal disturbances can be symptomatic of allergy.

It would be a mistake, however, to assume that *bisa* and allergen are synonymous. Many of my Malay neighbors developed red, itchy welts after eating albacore or spanish mackerel. For them, these fish were *bisa*. Their reaction may have been due to scombroid poisoning. The flesh of fish normally contains a chemical constituent called histadine, found in varying amounts in different species. When histadine is acted upon by bacteria it changes into saurine, a histaminelike substance which can cause a human illness resembling severe allergy. Scombroid fishes, which include albacore and spanish mackerel, are especially prone to become toxic when they are left to stand in the sun or even at room temperature in the tropics (Halstead 1959:112), but they do not cause illness when fresh. With this in mind, it becomes significant that native healers advise patients not to eat stale fish. Their dietary recommendations, which Provencher (1971:188–189) understands as symbolic expressions of the patient's dilemma as a social being, appear to be grounded in the reality as well as the symbolism of impure food.

Other reasons for regarding foods as *bisa* appear to have symbolic content—for example the prohibition against eating fruit (*buah*) when one has the disease *sakit buah*. Since the name is the same, I was told, adding one to the other will exacerbate the condition. Sick people avoid watermelon and cucumbers since they grow close to the ground and must be manured. Malays believe the association with manure is unhealthy for vulnerable people. Similarly, chickens are considered *bisa* for some young children because they eat feces and other dirty things; also, since village fowl regularly contract many illnesses, parents fear that eating even healthy specimens may, by extension, make their children sick.

In general, precautions about *bisa* foods come into play when a person has entered a condition that is an extreme expression of a marked feature. For example, a person afflicted with a common skin disease such as scabies does not have to avoid *bisa* foods, but one with *badan*—a rare skin condition that looks like severe eczema—must eliminate these foods from his diet. Simple digestive problems do not ordinarily involve *bisa* restrictions, but *sakit buah* and *sakit barah*, two conditions unidentified by hospital-based medicine but conceived of by Malays as life-threatening abscesses in the stomach, do call for these restrictions. Bleeding from minor wounds is a common occurrence and does not involve dietary changes (although major wounds may); neither does menstruation, a regular outpouring of blood from the genitals. It is only the marked forms of genital bleeding that accompany important rites of passage—circumcision and childbirth—that involve both ritual and food avoidances according to humoral concepts as well as that of *bisa*.

bisa fish The concept of *bisa* is clearest and most complete during postpartum and postcircumcision periods.[18] Until the wound of circumcision is healed, the boy adheres to the same diet prescribed for the postparturient woman: they avoid sour fruits, cucumbers, and

watermelon, humorally "cold" fruits and vegetables, fried foods, shellfish, and an extensive list of fish.[19] It is these fish in particular to which the village midwife refers when she cautions her patients about eating *bisa*. Informants gave a number of reasons for classifying a fish as *bisa*. The possession of any one of these features is sufficient to declare a fish *bisa*, and they become more compelling when several overlap.[20]

1. They have inconsistent body features in comparison with normal "safe" (non-*bisa*) fish:
   a. thick skin and thin scales (for example, dolphin fish);
   b. thin skin and thick scales (grunters);
   c. scales larger than usual for their size (parrot wrass);
   d. spots or speckles (threadfin).
2. They have threatening body features:
   a. venomous spines (catfish eel);
   b. sharp but not venomous spines (climbing perch);
   c. small, sharp bones that are hard to remove (wolf herring);
   d. red (sometimes yellow) color, reminiscent of blood (red snapper).
3. They have disturbing eating habits:
   a. bottom feeders (bream);
   b. they eat organisms poisonous to people, such as jellyfish and annelid worms (spanish mackerel).
4. They are associated with the cold humor (*lendir*). Fish with particularly slimy skin, such as catfish, belong in this category. They may also belong in category 2 for reasons to be discussed.

All *bisa* fish are marked, that is, they have characteristics that distinguish them from unmarked "safe" fish.[21] The "safe" fish are the most common and most abundant species, easy to catch, inexpensive, and available for sale on an almost daily basis.

The first three criteria for *bisa* fish in category 1 fit nicely into Douglas's (1966) theory of the danger of anomalies. When measured against "safe" fish, *bisa* fish are inconsistent. If skin is thick, scales should be thick as well, and vice versa—mixing features is anomalous and therefore dangerous. Rejecting the parrot wrass for the "abnormal" size of its scales implies a standard of normality, embodied by the unmarked species.

Criteria in category 2 are primarily those of danger from piercing spines or bones. People who have recently undergone experiences believed to create wounds on or within their bodies, such as circumcision or childbirth, will avoid these unpleasant associations.

The final criterion in category 2 relates to the laws of magic (Frazer 1959 [1890]:7). Like begets like; therefore, since red is the color of blood, eating red foods may, by the working of homeopathic magic, cause postpartum hemorrhage or delay the healing of the wound of circumcision and encourage the angry red of infection. Yellow is sometimes associated with blood in the context of Malay magic. Homeopathic reasoning may also hold true for the feeding habits of *bisa* fish: those that eat dirty or poisonous substances will themselves be dirty or poisonous.

Slimy (*berlendir*) fish are associated with the "cold" humor, also called *lendir*. Childbirth and circumcision involve loss of blood (the "hot" humor) from the genitals, making the patient humorally "cold." Aside from its humoral "coldness," fish slime is an irritant and source of infection to preexisting wounds (see Halstead 1959:91–92 for corroboration of indigenous observation). Since the postpartum period is conceived of as a time for healing internal wounds, it is not surprising that a substance known to be antithetical to surface wounds would be avoided by women who have recently given birth (although ichthyologists assert that there is no connection between touching fish slime—a possibly dangerous procedure—and eating the flesh of such fish, which carries no peril).

Spotted or speckled fish are *bisa,* I was told, because of their ancestors' quarrelsome nature. As Malays explain, during the Great Flood certain fish continually fought among themselves. Noah punished them by striking them on their sides, leaving spots and speckles which can be seen on their descendants to this day.

Obviously, there is a great deal of evidence for considering the categorization of *bisa* fish as purely symbolic. However, some reasons for avoidance seem to have an extra-symbolic basis as well.

In my east coast parish, the only fishes considered to have abnormally large scales are the wrasses and parrotfishes. Besides being symbolically ambiguous, the flesh of these fish spoils easily, causing choleralike symptoms in those who eat it (C. Lavett Smith 1978: personal communication).

Eating spiny fish can be perilous, aside from the danger of handling them. Two of these fish, *ikan barat-barat* (*Ballisteodei*) and *ikan jebong* (*Abalistes stellaris*) are close kin of the puffer and porcupine fishes, known to carry tetraondontoxin, a powerful nerve poison that frequently causes fatalities in Japan (Halstead 1959:113–116).

Avoiding bottom feeders during vulnerable periods appears to be based, in good measure, on empirical reality. Malaysia is within the belt of ciguatera-producing fish. Ciguatera is a type of poison produced by a large variety of tropic marine fishes which are mainly bottom feeders (Halstead 1967, II:605). Ichthyologists believe that these fish become poisonous because of their feeding habits. Ciguatoxic fish, which constitute more than one-sixth of those species considered *bisa,* tend to be large carnivores, at the apex of the food pyramid. Having eaten smaller fish, which have eaten still smaller fish, which have eaten the blue-green algae thought to carry ciguatera, these large fish concentrate the poison within their flesh and become more virulent than animals further down the food chain. In humans, the symptoms of ciguatera poisoning include extreme weakness, vomiting, diarrhea, and abdominal cramps. Mortality estimates range from 7 to 60 percent (Halstead 1959:116; Craig 1980:273), and those who recover may be debilitated for more than six months (C. Lavett Smith 1978: personal communication).

Two other *bisa* species (*ikan tiram—Clupea kangurta,* and *ikan pisang-pisang—Albula vulpes*) may be implicated as a source of clupiotoxication, which causes symptoms similar to those of ciguatera (Halstead 1967, II:619). Rays, another *bisa* fish, have been known to be ichthyosarcotoxic (Halstead 1967, II:xxx). The virulence of these poisons is not altered by cooking, salting, or drying (Halstead 1967, II:286, 619).

The list of "safe" fish is equally revealing. Compared with 54 *bisa* species, everyone agrees on the safety of 6 species, to which many add another 13. None of the fish on this list is scombroid or suspected of toxicity. None is a top carnivore, and all are rather small species, well out of the ciguatoxic category. The list of "safe" fish represents the most abundantly available varieties, including two that can be caught in any swampy area or padi field. In contrast, fish on the *bisa* list tend to be large, relatively rare, more difficult to catch, and expensive. One is unlikely to find most of them offered for sale in the village, whereas some variety of "safe" fish is usually available daily. Therefore, although the list of *bisa* fish is far longer than that of "safe" fish, it involves no nutritional sacrifice to do without them, even for extended periods.

Unmarked categories of foods (fresh fish and rice in the humoral system, "safe" fish in the *bisa* system) are those essential for life, while marked categories are supplementary, easy to reduce or remove from the diet. Malay beliefs in general, and *pantang* (both behavioral and dietary) in particular, have built-in flexibility. Rather than being perceived as a sword of Damocles threatening to strike those who do not obey their admonitions, *pantang* are tested by some, ignored by others, and followed implicitly by the rest. While

neighbors of those who do not follow *pantang* might think such people are tempting fate, no one believes that they will invariably suffer the consequences.[22]

Negative cases, such as women in the puerperium who have eaten *bisa* fish without experiencing problems, do not affect belief in the validity of the system. Malays reason that some people are so strong and healthy, or lucky, that they can get away with dangerous actions. The epidemiology of scombroid, ciguatera, and other fish poisoning offers strong support for these beliefs.

Scombroid poisoning does not invariably occur when a person eats scombroid fish and does not affect every victim with equal severity; ciguatera, clupiotoxication, and ichthyosarcotoxication are not invariable after eating implicated species. The incidence and severeity of these illnesses depend on the potential victim's state of health prior to ingestion, as well as the level of toxicity in the individual fish and the amount eaten. Although more than 300 different species have been incriminated in ciguatera, its occurrence is unpredictable and therefore exceedingly difficult to control (Halstead 1959:117). An occasional health problem associated with specimens of a particular species can be enough to place the entire species, and possibly related species as well, in the *bisa* category. Within any species, only some individuals are toxic: of two caught simultaneously in the same place, one could be eaten without any ill effects and the other could produce agonizing symptoms (Gordon 1977:223). The variable nature of these problems supports rather than vitiates Malay belief regarding sickness and health.

symbolic or pragmatic? Shall we study the concept of *bisa* as a symbolic system created for the avoidance of ambiguity and cognitive dissonance or as a codification of pragmatic action? Of the 54 species of *bisa* fish, one-third have been implicated in toxic reactions. Two of the native criteria for *bisa,* those concerning food habits, are congruent with objective facts: ciguatoxic fish are carnivorous bottom feeders. One might therefore make a case for *bisa* as a codification of pragmatic action. One might add, as well, those species that are included because of visual or behavioral association with toxic species. This inclusion would simplify the decision-making process during periods of vulnerability. But what about the majority of fish included solely because of symbolic reasons? Those that are dangerous to touch because of their venomous spines or irritating slime are not, therefore, poisonous to eat. Fish that have "inconsistent" features (thick skin and thin scales or vice versa) or disturbing coloration are dangerous only because of their ambiguity or symbolic associations; they have not been implicated in poisoning.

All *bisa* fish have elements of symbolic danger, but some that combine the features of symbolic and empirical reality may cause serious health problems, especially to individuals recently stressed. One might paraphrase Lévi-Strauss (1963:89) by saying that all *bisa* fish are "bad to think" and some are "bad to eat" as well. Analysis of either the symbolic or pragmatic nature of such a system is rather like examination of an elephant's hindquarters or its head: by so doing, one does not arrive at a valid picture of the beast as a whole.

The dynamic nature of these symbolic systems provides a structure for the logical working out of individual variability reminiscent of the musical structure of a chaconne. Although the ground bass repeats endlessly through the piece (like the basic ideas of the humoral system), the upper voices weave variation after variation above it. The effect is that of rich order, rather than either chaos or stasis.

The Malay humoral system and the concept of *bisa* exist on a number of interpenetrating levels, ranging from the most abstract to the most concrete. On the most abstract level, the system reflects and gives symbolic coherence to the Malay world view—a vision of the universe composed of the elements of earth, air, fire, and water in harmonious opposition. The world, the state, and man—the universe in microcosm—function optimally as long as

equilibrium is maintained. Problems occur when the balance of the opposing elements is disturbed. Checks and balances are provided to retain or restore essential equilibrium. The concept of *bisa* runs parallel to, and is a complement of, the humoral system. On its most abstract level it is a synonym for pure power, with no moral implications. On a more concrete level it refers to an intensifier which exacerbates whatever disharmonies are already present. The language and theory of these systems on the abstract level are logically consistent throughout a number of conceptual domains.

On a middle level of abstraction, the humoral system provides metaphors for reasoning and understanding. When the kingdom prospers it is because the ruler is "cool." When patients respond to the *bomoh*'s incantations it is because the "heat" of the spirits has been nullified by the *bomoh*'s "coolness."

On the most concrete level, that of direct sensory experience, the system is reinforced by moorings in empirical reality which act as structural supports to the symbolic edifice. This experiential "proof" of the system's validity is most persuasive when it occurs in the context of illness or situations perceived as dangerous or life threatening, and when effect follows closely after cause. Without the elaborate symbolic structure these experiences would be meaningless; without the input from empirical reality the edifice might crumble or, like the Malay sultan, be wafted aloft.

notes

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[1] Although the Malay classificatory system, based primarily on a hot-cold polarity, is not a full-blown humoral system in the Galenic tradition, comparable contemporary beliefs in other parts of the world have generally been referred to as "humoral." With reservations, I propose to use the term as a convenient shorthand.

[2] The term "hospital-based medicine" first came to my attention when it was used by Rena Gropper in the late 1960s. I prefer it to Western, scientific, or cosmopolitan medicine, as it is both neutral and accurate.

[3] I have recently been informed that a paper presented by Wilson at the Xth ICAES meeting in Poona, India, represents a departure from her earlier views. This paper has not yet been published and is unavailable for distribution. I must leave any comments for the future.

[4] For example, in a discussion of the humors in the first book of the Hippocratic corpus, *On Ancient Medicine,* it is stressed that each individual must be considered as a separate case, since humors do not exist in the same proportions in everybody (Adams 1886, I:143-144).

[5] It is curious to note that recent thermographic studies reveal that skin temperature of painful areas can be 2-6 degrees less than normal. "The lower temperature of painful areas is a result of constricted blood vessels in the area reducing the flow of warm blood from deep within the body" (Rensberger 1980:C3).

[6] I do not mean to imply that Malays recognize hypertension as a biomedically reckoned disease or

understand its etiology in scientific terms (an ignorance we share with them—the Merck Manual (Holvey and Talbott 1972:465) terms primary hypertension "a disorder of unknown origin" and *Taber's Cyclopedic Medical Dictionary* (Thomas 1973:H76) says that essential hypertension "develops without apparent cause").

[7] Although usually glossed as tart or astringent, neither English word is a true translation of *kelat* in reference to food. The word is not applied to the tartness of lemons, nor does it have the harsh quality we associate with the astringency of alum. It refers, rather, to the taste of certain tropical plants, such as the *Eugenia*, known as *Kelat*, and associated species such as *Anacardia*, for instance the leaves of the cashew tree.

[8] Fat has a high satiety value, since it slows the emptying of the stomach, thus decreasing intestinal motility and delaying the onset of hunger (Burton 1965:76).

[9] After ingestion of proteins, the body's heat output is increased by 20–30 percent over intake, compared to 5 percent for carbohydrates and fats (Burton 1965:25). This specific dynamic action of protein may contribute to subjective feelings of internal heat claimed by Malays to follow meals featuring "hot" foods.

[10] That Malay food ideology is not the same as food behavior is discussed at length in Laderman 1979.

[11] Many American doctors and nutritionists recommend moderate reduction of animal proteins, as well as salt, for essential hypertension (Burton 1965:303).

[12] I agree with Lindenbaum (1977:145) that it would be valuable to repeat this experiment with non-Indian subjects to rule out the possibility that physiological reactions were influenced by anticipations based upon belief in humoral realities.

[13] In common with most medical care systems, Malay theory recognizes a multiple series of disease causations of which humoral etiology is only one.

[14] This humoral rule provides protection against heat cramps, which can be precipitated by exposure to cold air or water following heavy exercise in the heat (McCullough 1973).

[15] According to American doctors I have questioned, salt water aids in surface clotting.

[16] Malay fears about the dangers of hospital medicine for measles are based partially on ignorance of the treatment provided. There is no specific medicine for measles; all treatment is symptomatic, relying primarily on aspirin for fever and calamine lotion for itch.

[17] Here they echo the words of Hippocrates. Although Hippocratic writings accept the concept of the four humors, *On Ancient Medicine* opens:

> Whoever having undertaken to speak or write on Medicine have first laid down for themselves some hypothesis to their argument, such as hot, or cold, or moist, or dry, or whatever they choose (thus reducing their subject within a narrow compass, and supposing only one or two original causes of disease or of death among mankind), are all clearly mistaken in much that they say . . . (Adams 1886, I:132).

The tract does not discard the humoral theory, but derides those who rely on it to the exclusion of observation and clinical experience.

[18] For a description of Malay belief and practice in pregnancy, childbirth, and the puerperium, see Laderman 1979.

[19] Fresh fish, including *bisa* species, are neutral with respect to the humoral system. For a list of fish caught on the east coast of Malaysia, see Laderman 1979:421–423. Fish on this list are grouped into *bisa* and "safe" categories, and the attributes of each *bisa* species are noted.

[20] Most of these features have been corroborated by ichthyologists as objectively accurate. Information on feeding habits, however, is problematic. It can be ascertained that many species purported to be bottom feeders actually are as described, but information on other species is lacking. Those described as eating annelid worms and other dangerous organisms are indeed carnivorous (at least those species on which we have information), however no studies have been done on whether they occasionally eat other organisms besides smaller fish and crustaceans (James Atz 1979: personal communication).

[21] A number of the criteria for *bisa* fish are similar to those for "sacred fish" in Hong Kong. They are strong, large fish that are anomalous in appearance and/or behavior (Anderson 1969).

[22] Firth (1974) has commented on the flexibility, skepticism, and testing behavior typical of village Malays.

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