

Superstitious Pigeons, Hydrophobia, and Conventional Wisdom

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IN THIS ESSAY I hope to show that an understanding of basic psychology is both essential and helpful in gaining an adequate scientific explanation of the kinds of behavior which folklorists investigate. In order to narrow the scope of discussion I will focus upon the kinds of folkloristic data usually titled "popular beliefs and superstitions." As a specific example, I will concentrate on a particular medical practice which enjoyed wide vogue in the nineteenth century, the madstone treatment for rabies. Typically, madstones are small calculi removed from the viscera of dead ruminants, animals such as deer or cows. It was thought that, if one applied a madstone to a wound caused by the bite of a rabid animal, the stone would "suck out the poison," thus preventing the victim from contracting hydrophobia (D 1515.5.1).

ON DEFINING SUPERSTITION

To begin, I will concentrate on defining the term 'superstition' as it is commonly used in society and then present (in outline form) some of the conceptual frameworks used in the past for studying "superstitions." I will not attempt to survey the scholarly literature for examples of these positions, since those familiar with this branch of folkloristics will recognize the arguments which delineate each of the approaches I will summarize.

Consider the natural language meaning of superstition. Here is a hypothetical example. Concerning his friend's belief in the madstone's efficacy, Mr. Cook might state: "That madstone business that Smith believes is just an old superstition." Smith believes in the

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madstone treatment and is willing to base his actions upon it, given the appropriate circumstances. He would probably be offended if he heard Cook describe his belief as a superstition. Meanwhile, Cook does not believe in the madstone cure, nor would he use it. Furthermore, he disapproves of belief in it and use of it. The use of the word 'superstition' by Cook in this case then appears to have these components: it conveys his opinion that the practice lacks efficacy; it shows that he thinks that there is no good reason for believing in the practice; it reveals that this practice is inconsistent with Cook's own world view, the body of beliefs and practices he considers to be valid; and it indicates his disapproval of the practice (these components are not mutually exclusive—the last one in many ways includes the previous ones).

If we take this naturally occurring usage of superstition as its central and most important meaning, several consequences follow. If we used superstition as a technical term without modification of this central natural meaning, we would be losing objectivity. To call the belief in the efficacy of the madstone a superstition would place the folklorist in the position of disapproving of Smith, in agreement with Cook. Also, if a folklorist to whom Smith communicates his belief in the madstone treatment labels that belief as a superstition, the folklorist has unjustifiably added something to the data, not to mention the destruction of rapport with his informant which would occur if Smith finds out that the folklorist views his belief as superstitious.

This suggests another possibility—could we not drop the natural meaning and simply redefine the symbol in a way more convenient for technical purposes? I have already noted a problem with this tactic in relation to field interviews. In the same vein, if in our technical meaning we keep the same symbol that is attached to the natural meaning, we run a high risk of failing to communicate with non-folklorists concerning our work. And the Good Lord knows that we carry a heavy cross in that regard already.

But perhaps those considerations may not be deemed to be decisive. So I will sketch briefly some proposals for a technical redefinition of superstition. Perhaps one could stipulate criteria relating to content. This in effect seems to be the intuitive definition now in general use in folkloristics. Such "definition" demands a very long topical enumeration—in itself objectionable because it is clumsy and because it tends to make the text (or record of content) the ultimate datum. A text reflects only a small part of the dynamic process we are

studying, and the dangers of reifying texts are well known. As folklorists I believe we should look at the whole process rather than only a small part or aspect of it. Besides, a "superstition" *is not a text*; it is a belief.

Could one possibly define superstition as a false popular belief? This proposal is fairly close to the natural meaning I have noted. But this places great demands upon folklorists. It requires that we become super-scientists. We would have to learn medicine, chemistry, physics, and the like because we would have to call upon the findings of these sciences to make the determination of falsity. Also we might at one time judge a popular belief to be false in terms of the current state of the relevant science, only to discover later that the appropriate science, having progressed, now sees the belief as true. Such events have actually occurred. I think these considerations show that there is no worth in this proposal.

Another proposal might involve viewing "superstitions" as beliefs that are held by distinctive groups, their distinctiveness being summarized by saying that they are folk groups or that they are the folk. Thus, superstition would be defined as a belief held by *a* folk, or by *the* folk. Large bodies of folkloristic data serve to indicate that beliefs such as that in the efficacy of madstones are not limited to any one social class or group or type of culture.

There are some counters to that objection. (1) Sometimes it is argued that each person is a member of several different folk groups. In this way the notion of a folk group simply becomes synonymous with 'group' in its broad sense, and consequently is as imprecise a notion as that of the bland mathematical concept of a set. Thus, when 'folk' becomes equated with 'group,' one loses the force of defining in terms of the concept of folk. If the notion of folk is to have any worthwhile use over and above being synonymous with the meanings associated with 'people' or 'persons,' we have a right to expect it to mean more than is meant by 'any group of people who have something in common.' The prime minister of Japan and I have perhaps seen the same episode of "Bonanza" on television; yet I hesitate to claim that he and I constitute a social group, not to mention constituting a folk group. In response to my denial of the use of the concept of folk in clarifying superstitions, there is another counter. (2) Here it is urged that there is a continuum of cultural types stretching from non-folk cultures toward the idealized folk-culture type. If this is the case, there are no actual folk groups; there are only partial folk groups,

some of which are more "folksy" than others. As this proposal stands, it cannot account for beliefs such as those implicit in the madstone complex *in terms of* their existence as beliefs in folk cultures. The fact which prevents this is that the most "civilized" or sophisticated people (persons like university professors and doctors of medicine) exhibit beliefs similar to those found among individuals who subscribe to beliefs inherent in the madstone complex. Thus, if such beliefs are found on both ends of the continuum, the proposed definition will fail. If someone were to propose that university professors and physicians are "folksy" to the degree that they hold such beliefs, I would reply that such a move leads to a circular definition: to wit, superstitions are the beliefs of folk groups which are folk to the extent that their members exhibit such superstitions.

My criticism also counts against using another well-known definition of folk culture as a means for defining superstition (this does not preclude such a definition from having other legitimate uses). I have in mind John Greenway's notion of a folk culture as being "an unsophisticated, homogeneous group living in a politically-bounded advanced culture but isolated from it by such factors as topography, geography, religion, economics and race."¹ Since one can find superstitions among both folk and nonfolk cultures, it would be useless to then adopt this concept of a folk culture in order to define a superstition as being a belief held by members of such a culture.

Attempts to define superstitions as beliefs held by certain kinds of groups, then, have all failed; the principal reason for this failure is basically simple: people in all groups exhibit these kinds of beliefs. Therefore, for purposes of giving a sound theoretical definition of the kind of lore usually designated as "superstition," the notion of folk groups is of no assistance. I suspect that a similar conclusion could be derived for other kinds of lore such as stories, proverbs, games, and so on. However, I am not prepared to defend that position in this discussion. I *am* able to conclude, on the basis of the foregoing considerations, that this word 'folk' is terribly overworked in our discipline. I prefer not to use it all all unless I can do so with some degree of precision.

All these proposals—definitions in terms of content, falsity, or social class—miss an important point. They fail to take the individual fully into account. Since we are dealing with belief here, it should be expected that we might have to look into the attitudes and outlooks

1. *Literature Among the Primitives* (Hatboro, Pa., 1964), xii.

of individuals. Furthermore, if we want to give adequate scientific explanations of superstition, we must expect that part of the requirement for such explanations will be information concerning individual psychology. That is to say, since belief is the phenomenon under study, and since belief is a psychological state of individuals, an adequate explanation for such beliefs (one which will permit us to understand them) must include (among other things) reference to generalizations or relationships (laws, if you will) of psychology. In what follows I will attempt to show in some detail how such psychological generalizations can be used in developing an improved framework for explaining superstitions. For reasons which will become obvious, I will adopt (for the sake of argument in this paper) the system of psychological study developed by B. F. Skinner and his intellectual descendants.²

"SUPERSTITIOUS" BEHAVIOR

In terms of Skinner's approach, behavior is divided into units called *responses*, while the environment is divided into units called *stimuli*. Responses are not necessarily "replies" to the environment, nor do stimuli always incite an organism to action. Responses are described as being either *operants* or *respondents*. Stimuli in the environment are also further subdivided. *Eliciting stimuli* are environmental events which regularly precede particular responses, the respondents mentioned earlier. The series composed of an eliciting stimulus followed by a respondent forms a process which in one of its manifestations is very familiar to us as reflex behavior. For example, a bright light on the eye elicits a respondent constriction of the pupil.

A second kind of stimuli are known as *reinforcing stimuli*, or *reinforcers*. They are environmental events which follow responses; these stimuli may be either causally dependent or nondependent upon responses which precede them. In any case, their occurrence increases the probability that the particular prior responses will reoccur in the future behavior of the organism, given the same initial conditions. Such responses are part of the larger category of operant responses. Of

2. My summary is taken from the following three sources: R. J. Herrnstein, "Superstition: A Corollary of the Principles of Operant Conditioning," in *Operant Behavior: Areas of Research and Application*, ed. Werner K. Honig (New York, 1966); G. C. Reynolds, *A Primer of Operant Conditioning* (Glenview, Ill., 1968); B. F. Skinner, *Science and Human Behavior* (New York, 1953). Cf. Arthur J. Bachrach, "An Experimental Approach to Superstitious Behavior," *Journal of American Folklore* 75 (1962): 1-9.

course, a response need not be reinforced for it to retain its status as an operant.

Perhaps the word 'response' is a bit misleading when used in the context of operant behavior. This confusion can be reduced if one remembers that responses are behavioral acts and that stimuli are environmental occurrences. Operants are said to be *emitted* by organisms. It is in the nature of organisms to emit operant responses—men walk, dogs romp, birds fly. In any case of reinforcement, an operant occurs, has or seems to have an effect on the environment, and because that effect (or presumed effect) is in some way taken as beneficial to the organism, the operant tends to occur more frequently in the future. For example, a bird happens to fly past a newly placed bird feeder. It pauses to examine things, finds the food tasty, and returns again in the future when it is hungry. *Operant conditioning*, then, is the process whereby one raises the frequency of occurrence of a particular operant by making reinforcement contingent upon the operant. In the classical conditioning of Pavlov's dogs, the reinforcer was paired with a stimulus, whereas in operant conditioning reinforcement is paired with a response. It is not correct to say that a reinforcer "strengthens the response preceding it." That response has occurred and cannot be changed. The future probability of responses in the same class is what is changed. It is the operant as a class of acts rather than a particular act which is conditioned.

As I have tried to indicate, sometimes an operant is reinforced by accident or coincidence rather than through a causal relation between operant and reinforcer. Consider the following experiment devised by Skinner. Pigeons which had been partially deprived of food were placed in separate isolation boxes. At short regular intervals of time, and independent of their specific behavior, each pigeon was given a small bit of food. Each bird developed distinct, idiosyncratic, repetitive actions which varied from one individual to another—responses such as head bobbing, pecking, or turning. Skinner concluded that the food delivery reinforced the operant which had accidentally preceded it, making that kind of act more probable in the future. Thus, chances were raised for the reoccurrence of that act prior to the next exposure to food.

Experiments of this sort have led to a definition of what is called the "superstitious" kind of operant behavior. *Superstitious behavior* results from the accidental reinforcement of operant behavior; alternatively, it is behavior in which the reinforcer is causally inde-

pendent of the particular operant which precedes it.³ On first glance one might object to such a characterization if it were being proposed to cover human superstitions. How, in the typical case, can one or a very small number of reinforcements significantly increase the rate of a particular kind of response; wouldn't many such reinforcements be required? The results of studies of schedules of reinforcement strongly suggest that just one or two reinforcers are needed to greatly affect the response rate of a particular operant, and this continues to hold true in intermittent schedules in which a reinforcer does not follow each occurrence of a specific operant. Indeed, some intermittent reinforcement schedules produce a higher response rate in a shorter period of time than can be obtained with a continuous schedule in which each instance of the operant studied is reinforced. This is the case because in certain intermittent schedules one reinforces the rate of responding as well as an operant. Furthermore, response rates obtained with some intermittent schedules are much more resistant to *extinction* (reduction of the response rate to zero) than those which have been obtained by continuous reinforcement.

Another important form of what Skinner calls "superstitious" behavior involves reinforcement of an operant through release from an *aversive stimulus*, the release being causally independent of the operant. The following paragraph from Skinner's work reads as if it were written especially for this paper.

Some contingencies which produce superstitious behavior are not entirely accidental. A response is sometimes likely to be followed by a consequence which it nevertheless does not "produce." The best examples involve a type of stimulus which is reinforcing when removed. . . . The termination of a brief stimulus of this sort may occur at just the right time to reinforce the behavior generated by its onset. The aversive stimulus appears and the organism becomes active; the stimulus terminates, and this reinforces some part of the behavior. Certain illnesses, lamenesses and allergic reactions are of such duration that any measure taken to "cure" them is likely to be reinforced when the condition clears up. The measure need not actually be responsible for the cure. The elaborate rituals of nonscientific medicine appear to be explained by this characteristic of many forms of illness.⁴

A CURATIVE EPISODE

One of the richest general descriptions of the madstone cure I have seen was obtained from an Okianoman (fictitiously labeled Smith) whose father practiced the cure in the 1890s in the vicinity of what

3. Respondent conditioning also has a "superstitious" phase; see Skinner, 55.

4. Skinner, 86.

is now the city of Pawnee, Oklahoma. The following paragraph is a paraphrased and reordered summary of part of an interview with Smith concerning his father's madstone.

A friend of the family obtained the stone from the stomach of a white deer killed on a hunting trip. The Smiths had kept the stone for some time, unaware that it was a madstone [D931]. One day an acquaintance who was a Pawnee Indian told Smith about the power of such stones—that they could cure hydrophobia bites and snake bites. The Pawnee said that he had heard of many cases that were cured of mad dog bites by using a madstone. Soon people began to come to the Smith household in search of the cure for hydrophobia bites [D1515.5.1]. Even the local medical doctors referred patients to the madstone. In practicing the cure, the stone was applied to the wound. If it wasn't bleeding at the time, the wound was pricked so that the stone could contact the blood, for the hydrophobia poison was in the victim's bloodstream. If the stone stuck to the victim's wound, that meant that there was poison there; if it didn't stick, it meant there was no poison. The stone was boiled in milk after it fell from a wound to which it had adhered. It was then reapplied. This process was continued until the stone no longer stuck. The stone was drawing out the poison during this procedure. Many patients reported that they could feel this suction. The milk in which the stone was boiled would turn green from the poison which went from the stone into the milk. Smith never made a charge for the use of the stone. He asked only that patients pay for food consumed at his home if they could afford it. The stone cured a great many people. One man who came for the stone had a fit before he could be treated, but after treatment he became well again. The family kept a book listing the patients who had used the stone, but that has been lost. The informant expressed his faith that the stone actually did work because he had seen it work many times. The stone is now in a bank safe deposit box and has not been used for many years.⁵

Relative to the brief accounts of madstone usage which one usually finds in folkloristic literature, this informant provides a comprehensive description of the history and use of a madstone. Furthermore, because of its similarity to other accounts from the same region, it is representative of the madstone tradition in that part of the country. Therefore, on the basis of Smith's account I will attempt a chrono-

5. The original tape recording of this conversation is archived in the Oklahoma State University Library. A copy is available at the Archive of California and Western Folklore at the University of California, Los Angeles. The interview was conducted in 1961 by Joe Buswell and Ken Ketner under the auspices of a folklore interviewing project developed with the assistance of Dean (now President) Robert Kamm of Oklahoma State University. For a fuller account of this interview plus a comparative study of the madstone tradition in general, see my "A Study of the Use of Madstones in Oklahoma," *The Chronicles of Oklahoma* 46 (Winter 1968-69): 433-49.

logical reconstruction of a typical patient's use of the madstone cure. This will, of necessity, be somewhat speculative; but I will utilize additional data from the same region to exemplify and illustrate specific points.

A curative episode obviously begins with the onset of the victim's misery. In the complex under consideration, this event has several facets. If we describe the event in the barest, most neutral terms, we would say that the victim was bitten by a mammal and that the bite resulted in a laceration of some kind. However, there is more involved. The victim either notices that the behavior of the attacking animal is peculiar (only a "hydrophobic" skunk would seek out a man, then bite him) or that the animal displays some perceivable evidence of its dangerousness (mad dogs froth at the mouth).⁶ A hunter bitten as he dispatched a cornered raccoon would probably exhibit some concern—enough to cause him to seek an "antiseptic" treatment, such as dipping the cut in kerosene. A person bitten by any animal might react similarly; but if he considers the attacking animal to have been mad, he exhibits much more concern and hence he is much more likely to seek a different treatment. Thus, the bite of a cornered raccoon produces some anxiety in the person who has been bitten; but a bite from a dog considered to be mad occasions anxiety which is much more extreme. The difference between these two cases is important, for the victim who thinks he has been bitten by a rabid animal comes under a very strong aversive stimulus in the form of great anxiety. He believes that his very life is threatened. Whether or not it is indeed true that everyone bitten by a rabid animal will "go mad" is not relevant. Almost everyone, including the victim, believes that the diseases and death will inevitably occur if the wound is left untreated.⁷ The urgency and speed with which victims sought madstones also betokened their state of anxiety. Had

6. For examples of popular beliefs concerning the behavior and properties of rabid animals, see: Loman D. Cansler, "Madstones and Hydrophobia," *WF* 23 (1964): 99; W. H. Crockett, "The Madstone," *Frontier Times* 38 (Dec.-Jan. 1964): 4; Edward Everett Dale, *Frontier Ways* (Austin, 1959), 197; J. Frank Dobie, "Madstones and Hydrophobia Skunks," *Madstones and Twisters* (Dallas, 1958), 8-10, 13; Olivia Myers, "Mad Dog," *Frontier Times* 37 (Oct.-Nov. 1963): 40; and Robert S. Withers, "The Madstone," *Missouri Historical Review* 49 (1955): 123.

7. For accounts indicative of the victim's state of anxiety, see: Myers, 49-50 (here the concern about the dog's bite was high enough to cause an adult to take a bitten child across a flood-swollen river to a madstone); Dobie, 9; Michael J. Ahearn, "The Noell Madstone," *And Horns on the Toads* (Dallas, 1952), 148-49; Cansler, 95, 104; Dale, 197; "Madstones," *JAF* 15 (1902): 293. W. H. Crockett who was reared in Oklahoma when it was still Indian Territory witnessed his brother's encounter with a rabid dog; he states: "My honest opinion is that had brother not received treatment by the madstone he would have gone raving mad within a few weeks" (64).

the victim been familiar with, and had he accepted as true, the statistics provided by modern medicine, he would have believed that approximately eight out of every ten persons exposed to rabies through bites do not contract the disease, and hence his anxiety might have been somewhat lessened. But popular belief sanctioned the dimmer view.⁸

The episode has now progressed to the point at which the victim is convinced that he has been exposed to a horrible illness. His level of activity rises because of the aversive stimulus under which he suffers. He desires to remove it, that is, he seeks a cure. He has been told, or he is told, about the madstone treatment. He may or may not believe in its efficacy. Because of his anguish, however, he resolves to try the madstone treatment. Often one's neighbors considered it their duty to inform victims of the location and "power" of the nearest madstone.⁹ The pieces of helpful advice probably included citations of past victims who failed to develop rabies after using a stone.

The victim then no doubt makes his pilgrimage to find the owner of a madstone. Once he discovers such an individual, he receives further information from the owner of the stone concerning the whys and wherefores of its use. He learns, if he didn't already know, that hydrophobia is caused by a "poison" deposited by the animal.¹⁰ He is told that the madstone can "suck" this poison from his wound. He learns that if the stone "sticks" to his wound, that means there is poison present; but if it does not adhere, the contrary is true. If the stone sticks, he is shown how boiling it in milk causes the poison to flow from the stone into the liquid, resulting in a green coloration of the milk. Finally, he is informed that he is free of poison whenever the stone stops adhering to his bite.

In view of all the things the patient learned from others about the madstone treatment and its successes, his anxiety was relieved when the stone *actually* did stick to his wound, when it actually fell from the wound "of its own accord" or "because it was full of poison," when the milk actually turned green, when the stone actually re-

8. "It is estimated that ten to fifteen percent of all persons bitten will develop hydrophobia unless immunized" (*Cecil-Loeb Textbook of Medicine* [Philadelphia, 1959], 56). Cansler and Dobie cite almost identical figures.

9. See Crockett, 1, 64.

10. The belief that rabies is caused by a "poison" is almost universal in the accounts I have reviewed from folkloristic literature. Madstones have also commonly been used in treating snake bites (caused by snake "poison"), wasp and spider bites (again, "poisonous" bites), and even blood poisoning. For comments on the last, see: Gwyn A. Parry, *The Jackson County "Madstones"* (Chillicothe, Ohio, 1960), 3; Cansler, 102.

adhered several times until it finally stopped sticking. All these actions *did* occur, and there are sound reasons why they should have occurred. The sticking action is caused by the normal tackiness of a healing wound, probably aided by the stickiness of the drying milk. I suspect, too, that most madstones would induce a green color when boiled in milk; however, the folklorists I know who have madstones in their museum collections have resisted my pleas for permission to borrow these artifacts so that my chemical hypothesis could be tested.

But even though one conducted a complete laboratory testing program to explain scientifically the madstone's sticking action and its effect upon milk, that would have little relation to the users of the cure, given the milieu in which it was found. The most significant thing to be said here is that the action of the stone and its manipulation in the context of the beliefs which were held concerning the meaning of those machinations brought a release from all or most of the victim's aversive stimulus, that great anxiety which was originally generated due to another set of beliefs concerning the significance and consequences of the original injury. Whether the two general sets of beliefs, the initiators and the releasers, are scientifically or empirically justified is an issue that is largely irrelevant to the psychology of the matter. The conclusion of the curative episode came with the patient's release from anxiety. After returning home, he no doubt informed his acquaintances about the source of his "cure."

Two kinds of instances which would tend to disconfirm the hypothesis of the madstone's efficacy were rarely exploited or recognized. The occasional death from hydrophobia of a beneficiary of madstone treatment usually went unnoticed in the locale of the stone's owner (due in part to the slow and inefficient communication of the era), but, if knowledge of a patient's death did reach an owner, the apparent failure of the stone was rationalized in various ways, many of which involved some "miscue" in the application of the madstone.¹¹ Individuals also rationalized the continued lack of rabies symptoms in a person who had foregone any treatment by asserting that the animal which had bitten the victim had not really been rabid, for, if it

11. J. Frank Dobie gives us, in his usual genuinely human style, a fine example of this: "During forty-seven years . . . the stone had saved four hundred people from hydrophobia and had failed to work on only two. One of them was already having convulsions when the stone was applied to the wound; the other had so many whiskers on his chin, where the bite had been made, that the stone could not adhere. Presumably the man of whiskers preferred hydrophobia to shaving; not long after the madstone failed to draw out the poison through his whiskers, he went into the horrible convulsions of hydrophobia" (12). Cf. Cansler, 102.

had been rabid, the victim would have died without the madstone treatment.

But again, if we view the situation from the standpoint of the psychology of a typical victim (rather than attempting to discover whether the victim is scientifically justified in holding such a belief on the basis of the canons of inductive logic), we see that these occasional instances of the treatment's failure (which are the reflection of the scientist's statistics that about fifteen to twenty percent of exposed persons will contract rabies) fit into the scheme of events described under the rubric of intermittent schedules of reinforcement. Since roughly eight persons in ten on the average did not contract the disease, and since most of those in the safe group of this statistical division did avail themselves of the madstone cure because of the prevailing "theories" concerning the nature of rabies, the conditions for intermittent reinforcement were operative. As we have seen, intermittent reinforcement provides an eventual operant which is attained faster and is more resistant to extinction than operants conditioned through continuous reinforcement.

We are now in a position to see that the operant known to folklorists as the madstone treatment derived its widespread acceptance from reinforcements (releases from aversive stimuli) received both by patient and practitioner. We can also see that the aversive stimuli were induced and removed against a more general background of beliefs concerning the nature of hydrophobia as a disease.

DYNAMICS OF CURATIVE EPISODES

In folkloristics as in other sciences there are no "pure facts," for there are no data independent of theoretical frameworks. But theories seldom emerge fully grown. They must be laboriously developed from the stage of just a vague, un verbalized "hunch" until they finally become a systematic pattern of concepts capable of guiding a large area of inquiry. This paper, more than anything else, is intended as a short case history of such a developing hypothesis.

In considering the foregoing discussion from the standpoint of that division of our discipline which has traditionally been described as folk medicine, the basic conceptual unit I have used is the *curative episode*. This is a *process* which takes its origin from the standpoint of an individual who, at some particular point in time becomes afflicted with a malady, one which is significant enough in his eyes to cause him to seek some kind of treatment. Because of this condition,

the individual either independently invents a therapy, or he draws upon knowledge he has accumulated, or he is advised by others along the lines of techniques known to them. The episode concludes when the patient is convinced that his malaise is ended. This should be viewed as a continuous process, having its own unique dynamics. If it breaks down at any stage before completion, such a truncation is not a curative episode.

The ideas associated with *malady* have an important function in delineating the curative episode. A malady occurs against the backdrop of normality. A person's opinion about normality varies from time to time and from culture to culture, but such variation will have no serious effect upon the worth of the model being developed here. A central characteristic of my notion of malady is that the individual involved is convinced that he is either physically injured, that some organic function of his body is impaired, that he is diseased, or that his health is being undermined by some agency.¹²

A matter which is very closely related to classification of maladies, at least from the standpoint of an individual sufferer, is that grouping of ideas which, for lack of a better name, might be described as *popular pathology*. By this I mean the beliefs held by a patient and his community concerning the essential nature, the causes, and the development of a malady, as well as the structural and functional changes in one's body which might result from contracting an unhealthy condition. In the preceding discussion of the madstone tradition, the associated popular pathology includes such beliefs as these: hydrophobia is caused by a poison; exposure to rabies means death unless treated; a victim can be cured of hydrophobia even after symptoms have developed; rabies is more prevalent during the "dog days" of summer; a madstone's sticking to a bite is an indication that the animal was rabid. If we generalize this notion beyond the hydrophobia example, we are launched into a vast field of study which

12. It is apparent that a fairly diverse and complex taxonomy for malady is needed, a task which I can only mention. Consider these differing kinds of maladies which must be handled by an adequate classification scheme: wounds; organic and systemic malfunctions; infections; reactions to plants and animals; bites; mental ailments. I do not mean to insinuate that folklorists and other scholars have done no work toward such a scheme. Modern scientific medicine, of course, has a complex taxonomy, but that will have to be amended for the folklorist's purposes. Work along the required lines has been done. I am only suggesting that a complete unified system is not yet available, and that those available do not take cognizance of the dynamics of curative episodes as I think they should. Professor Wayland D. Hand is justly esteemed for his great improvements in classification techniques for popular beliefs. His forthcoming work on folk medical practices will no doubt add to our ability to classify maladies.

would comprise all popular ideas about the causes and nature of maladies. This would include all the various supernaturally oriented beliefs (for example, sores on one's mouth are caused by the bridle witches use to ride their victims as they sleep—this malady has often been treated by witch masters) in addition to the usual ideas of a more mechanistic nature (stomach pain is caused by a lizard in the abdomen).

Another area which is found concomitantly with pathological beliefs might be best labeled as *popular diagnostics*. These ideas guide persons to distinguish the particular malady which they have. This "diagnosis" will be based upon some popular theory that holds that particular symptoms are diagnostic for a particular malady. For example, it was thought that sure signs of rabidity in dogs were either froth in the beast's mouth or an animal's propensity to attack or bite. Certain manifestations were generally held to be symptomatic of hydrophobia in humans—fits and convulsions, "fear" of water, and a general "madness."¹³

The main event in a curative episode is the administration of *treatment*. I conceive of this as being a series of actions undertaken by the sufferer or those with whom he interacts as a result of his affliction. These actions will be determined, in part, by the ideas on pathology and diagnostics which are accepted by the individual involved. The treatment may be nothing more than a simple manipulation of the body (rubbing one's muscle to relieve soreness), or it may involve following more elaborate directions (spit in a crossroads to remove a conjure spell causing illness) (D 1776). A treatment may also include the use of a *remedy*, a specific compound designed for either contact with the body (rub on chewing tobacco to cure warts), or for ingestion (drink whiskey for snakebite) (D 2161.1). In terms of the definitions offered above, the madstone treatment emerges as a nonremedy which bears considerable resemblance to what might be described in modern medical jargon as a combination poison detector and pump; that is, it is thought to be more like an appliance as opposed to a chemical compound. Also, a treatment often goes hand

13. The coordinate areas delineated by popular pathology and popular diagnostics have not been studied with the degree of thoroughness that has been attained in research on the item-centered content of studies of popular medicine. In most of the standard compendia, the central matter included could best be described as *lists of therapies*, with diagnostics and pathology getting the short shrift. This is patently clear in the literature concerning madstones. The implications of this situation for future research are fairly obvious.

in hand with a *healer*, a person who, in the opinion of his contemporaries, possesses curative skills or "powers."

The conclusion of a curative episode is marked by the sufferer's release from the aversive stimulus, the initiation of which marked the beginning of the curative episode. Several different treatments, remedies, or healers may be employed within the span of one episode. The originating aversive stimulus may disappear prior to the actual application of treatment. Even though a person had intended to seek a particular treatment, the reduction of his malady beforehand would probably interrupt the dynamics which were leading to a full curative episode. If the reduction of the aversive stimulus happens to coincide with some event which, upon reflection, the individual comes to regard as significant, then a new addition to the body of popular medical beliefs may be in the making. All that is needed is that the "discovery" be communicated to others and that it be accepted by them as effective.

The discussion so far offers several implications for the wider study of "superstitions" and popular beliefs in general. For one thing, we have gone a long way toward explaining why certain beliefs which are usually labeled as superstitions are more prevalent among groups which are subjected to an abnormally high amount of fear, danger, anxiety, sudden change, or unforeseen occurrence. The high rate of such beliefs among such professions as miners, soldiers, seamen, actors, and pilots has often been noted by folklorists, but they have seldom been clearly explained. Skinner's model accounts for this very nicely.

In our application of psychology, however, we must keep in mind the important fact that most human "superstitions" are not completely analogous to the model of the superstitious pigeon. In the latter case the particular operant which became superstitious was strictly arbitrary within the limitations of pigeon-like behavior. While some human superstitions are similarly arbitrary, the majority are neither accidental nor arbitrary in their specific content. Although their original development and their sustenance as a continuing class of acts may be due in part to the dynamics of operant conditioning, their initial presence in an individual most often comes as the result of either enculturation or some other similar social process. The historical and social investigation of the content of a particular "superstitious" tradition and its modes of transmission are important precisely because of this nonarbitrary factor.¹⁴

14. See Herrnstein, 43-49; Skinner, 87.

Psychological study has brought confirmation of another insight which has been commonplace among folklorists. I refer to the fact that popular beliefs and superstitions are found among all classes and cultures, from the university professor to the backwoods farmer to the island aboriginal. The discovery of an urban folklore is a case in point. We all react in ways similar to those displayed by practitioners of the madstone cure. These behavioral patterns are more common and basic to our status as members of the animal kingdom than the patterns of action and thought associated with hypothetico-deductive reflection and empirical confirmation as found in science.

Conditioning offers tremendous advantages in equipping the organism with behavior which is effective in a novel environment, but there appears to be no way of preventing the acquisition of non-advantageous behavior through accident. Curiously, this difficulty must have increased as the process of conditioning was accelerated in the course of evolution. If, for example, three reinforcements were required in order to change the probability of a response, superstitious behavior would be unlikely. It is only because organisms have reached the point at which a single contingency makes a substantial change that they are vulnerable to coincidences.¹⁵

These comments by Skinner also serve to bolster the folklorist's faith in comparative studies.

CONCLUDING PHILOSOPHICAL POSTSCRIPT

By now it should be apparent why I prefer the term 'conventional wisdom' to 'superstition' in referring to behavior such as the madstone complex. By speaking in terms of conventional wisdom, one overcomes the biases inherent in describing someone's beliefs as being superstitious. I have tried to give substance to my conception of conventional wisdom by providing a fairly detailed examination of one example of a bit of such wisdom, the madstone cure. On the basis of this example I have suggested a more general model for what I call curative episodes. I consider such episodes to be an important subdivision of conventional wisdom. Perhaps it will be possible to identify other similar kinds of episodes within the large area of conventional wisdom. Furthermore, the general concept of process as

15. Skinner, 86-87.

exemplified in the notion of such episodes seems to be a fruitful categorical postulate for several kinds of folklorist data.¹⁶

I can foresee that a general objection to my line of argument may arise: namely, that I have attempted to "reduce" social data to psychological data. To put this in other terms, the charge would be that I am claiming that in order to completely explain folkloristic data (one kind of social data) all one needs are generalizations from psychology. Such an objection would not be proper, for all I am asserting is that *at the least* folklorists need psychological principles. We also need other generalizations peculiar to the social aspects of our data. But we cannot ignore individuals and their psychological traits.¹⁷ Here is where Skinner's work can aid our work. He provides us with a model for the generalized (or "typical") biological individual toward whom we direct (in part) our study. Social data do not occur in a world of their own, a Platonic Realm of Real Texts as it were; neither do they occur in a vacuum. Social data (of which conventional wisdom is a large subclass) exist as modes of the existence of human individuals and their environment. The general thesis of this paper has been that our understanding of social data will expand if we improve our understanding of the ground of their existence.¹⁸

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16. See, e.g., Robert A. Georges' discussion of events (compare "events" and "episodes") in "Toward an Understanding of Storytelling Events," *JAF* 80 (1969): 313-28.

17. There is an excellent discussion of these issues in chap. 23 of *Science, Folklore, and Philosophy* by Harry K. Girvetz, et al. (New York, 1966).

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