

THERMAL SPRINGS AS FOLK CURING MECHANISMS

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Water! God's wonderful elixir of life
Peacefully flowing ne'er sign of strife,
Upwards from its deep bowl of hidden wealth
Comes forth His message of better health.
(Poem on tourist pamphlet, 1930s, Thermopolis,
Wyoming)

For thousands of years, people have sought to cure a variety of physical and mental ills through the use of special water administered over the body or taken internally. Pious Muslim pilgrims to Mecca still drink from the sacred well of Zum Zum believing it promotes well-being. In the Christian tradition, different forms of baptism with water symbolize new purification and spiritual well-being. Taking a clue from these and other sacred uses of water, this paper investigates a particular subset of the use of special water, drinking from or bathing in hot springs as a curative treatment.

During 1981-83, ethnographic research on thermal springs curing was conducted in the western United States and Israel using the methods of participant-observation and interviewing. Field research in various locations focused on two towns with developed health resorts or spas using thermal springs for curative purposes in their facilities. Attitudes toward the healing efficacy and local significance of the springs were collected from historical documents, contemporary newspaper accounts, and local subject interviews and behavior. The research seeks to demonstrate that thermal spring water is viewed as healthful by people who at

least partially subscribe to a folk belief system which, in many respects, is an alternative to scientific medicine.

The analysis proceeds in four parts. First, a theoretical perspective based on symbolic, structural, and folkloric analysis indicates the linkage of water, life, and health in the thought patterns of ancient Indo-European and Semitic peoples. The Galenic humoral medical system built on the oppositions wet/dry and hot/cold is shown to provide the framework for hot springs curing beliefs. Given this framework, section 2 discusses mythological and historical accounts of the specific thermal springs analyzed by the investigators to demonstrate that there is a supernatural component linked to ideas of healing. In the third section, analysis of contemporary belief in thermal springs documents how curing activity with symbolic and supernatural elements now incorporates a scientific or recreational idiom. The final section offers historical and cultural explanations for the changing attitudes toward thermal spring curing in terms of folk versus biomedical (scientific) curing traditions.

Medical systems find their origins in human attempts to control disease and death. Folk or traditional curing systems may be distinguished from scientific or modern biomedical curing systems by four major points of contrast. Scientific medicine is materialistic; that is, it describes and explains events within the body in material terms where folk curing often describes or explains illness in spiritual or mentalistic terms (Morley 1980; Berliner and Salmon 1980). (1) Scientific medicine is objective; it conceptualizes illness as a set of observable, physical events where traditional

curing takes the patient's subjective experience as primary (Morley 1978:15; Romanucci-Ross 1983:viii-xi). Scientific medicine is specific; every disease has a unique etiology where folk medical systems may postulate that all illness is a result of soul loss, witchcraft, etc., regardless of the specific manifestations of disease (Morley 1978:2-3). Finally, scientific medicine is reductionistic; it operates primarily at the level of the cell rather than the level of the entire person (Morley 1978:14; Romanucci-Ross 1983:15-17). Perhaps the most important impetus to the late nineteenth century transformation of medical practice from a healing art to a science was the discovery of the role of the microbe in disease causation (Gebhard 1976:87-97). Clearly, hot springs are a folk medical practice since emphasis is on the patient's feelings, the entire body is immersed and the method is used for a wide variety of illnesses.

Hot Springs Curing—Theoretical Perspectives

Balneology, the treatment of disease by baths and the waters of mineral springs, is an ancient traditional curing system. The word comes from the Latin, "balneum," bath. Ingestion or immersion in liquid for health purposes was apparently a widespread custom in the ancient world. In part, liquid itself was viewed as life enhancing.

Using a psychoanalytic, symbolic, and structural framework, Alan Dundes analyzes the evil eye belief system which is common among Semitic and Indo-European peoples but relatively rare in the rest of the world (1980:94). The evil eye is a belief system based on the idea that an individual has the power to cause harm to another, illness, death, or destruction. Dundes notes that consequences for the victim of the evil eye

seem to involve a drying or dessication process--"if the object attacked is a cow, its milk may dry up; if a plant or a fruit tree, it may suddenly wither and die" (1980:93). He concludes that the idea that life depends on liquid was a basic principle of the ancient Mediterranean world. Bodily fluids, semen, milk, blood, bile, saliva mean life while loss of such fluids means death. To use Levi-Strauss's approach (1967:202-228), wet and dry are a basic binary opposition in Semitic and Indo-European thought and are a transformation of the opposition life and death. These unconscious categories may manifest themselves in many different customs. For example, on festive occasions, in many European traditions, toasting with wine or other beverages involves a salutation along the lines of "To your health." Thus, health is associated with the ingestion of a liquid. The Eastern European Jewish tradition of toasting may also be compared with the Hebrew phrase, *l'chaim*, "to life." Clearly, there is a widespread association between life, health, and taking in a liquid.

Folktales also confirm the notion that liquid is life. Stories of a fountain of youth or life are well known. The magic liquid can cure wounds, bring the dead back to life, and make the old young. If aging consists of the diminution of precious fluids, including wrinkling or "drying" of the face, loss of ability to produce breast milk or semen (lack of internal fluid), then to reverse the process, one must increase the supply of available liquid (Dundes 1980:108). Further confirmation comes from the Judeo-Christian written tradition which equates paradise or the promised land, as one which is **flowing with milk and honey** (Dundes 1980:132). Hell on the other hand is fiery and dry.

According to the Bible, man was created from dust and to dust he returns after death. Thus dryness is equated with death, and life, even eternal life, with flowing liquids. Islam makes a similar equation. "Then fear the fire, whose fuel is men and stones prepared for unbelievers...Give thou good tidings to those who believe...that for them await gardens underneath which rivers flow..." (Arberry 1955:32).

Hot springs curing includes the application of heat in addition to wetness. It is likely that a double binary opposition, wet/dry and hot/cold, underlies Indo-European ideas about life and health. Confirmation for this point comes from the medical system of Galen, the Greek physician and writer who was instrumental in formulating a medical system based precisely on these oppositions. Galen wrote of the four humors, blood, yellow bile, black bile, and phlegm which must be in proper balance to ensure the health of the individual (Penkala 1980). Significantly, blood is composed of heat and wetness; yellow bile is hot and dry; black bile is cold and dry; and phlegm is cold and wet. Blood therefore seems to evoke the characteristics found in hot springs. Additional confirmation comes from societies where the Galenic medical system still operates. Penkala (1980:214) has reported that a **hakim**, a herbal physician in Afghanistan who used the humoral system in diagnosis and treatment, classified the stages of life as childhood, hot/wet; youth, hot/dry; maturity, cold/dry; and old age, cold/wet. Thus childhood, the most vigorous time of life, is associated indirectly with blood, and, by implication, with hot springs.

Symbolic analysis has shown that the multi-faceted meanings of symbolic thought may frequently invoke human biological

process (Turner 1967:28). For example, redness symbolizing violence or war incorporates the metaphor of bloodshed. In the case of thermal mineral water, it seems likely that a strong symbolic connection can be made between that water and bodily fluids, especially blood. These are warm, have similar salty tastes and opaque appearances while pure water lacks these qualities.

Dundes also argues that evil eye beliefs incorporate an equilibrium model. There is a limited amount of good in the world --health, wealth, etc. If one person has an abundance, that means another necessarily lacks and seeks to gain at the expense of the first, therefore projecting the evil eye. If Dundes is correct about this principle, interesting conclusions can be made about hot springs. Springs with their mysterious and never-ending flow would appear to contradict an equilibrium model of the natural world. A resolution of this problem might be to impart supernatural characteristics to springs; or perhaps they might be viewed as originating from supernatural agency, particularly if the water had any other unusual characteristics such as a special smell, taste, or heat.

Historical and Mythological Accounts

Many of the stories about thermal springs tell of their miraculous origin via superhuman power or supernatural event. The classic examples of this found in Israel are Arab or Bedouin legends that attribute the heat of thermal springs to King Solomon's power over jinn, demons who are created of fire (Shalinsky 1980:190). According to the Quran XXXIV:11-13, the jinn performed labor for Solomon. The largest complex of hot springs in Israel, near the city of Tiberias, was originally an ordinary cold

spring until Solomon ordered the jinn to heat its underground source (Vilnay 1978:172-3). Solomon performed this benevolence when people complained that his wisdom had brought them no practical benefits. In addition, Solomon made the jinn deaf so that they would not hear of his death and cease to perform their labor.

Another hot spring in northern Israel, Hamat-Gader, was said to be built by Solomon. An Arab geographer of the thirteenth century makes mention of Solomon's bathhouse there and notes, "...it is like a palace, and in front of it the waters flow from twelve springs; each one for the cure of a particular disease..." (Vilnay 1978:92).

These springs have apparently been in use for at least three thousand years. Ancient Judaic sources give a variety of supernatural explanations for the springs' existence: the Apocryphal book Enoch attributes the source to the flames of hell; a third century A.D. rabbi, Yohannan ben Nafcha, attributes the springs to the days of the great flood; other authorities believed the heat to be a consequence of the six days of creation.

The problem for each of these sources is the apparent contradiction between heat or fire, which is a drying process, and flowing water. The resolution of the contradiction, the combination of heat and wetness, resorts in each case to a supernatural explanation, the flood, creation, superhuman power, or Solomon's control of the jinn. Supernatural agency is working for the benefit of mankind; the hot springs are there precisely so that they may be used by people for health reasons.

Throughout the Middle Ages, the hot baths of Tiberias were used for curing boils,

leprosy, and rheumatism (Vilnay 1978). (3) Scholars debated whether hot baths were permitted on the Sabbath, the traditional day of rest. It seems that they could not prevent people from utilizing the resources and were forced to permit the practice (Vilnay 1978:170-1). Two new elements which have become increasingly important in the twentieth century, scientific validation and recreation, were also first discussed by these Jewish scholars. Rabbi Moses ben Maimon (Maimonides), a twelfth century physician, offered the first naturalistic explanation for the hot springs; the waters are hot, he said, because they pass through layers of sulphur and similar matter (Vilnay 1978: 169). Maimonides also commended the waters for their purgative qualities, indicating that the water was ingested as well as used for bathing in that period. Scholars also wondered why Jerusalem did not have hot springs like Tiberias. Their answer was that pilgrimage to Jerusalem, if it had hot springs, would not be merely a holy duty but would be tainted with worldly pleasure. The medieval scholars therefore recognized that bathing in thermal springs was not only curative, but also brought bodily pleasure.

In the old bathhouse in Tiberias whose construction was apparently completed during Turkish sovereignty over Palestine, a carved stone lion rests near the pool. Arab legends attribute the miracle of fertility to the lion for if a barren woman visits the pool and sits on the lion she will conceive (Frommer's Israel 1980-81). Improved fertility then is another consequence of taking the waters, a possible confirmation of the symbolic connections suggested previously. If barrenness is perceived as a kind of dryness, then

sacred water should improve fertility. Sterility could be classified as a "cold" disease in the Galenic system, and hot water would then be a particularly appropriate treatment (Penkala 1980:218). Interestingly, in the modern facilities in Tiberias, sterility is listed as one of the conditions which can be helped by treatments using the water.

Journeys to sacred sources of healing are often perceived as pilgrimages (Turner 1974:203). The sacred water sources of Mecca and Lourdes are well known. Tiberias is viewed as a sacred city, and many famous tombs of rabbis in Tiberias attract the religious to pray and give charity at gravesite. At least one such tomb is within walking distance of the hot springs.

The reputation that Thermopolis, Wyoming, gained early in its history, as "the Mecca for the Afflicted" (Phillips 1982), also indicates that it is a pilgrimage site. It may be significant that locals seldom use the various hot spring facilities there (Brown 1977:94). The situation is comparable to that described for Mexico; "...whenever a municipal contains or is near a major pilgrimage center, its inhabitants, though they may participate in festive and marketing activities associated with the saints' feast days, tend to go as pilgrims to distant shrines rather than to near ones" (Turner 1974:191). Sacred sites must retain a sense of mystery resulting from a lack of familiarity.

There are 434 thermal springs listed for Idaho, Montana, Wyoming, Colorado and New Mexico (Brown 1977:96). While some have remained in private hands, many have been incorporated into early townsites as the settlers felt they would provide attractions for potential visitors. In every case analyzed,

the springs were said to have been used by Indians who considered them sacred. The Cheyenne and the Dakota Sioux are said to have fought for a hot spring on the top of Battle Mountain, now Hot Springs, South Dakota (Black Hills Traveller 1983:30). After many deaths, both tribes agreed that the waters and surrounding area would be neutral ground and that no harm would come to those who were in this territory. As a sacred no man's land, the space surrounding the hot springs was thus perceived as non-ordinary, not amenable to territorial claims, and characterized by peace and harmony between peoples. A current travel guide says that the Sioux believed a God dwelt in the water and drove away their pain and evil spirits (Black Hills Traveler 1983:37). White explanations of Indian beliefs often note that the Great Spirit is credited with giving thermal springs to his children.

The Shoshoni tribe of the Wind River Reservation in Wyoming once owned the hot springs near present day Thermopolis, Wyoming, by treaty but ceded the springs and the land surrounding them in 1896 (Agreement 1896). They retained a hot spring near their tribal headquarters, Fort Washakie, and by treaty retained usage rights in the springs they had given up (Milek 1975). A Wyoming encyclopedia writer described the Shoshoni beliefs as follows:

For many hundreds of years the Shoshone nation brought their ill and afflicted to this prodigious (sic) spring, dwelling place of the mightiest of all spirits who inhabit the earth. Old and young alike were bathed in the curative waters of this magic spring where dwelled the great spirit. Recovery was in many instances almost miraculous and the awed Indians held the great spring in deep reverence. It was the most sacred and cherished of all their possessions (Harris:1954:78).

According to the Shoshoni elder Herman St. Clair, "the warmth of the water signified that it welled from the heart of the world as did the blood of an animal" (1964). St. Clair makes the same kind of metaphoric symbol discussed previously. The blood of an animal is its life; the warmth of the spring water must also transfer a life principle. That the Shoshoni and the Arapaho, also resident on the Wind River Reservation believe in the healing efficacy of thermal springs is clearly shown in their development of facilities, private baths and pool, utilizing the hot spring they retained.

Big Spring, Thermopolis' largest thermal spring, long considered a source of healing, has furnished water used for bathing and taken internally. Pamphlets from the 1920s and 30s tout the spring's curative powers for:

Diseases due to faulty metabolism--rheumatism and gout; diabetes mellitus; obesity.

Diseases of the Heart and Blood Vessels.

Diseases of the Nervous System--Neuritis, neurasthenia, neuralgia, locomotor ataxia, hysteria, epilepsy, cholera minor, paralysis agitans, migraine, occupation neuroses.

Diseases of the Stomach and Intestines. Diseases of the Bladder, Prostate Gland, Epididymus, etc., Chronic Pelvic Inflammations, Nasal and Pharyngeal Catarrhs, Chronic Gonorrhoeal Inflammations.

Skin Afflictions--Eczema, psoriasis, acne vulgaris, furunculosis, ecthyma, sycosis, seborrhea and pityriasis.

Other pamphlets from the same period direct the reader to "visit the world's biggest mineral hot springs--Thermopolis, Wyoming where hope returns and with it health and happiness." Another says, "In some cases, the results of the baths have been so pronounced as to seem almost miraculous, but

it is impossible to give an accurate description of the effects of these waters without seeming to be guilty of over-statement." Quite early in its history, the town Thermopolis was given the nickname, the "Mecca for the Afflicted." This comparison with the Muslim center and its sacred well reinforces the point that spring water is traditionally viewed as a miraculous gift of the supernatural for the benefit of mankind.

Most early twentieth century resident hotels in Thermopolis had their own chiropractors or osteopaths who used the waters in their treatments. These practitioners used health conceptual frameworks which were not based on microbiological views of disease but included mechanistic concepts of proper whole body structure and function. They incorporated many folk concepts in their curing strategies and prescribed the waters for external and internal benefits. Today many individuals likewise maintain health belief systems which combine ideas about germs, nutrition, body function, and health: concepts which are derived from different health belief systems. Though individuals get little support from medical practitioners, some continue to fill their jugs and use the water for drinking.

Of those who do not find the water distasteful, the most commonly reported reaction is that it tastes like chicken soup. At the state bathhouse drinking fountain, individuals were observed who brought their own condiments, salt and pepper, to add even more to this taste. McLaughlin, the treaty negotiator who obtained the Thermopolis springs from the Shoshoni was the first to point out the resemblance to chicken broth (Agreement 1896:2). An informant stated that the water will taste like soup only when

stirred with a feather and eaten with soda crackers. A newspaper column about old times in Thermopolis mentioned an old man dressed up like Bill Cody (Buffalo Bill) who used to pass around salt and pepper shakers to the tourists who were dipping their tin cups into the spring (Hunter 1982).

Though the chicken soup resemblance is not accepted by all, it does indicate that the water is classified by some as a kind of folk medicine, a homey curative agent known to grandmothers and opposed to prescription drugs and medical doctors. In fact, when a Kansas M.D. was advised that a long-time patient was going to the free bathhouse at Thermopolis, the doctor quoted an old saying that allegedly was coined about Hot Springs, Arkansas--"You go in on crutches and you come out on a stretcher." Thus, the health aspect of the springs is perceived as traditional and yet is anti-scientific medicine.

Hot Springs, South Dakota has a similar history to Thermopolis. The springs there had even greater development since that town dates to 1867 and was given a soldiers' home by the federal government in 1889. The waters were to be used in the treatment of the soldiers, sailors, and marines "who have served and who are disabled by disease, wounds, old age, or otherwise." Claims for the water stressed its curative powers for constipation, rheumatism, gout, kidney and liver conditions, anemia, skin disorders, impotence, syphillis and cold feet (Julin 1981). Several of these afflictions, particularly constipation and impotence, would seem to contain a dry equals disease, and wet (creating wetness, feces, semen) equals healthy connection. Note also anemia (lack of blood) is cured by hot springs.

Some years after the founding of the soldiers' home in Hot Springs, medical doctors began withdrawing support for claims of the medicinal value of the water. Thermopolis apparently did not enjoy an initial period when medical doctors approved treatments using waters. However, the earliest doctor to see the springs there, Dr. Thomas Maghee, Post Surgeon stationed with the Army at Camp Brown, Wyoming, who visited in 1876, did use them in treatment (Crosson 1978:44). The shift in the attitudes of medical doctors towards hot spring curing roughly coincides with their increasingly microbiological diagnosis and treatment of illness following the discoveries of Koch and Pasteur in the 1870s and 80s.

Contemporary Use of Thermal Springs

Current facilities offered by most thermal spring developments in the United States and Israel usually include private baths, soaking or bathing pools, and swimming pools. The latter is recreational and the thermal mineral water is frequently mixed with regular water for this purpose. The other facilities emphasize the healthful aspects and curing potential of the waters. Wyoming runs a free bathhouse without swimming facilities, but with soaking pools and private baths visited by over 30,000 people annually.

Contemporary "miraculous" cures are still documented for thermal springs in the United States. The owner of the Maytag well near Thermopolis says the water has produced new growth on his previously bald head, a classic fountain of youth example (State Geologist 1978). More common are reports about relief of pain or trauma particularly among the old. An excerpt from a fieldwork interview demonstrates this.

Twelve years ago, Mrs. X and her husband were in a serious automobile accident. She was in a hospital in Billings, Montana, and then in Thermopolis in traction. For one year, Mrs. X did exercises in the water in the state bathhouse. She did them two or three times a day. Mrs. X attributes her current state of health and freedom from pain to the "healing power of the water." Heat is part of the healing and the minerals are absorbed through the skin, she says.

Stories are occasionally reported in the Wyoming press to attract tourism to the area. According to one account, a 93 year old lady had been plagued by bad health. Doctors in her home town of Kearney, Nebraska, had given her fewer than six months to live. She was not able to keep down any solid food. After a few months of drinking the waters, she was able to eat again. Her health returned completely and she and her family moved to Thermopolis (Maybee 1978: 15). In the same article, another story was told of a woman who had not been able to recover after the birth of triplets. Her family sent her to Thermopolis where her health was restored within a year (Maybee 1978:15).

Field interviews revealed some diversity in current beliefs about hot springs curing (4). The strongest support came from a woman who had been an attendant in the state bathhouse for fifteen years. In one interview, with her husband present, she told the following story:

I was looking out the bathhouse window toward the terraces of the spring one winter when I saw the dog. A lot of people just abandon dogs in the park, but there was something strange about this

one. I went outside to see if I could do anything and I saw that he was limping. That dog went and stood in the hot spring water by the terrace. I saw him come back and do that day after day for months. Finally, I saw that he wasn't limping any more and he stopped coming back.

At this point, her husband added, "Dogs and Indians know," referring to Shoshoni use of the springs before the coming of the white man. This couple believes in hot spring curing because it is natural and known to "nature's creatures." Nature's method is good enough for animals and Indians and it should be good enough for us (Atkinson 1979). Nature, here, is self-evidently good.

A college student who preferred to use the commercial plunges where swimming was allowed commented, "I know it helps my skin. I guess the minerals are absorbed into the skin. I think it may purify the blood." This student used the pool as a regular form of exercise. The statement demonstrates the common belief that microparticulate matter within the water is healthful rather than the water itself.

Use of the water as a vitamin and mineral supplement was mentioned by a woman who occasionally collected the water for drinking. She said, "You just get the water in a jug and set it in the refrigerator. After about a week, the sulfuric fumes are gone. Then that water is the best, most healthful in the world." Other visitors to Thermopolis believe heat is a beneficial agent, another intrinsic characteristic. "I always stop in 'Thermop' when I'm passing through. The heat is good for my bad back. When I'm sitting in the water, it's great, but it's just temporary relief."

There were also skeptics. "Doctors

say it's all in the mind." "I think it may carry diseases." "I wouldn't think of putting my sore leg in that water." Local residents also disagree about the economic significance of the springs. Since many of the 30,000 annual visitors to the state bathhouse are from outside of Thermopolis, tourism provides part of the economic livelihood for the area. The state park superintendent, an opponent of using the geothermal source to develop a city heating system, called in a water specialist when, to his eye, the water level in Big Spring, the largest in the park, dropped subsequent to geothermal testing. He feared that Thermopolis would become a "ghost town" if the resource ceased to exist. (5) On the other hand, a letter to the newspaper criticized the superintendent for disregarding the county's economic base: ranching, farming, and energy-related concerns. The writer, himself in an oil-related industry, conducted an informal survey and discovered that 35 percent of the community's population work in oil services or for oil companies. The writer concluded that it would be tragic if Big Spring were lost due to its "aesthetic value" but that the town would survive the death of the springs. (6) Here a clear distinction is made between those activities which enhance the survivability of the town and the springs which provide aesthetic value and are thus less important.

Free use of the resource has always been controversial. Some townspeople have pointed out in letters to the local newspaper that with free camping in the State Park and free bathing in the State bathhouse, some visitors do not actually contribute to the local economy. These people favor the abolition of free camping, justifying their view that the practice was not specified

in the 1896 treaty. Similarly, there have been recurrent attempts to change the status of the bathhouse so that only Wyoming residents would be allowed to use the facilities free of charge. Thus, townspeople differ on the financial benefits the hot springs bring to the town.

The state of Wyoming is strict in regulating the use of its developed hot springs. Bathing suits are required and attendants inform visitors of rules and strictly monitor periods of immersion. There is little evidence of the nude bathing and the "back to nature" attitude promoted in recent publications on hot springs (Loam 1980). There is also little specifically "curative" regimen associated with immersion unless special discussion is held with the attendants and the visitor has made repeated visits for specific problems. In the past, there was much greater emphasis on particular treatments. For example, an advertisement in a visitors' pamphlet of the 1930s specifies three weeks with daily baths and moderate quantities taken internally as required to cure an acute flare-up of rheumatism and four to six weeks of bathing required for chronic conditions. Visitors with specific problems are more likely to use private baths for their daily curative regimens, leaving the bathing pools to fill a relaxation and recreational function. Commercial swimming establishments in Thermopolis cater even more to these latter functions and have added modern facilities like saunas and hot tubs to augment the traditional massages. The Holiday Inn of the Waters features racquetball courts, exercise rooms, saunas and an outdoor jacuzzi mineral pool. Guests are invited by a sign at the front desk to inquire about "our unique waterbed rooms" (Horizon Magazine 1982:36).

Facilities such as these still incorporate a health component. Stress management and exercise are now viewed by many as part of a regular health regimen. The holistic health movement of the late 1960s and early 1970s brought these issues to the fore (Berliner and Salmon 1980). Facilities at hot springs thus combine these new attitudes with the older ideologies about health and the curative powers of hot mineral water.

In Israel, specific curing regimens are more developed today than in the western United States. The Tiberias hot springs complex contained mineral pools, baths, saunas, physio- and hydrotherapy, and mud treatments. They have carefully documented and posted improvement rates. The incorporation of scientific concepts thus appears more complete in this case.

Visitors to the Tiberias facilities experience ritualized activity, but the activity is highly regulated via clinical rules and atmosphere. In a striking parallel with the state bathhouse in Thermopolis, visitors to the baths check in with white clothed attendants who escort them to the changing rooms. Private baths are equipped with whirlpools, and attendants escort the visitor to the room, conduct him in, and time the bath. An attendant also brings the visitor to a cool-down room, wraps him in a white sheet and times that experience. The effect of this regimentation is to provide a scientific medical cast to the experience.

In Israel, an interesting dichotomy between visitors to the recreational thermal pool and to the private whirlpools may exist. In order to preserve modesty, religious Jews including Chassidim, utilize the private baths. These individuals do not justify their use of hot springs in scientific terms.

As one stated, "These springs are from God. God is the source of healing. This is a gift from God."

There is currently a great emphasis on development of the health resort industry along the Dead Sea as well as Tiberias. Different resorts specialize in the treatment of different diseases. The Zohar springs area, near the Dead Sea, specializes in rheumatism, skin diseases, allergies and bronchial asthma. The Dead Sea itself, another kind of special water, is considered beneficial for post-surgical trauma, neurological and metabolic disturbance, and its medicinal mud is used for rheumatic illness and to aid in recovery from paralytic illness (Cashman 1983).

Investigation in Israel did not indicate that the water is drunk as well as used for bathing. This part of traditional practice may have disappeared. In the United States, this aspect while rare has continued. In downtown Hot Springs, South Dakota, a gazebo encloses Kidney Springs where locals occasionally take a drink. There are several outdoor drinking fountains in Thermopolis which have piped hot mineral water. In the Thermopolis town celebration, an annual pageant reenacts the "gift of the waters" from the Shoshoni to the white man. The major ritual event of the pageant involves one Shoshoni playing the role of "medicine man" receiving a bowl of the water from the "Indian princess," a Shoshoni girl. He drinks the water, as do all the Shoshoni participants subsequently. However, there does appear to be a change in attitude associated with the decline in ingesting the water. When the water itself was clearly viewed as sacred, drinking as well as bathing was common. When the emphasis switched to beliefs that it was the

minerals that were healthful and that the water was a medium in which the minerals were carried, or that heat itself was the beneficial agent, external administration of the water increased at the expense of internal ingestion. The switch may at least partially be attributed to the incorporation in folk health belief systems of nutritional concepts about the role of vitamins and minerals in the body.

Folk versus Biomedical Curing

Scientific medicine has assumed a dominant position in the diagnosis and treatment of illness. The success of scientific medicine was due in some part to microbiological discoveries and the improved treatment of infectious diseases that resulted from the discoveries (Gebhard 1976:93). Furthermore, as scientific medicine developed, it took on characteristics of an ideological system, that is, it offered a way for people to view the world and to understand the relationship of illness, health, and its root, life itself (Morley 1980:5-6).

Other ideological systems already existed which postulated relationships between these components. An ancient folk belief system involved connections between health and water. The life process was perceived as liquid, and it was observed that the human body teems with liquids--blood, semen, milk, bile, saliva, tears--and that the aging process appeared to involve the drying up of these vital heated liquids. This framework was also tied into a supernaturalistic view of the universe: the supernatural could directly impinge on the affairs of mankind and provide the good life which might otherwise be unobtainable. Similarly, hot springs have always been used as curative mechanisms. It is likely that there was an empiri-

cal component in this usage, but hot springs also fit into the supernatural conceptual framework. They provided verification that heated liquid is life.

Scientific concepts and naturalistic explanations did not simply and automatically replace the older conceptualizations in the nineteenth and twentieth centuries. Instead, some scientific ideas which most closely fit with the folk belief system were incorporated into it. Then, as scientific medicine gained in explanatory and social power, it was added on as a kind of surface layer over the older system so that adherents of thermal springs as curative mechanisms could justify their beliefs in a scientific idiom. The curative aspect of the waters was now viewed less as emanating from supernatural sources and more as ingredients in the water itself in the form of natural microparticulate mineral elements. This transition from one set of justifications (supernatural) to another (natural) parallels the transition from pre-scientific to scientific explanations of health, body, and illness. However, in some cases, the supporters of hot springs cures were chiropractors and other specialists who consciously held health conceptual frameworks which were opposed to the scientific medical establishment.

In the late 1960s and early 70s, another health ideological system, generally known as the "holistic" movement gained prominence (Atkinson 1978:168-9). Holistic ideologies interpret health as a positive physical and mental state, as a function of lifestyle (diet, exercise, stress management) and as under the control of lay individuals. They emphasize self care and the spiritual or mental side of health. In several respects the holistic movement opposes scientific medicine's

promotion of professionalized care, post-hoc disease intervention rather than prevention, and naturalistic or materialistic rather than mental or spritual explanations of health and disease (Berliner and Salmon 1980). The holistic movement thus hearkens back to the earlier conceptual framework. The addition of saunas, whirlpools, and hot tubs, technology from the holistic health movement to thermal springs facilities marks a renaissance which reinforces these alternative conceptualizations of health and life.

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NOTES

- (1) Yoder (1972) contrasts "natural" folk medicine in which people seek cures for illness in the environment and "magico-religious" folk medicine in which the recourse is to the supernatural. The analysis here indicates that the two types are combined in hot spring curing.
- (2) Gebhard (1976:96) notes that one of the important folk beliefs in the United States is "blood is a very special kind of sap."
- (3) In Afghanistan, rheumatism is classified as a "cold" disease with a prescribed treatment of hot springs bathing (Penkala 1980:217).
- (4) Of the fifteen interviews collected in Thermopolis, respondents were equally divided about the healing efficacy of the water. Of the thirty interviews conducted at the state bathhouse and the commercial pools, respondents

were more inclined to either promote the healing efficacy, speak of temporary relief, or describe their activity as relaxation. No attempt was made to randomize an interview sample, because all informants in the local area may at least derive indirect economic benefit from the springs' development.

(5) Loam (1980) depreciates the lack of the use of geothermal resources in Wyoming. The Office of the Wyoming State Geologist has a report on the geothermal testing in Thermopolis.

(6) This controversy was recently reported in the local newspaper, the Independent Record, in July of 1982.

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