The Tapestry of Alternative Healing

by Robert Hudson

Contrary to some thinking, traditional medicine did not become monolithic in theory and practice until the first half of the twentieth century. Before that its history was one of alternative systems of causation and treatment following one after the other. In this paper, alternative medicine includes folk medicine, quackery, and "sectarians" such as osteopathy, chiropractic, and naturopathy. These categories of healers have not had discrete existences apart from each other and traditional medicine. Rather they all have edges where they have interacted with each other, at times competitively, at times cooperatively. The best tool society has to evaluate the validity of alternative medicines is science. Science, however, has not been very effective in this regard.

Late twentieth century historians treating the story of traditional medicine[1] face a daunting, complex task. Add to it accounts of holistic, alternative, and folk medicine, plus faith healing and quackery, and the endeavor increases in complexity. The story is further complicated because the various forms of healing do not have discrete and isolated histories. Rather, they involve a tapestry of multi-colored strands, at times discontinuous, whose beliefs and actions are interwoven over time and place in history.

Using a historical framework, this paper presents the interweavings of various healing disciplines — traditional medicine, religious healing, folk medicine, and quackery — and examines the role of science in determining the validity of these traditions.[2]

Traditional Medicine

In a real sense, the history of traditional medicine *is* a history of medical alternatives. The theories and practices of traditional medicine did not take on a monolithic form until the twentieth century. Before then, the situation is best described as a series of paradigms that originated within the traditional medical culture, but departed, at times radically, from contemporary mainstream medical thinking.

The casual approach to the history of Western traditional medicine usually begins with the Greeks, specifically the Hippocratics. Some observers assume that Hippocratic medicine was dominant in its time. In fact, the Hippocratics contended with a number of schools, principally the Methodists, Empiricists, Pneumatists, Dogmatists, folk medicine, and quackery. The Hippocratics are linked to present medicine, not due to dominance in Antiquity, but because of their emphasis on disease-as-natural and their belief in the bedside study of the patient, an emphasis known today as "holistic medicine."

Holistic medicine is not a distinct school of theory and practice as, for example, chiropractic. Nor did it originate, as many believe, in the 1960s. Ancient Greek physicians intuitively accepted the core meaning of holism as the fundamental basis of medical practice. In the Hippocratic book,

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Epidemics (Adams 1883) we find, "With regard to diseases, the circumstances from which we form a judgment of them are, by attending to the general nature of all, and the peculiar nature of each individual, to the disease, the patient . . . to the whole constitution of the season, and particularly to the state of the heavens and the nature of each country . . . "

Because philosophy pervaded all learning in the Golden Age, it is not surprising to find Plato writing of contemporary physicians (Jowett 1892):

> If the eyes are to be cured, his head must be treated; and then again they say that to think of curing the head alone and not the rest of the body also, is the height of folly. And arguing in this way they apply their methods to the whole body, and try to treat and heal the whole and the part together.
>
> — Socrates

In a sense the history of holism could end here. It remained a part of medicine from Antiquity on, fading after the 1950s when specialism lured traditional physicians away from their holistic past. Even then the tradition persisted in pediatrics, family medicine, and general internal medicine.

During the 1960s and 1970s, holistic medicine began assuming an identity of its own (Shealy 1975). By the 1980s, it could scarcely accommodate all those seeking its imprimatur, with the result that it is now confusing when used without amplification.

Out of the contending schools of the Golden Age, a modified form of Hippocratism emerged as dominant by the end of the second century A.D. Galen, a Greek physician in Rome who polished a scheme of disease causation that came to be called the Doctrine of the Four Humors, was a leading figure during this period. The resulting system, known as Galenism or humoral pathology, ruled medical thought almost exclusively for the next millennium and a half.

In the sixteenth century, Paracelsus made the first serious break with traditional medicine when he denounced Galenism and committed the heresy of teaching and writing in German rather than Latin. His system, a drastic alternative, was even more arcane than the one it tried, but failed, to replace. He is remembered primarily for showing that the Western world was emerging from the Middle Ages, and that change was now possible even in a medical system that had been ossified for over fifteen hundred years.

Around 1830, states repealed all laws governing medical education and practice, resulting in chaos. Not only could anyone become a physician, even by self-ordination, but healers could do anything to patients for payment without fear of legal liability.

In the seventeenth century, a major conceptual change saw the human body as a machine. This thinking produced the Iatrochemists and Iatrophysicists, whose systems of causation and therapy are suggested by their names. They left a mark on medical thinking that has echoes today, but the movement lost influence as the century progressed and never completely replaced the entrenched Galenism.

The eighteenth is known as the century of great medical systems. New schools of theory and practice piled on each other with bewildering rapidity. Even the more influential lasted only twenty-five years or so. This activity was a measure of traditional medicine's inability to effect much real change in the course of disease. The practitioners had the same medical training but departed their indoctrination to follow the siren of greatest appeal at the moment. They remained within the

same general medical culture, but were truly alternative in their practice of medicine.

The years 1830-1875 marked a distinct nadir for traditional medicine and the greatest explosion of alternative medicine in American history. Around 1830, states repealed all laws governing medical education and practice, resulting in chaos. Not only could anyone become a physician, even by self-ordination, but healers could do anything to patients for payment without fear of legal liability.

Into this void poured healers of all stripes. In 1836, an observer listed the following alternative practitioners: Irregulars, Broussaisians, Sangradoarians, Morrisonians, Brandethians, Beechitarians, Botanics, Regular Botanics, Thomsonians, Reformed Thomsonians, Theoretical, Practical, Experimental, Dogmatical, Emblematical, Magnetical, Electrical, Diplomatical, Homoepathians, Rootists, Herbists, Florists, and one group identified as Quacks (*Boston Medical and Surgical Journal* 1836).

From this confusion, the public had no reasonable basis for choosing its healers, which is precisely what the times preferred.

A semblance of sanity began returning after the Civil War. States re-enacted licensing laws and medical education improved (Hudson 1977). By now homeopathy, the greatest challenge to the traditionalists in the nineteenth century, was merging with traditional medicine, a movement that was completed in the early twentieth century. Osteopathy developed during the 1870s and chiropractic began in 1895. Both swam through the tide of German and French science and the dramatic advent of the germ theory that washed away most sectarians. For practical purposes, by the middle of the twentieth century, traditional medicine held a monopoly on medicine. Osteopathy and chiropractic survived, but they were no match for the solid front led by the American Medical Association (Gevitz 1988).

In summary, osteopathy gradually abandoned its unitary causation and treatment and adopted most of the educational corpus and practices of traditional medicine. Although osteopaths still try to retain their identity, this is bound to be problematic. Someone has said, "A difference, to be a difference, must make a difference." For osteopathy and traditional medicine today, there are no differences that make a difference.

Chiropractic is more divided internally than osteopathy. The "straights" adhere firmly to the founding principle that all disease originates from a misalignment of vertebrae and can be corrected by physical adjustments of the spine. The "mixers" variously add physical therapy techniques and aspects of naturopathy. Neither can prescribe drugs or perform surgery. As the elevated status and income enjoyed by osteopaths after they accepted traditional medicine continues to grow, chiropractors will face the same forces that led osteopathy to what amounts to a *de facto* merger with traditional medicine, a tendency resisted by many within chiropractic.

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This chapter in the history ends on an ironic note. As noted, the wild growth of sectarians in the middle fifty years of the nineteenth century was driven by society's decision to completely deregulate the healing professions. Today, in the face of the most strictly regulated medical education and practice in our history, there is a host of new sectarians, now termed alternative healers. In addition to osteopathy and chiropractic, a casual list includes new-homeopathy, hypno-therapy, biofeedback, acupuncture, moxibustion, naturopathy, megavitamin therapy, autogenics, herbalists, and mental health counselors under many rubrics.

There is no denying the appeal of alternative medicine. Eisenberg and others (1993) documented the current utilization of alternative medicine in the United States. They defined unconventional therapies as "commonly used interventions neither taught widely in United States medical schools nor generally available in United States hospitals." With this definition, at least one-third of Americans surveyed had employed at least one unconventional treatment in the past year. They estimated that Americans spent at least $14 billion on such treatments in 1990. The study's central message is clear: A large number of Americans have turned to alternative healers, either as their only care or as complementary to traditional medicine.

The most persistent criticism of alternative medicine by traditionalists is that the various theories and treatments have never been tested by the scientific scrutiny required of new therapies in general. The first official attempt to address this complaint was made in 1992, when the National Institutes of Health created an Office of Alternative Medicine (*Alternative Medicine* 1992). Considering its charge, the venture faces serious obstacles. Its budget is only $2 million, which allows about $30 thousand for each investigation, a minuscule amount considering the complexity of proving or disproving an entirely new treatment.

A fair summary of the status of alternative medicine in the 1990s is found in *Consumer Reports* (1993), a publication not known to favor traditional medicine unduly:

> Anyone venturing into the world of alternative medicine . . . is likely to find it as frustrating to explore as it is enticing. This is a field that encompasses vastly different treatments. It's a field whose practitioners range from sober academic physicians to entrepreneurial faith healers. And it's a field where there are still too few careful scientific studies, and where investigators haven't even agreed on what rules of evidence should apply.

Religious Healing

Religious healing is as old as history and as ubiquitous as human populations. Biblical accounts of miraculous cures set the stage for later, more ritualized, endeavors in faith healing. The most celebrated of these in the West is the healing shrine at Lourdes, France, which began with the visions of a young French girl, Bernadette Soubirous in 1858. The entire experience of the thousands who visit Lourdes is designed to enhance the pilgrim's faith in the power of divine healing. There is no way to evaluate the endeavor objectively. After a generally sympathetic treatment of Lourdes, Jerome Frank (1973) concluded, "In many . . . cases . . . improvement is probably attributable to heightened morale, enabling the patient to function better in the face of an unchanged organic handicap. Fully documented cures of unquestionable and gross organic disease are extremely infrequent — probably no more frequent than similar ones occurring in secular settings."

The United States has produced the only large religious institution based on the belief that disease has no reality. The Church of Christ, Scientist, more commonly called Christian Science, was formally chartered in 1875 by its founder, Mary Baker Eddy. A spokesman for the current theory of Christian Science (Talbot 1983) wrote, "The common misconception that they try to ignore sickness as an 'illusion' is based on a confusion of theological and common sense usages. They certainly do not close their eyes to human pain and suffering, but neither do they accept disease as a part of humanity's genuine, God-given being. . . To take a medical analogy, a Christian Scientist regards all forms of disease as symptomatic of an underlying condition that needs to be healed. This is the healing, or spiritual wholeness, that he or she seeks to effect through prayer.

Few physicians doubt the mind's ability to influence the outcome of illness. There is no reason to think religious faith might not be one way the mind could accomplish this. Traditional medicine also exploits the patient's faith, only in this instance, the faith is in science. The office wall covered with diplomas and certificates, the

stethoscope draped around the neck, the arcane vocabulary and mystical technology — all work to convince patients that they are undergoing a healing encounter.

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Sir William Osler, the legendary Compleat Physician of the turn of this century, put it eloquently in 1901 (Cushing 1926):

> Faith in our drugs and methods is the great stock in trade of the profession . . . While we doctors often overlook or are ignorant of our own faith-cures, we are just a wee bit too sensitive about those performed outside our ranks . . . Faith in the gods or in the saints cures one, faith in little pills another, hypnotic suggestion a third, faith in a plain common doctor a fourth . . . In all ages the prayer of faith has healed the sick . . . The faith with which we work . . . has its limitations . . . but . . . such as we find it, faith is a most precious commodity, without which we should be very badly off.

The line between faith healing and quackery is thin and frequently over-stepped. The problem of assessing results of religious healing is common to that of all alternative medicine. Anecdotal accounts of miracles abound, but scientific studies are practically unknown.

Folk Medicine

Traditional medicine owes more to folk medicine than the rest of alternative methods combined. In 1883, Oliver Wendell Holmes (p. 289) observed that medicine "learned from a monk how to use antimony, from a Jesuit how to cure agues [quinine for malaria], from a friar how to cut for stone [bladder stones], from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy-maid how to prevent small pox, and from an old market woman how to catch the itch insect."

To Holmes' list could be added digitalis for heart failure from an old woman in Shropshire, curare and cocaine from indigenous South Americans, the laryngoscope from a London singing-master who wanted to study his own vocal cords, and opium from the greatest anonymous benefactor in the history of medicine. It is even possible that a crude but workable general anesthetic called *dwale* was used some six hundred years before the discovery of ether and chloroform (Voigt and Hudson 1992).

After years of neglect, interest in folk medicine is now a focus of serious study. The success of the famous remedy for "female troubles" in the nineteenth century, Lydia Pinkham's Vegetable Compound, has always been attributed to the fact that it contained about the same level of alcohol as fortified wines. Recent research, however, has identified one constituent of Pinkham's Compound, black cohosh, that exerts estrogen-like effects, and in the opinion of the researcher was "almost certainly responsible for some of the perceived benefits of . . . this popular nostrum (Tyler 1995).

Through the ages, the interplay between folk and traditional medicine has been so close that it can be difficult to discover the borders between the two. At the turn of the twentieth century, one physician noted that "science has often merely put its official stamp on folk beliefs in producing our present materia medica" (True 1901). As late as 1920, it is difficult to come up with a drug, now believed to be useful, that did not have origins in folk medicine.

The advent of insulin in the 1920s,

chemotherapy in the 1930s, and antibiotics in the 1940s brought modern chemistry into the systematic search for new medicinals. As science became more scientific and more successful, it also became a bit proud. The proven fruits of folk medicine tended to be pushed aside with no testing by the new pharmacology. But the past was never completely forgotten. The mass destruction of vegetation in the late twentieth century threatened many potentially medicinal plants and animals, and led to a renaissance of interest in folk medicine that carried back to Antiquity.

The search for new drugs in ancient texts was fueled by the finding that random screening of plant substances worldwide was not an efficient way to find new drugs. In one such attempt, the National Cancer Institute could not find a single compound that demonstrated anticancer action in 114,000 plant extracts from 35,000 species. It was concluded that "Perhaps the time has come to make a relatively small investment in the systematic re-examination of therapies mentioned in Greek and Latin medical texts" (Holland 1994).

Prospecting among folk remedies is gaining momentum. One example of the approach can serve to demonstrate its general potential. The greatest medical botanist of Antiquity, Dioscorides, claimed in the first century that nettle (*Urtica dioca*) was useful in urinary disorders, and nettle showed up consistently in later Western medicines for that purpose. A few years ago finasteride, a treatment for benign prostatic hypertrophy, one of the more common causes of urinary complaints in males, was discovered. Studies in the last five years on the effects of nettle extracts showed that they are very similar to finasteride (Krzeski 1993).

A year later, investigators noted that finasteride also promoted the growth of hair (Rhodes 1994). From Hippocratic times on, folk medicine used nettle to treat baldness. The chemical mechanisms have not been elucidated, but finasteride is now being tested for hormone-related baldness.

A wedding of folk and traditional medicine is unusually promising. As John Riddle told historians recently, ". . . let us be less concerned about how we came to be where and what we are, and more concerned about how people, wise and foolish, discovered and used information about nature and themselves. Therein lies the value to us" (1995).

Folk medicine has been a rich lode in the past. It only makes good scientific sense to look seriously at the many substances that were disdainfully dropped in the rush to the new pharmacology. And it only makes good common sense to do what can be done to save the unknown remedies that are headed for oblivion as the world engages in what can properly and sadly be called wholesale "botanicide."

Quackery

As with alternative medicine generally, the boundaries of quackery are blurred. Whether a given medical practice is quackery or simply bad medicine cannot be easily decided historically or currently. As the following example will show, the decision hinges on intent rather than the practice itself.

During the nineteenth century, traditional physicians, almost to a person, practiced what later was called heroic therapy (Warner 1986). It more than deserved its name. Basically the aim was evacuant—to rid the body of its products by every possible orifice. Agents were given to increase sweating, mucous, bile, vomitus, menstrual fluid, urine, and feces, the latter accomplished by the potent cathartic mercurous chloride. The keystone of heroic therapy was bloodletting, whether by cupping (creating a vacuum), leeches, or opening a vein. It has been calculated that in his final illness President George Washington was separated from three quarts, or well over half his blood volume (Estes 1985).

The theory behind bloodletting had origins back to Hippocrates and Galen and was without significant physiological basis by current standards. Heroic therapy declined steadily as the nineteenth century progressed, and contributed greatly to the influx of sectarians described earlier. By the end of the century, one of the more

doleful chapters in the history of therapeutics was closed.

If any of today's healers engaged in heroic therapy, their own colleagues would brand them as quacks. Yet historians would never label as charlatans the thousands of heroic therapists of the last century. That is because the defining characteristic of quackery is not ignorance, but conscious deception. Medicine has always practiced in relative ignorance. Quacks, to be quacks, must accept compensation for nostrums they know will not work as claimed. Their offense is a moral one, which means that this definition serves ethicists and historians better than those responsible for the licensing of healing professionals.

Quackery is successful because practitioners have been astute judges of the foibles of human nature.

Moral or not, quackery has enjoyed an unbroken existence throughout history. Dr. Holmes observed that "Quackery and idolatry are all but immortal" (1883, p.367). It is ageless because it is remunerative. In 1984, a congressional committee conservatively estimated that quackery was a $10 billion "scandal" (*Medical World News* 1984). This reckoning was probably conservative.

Quackery is successful because practitioners have been astute judges of the foibles of human nature. Some say quackery began when the first fool met the first knave. John R. Brinkley met an ample supply of fools when he came to Kansas in 1918 and soon became a millionaire by transplanting goat "glands," as they were daintily called at the time, into flagging males. When his license was revoked and organized medicine tried to run him out of the state in 1930, Brinkley declared himself a write-in candidate for Governor of Kansas. He actually received more votes than his nearest opponent, but was deprived of the office when those in control nullified 50,000 Brinkley votes on every possible technicality. In a dazzling display of charisma, he polled 20,000 votes that day for Governor of Oklahoma where he wasn't even a citizen (Carson 1960).

A second factor in the quack's success is that most human disease is self-limited. Any medical intervention will appear to cure these conditions as long as it does not hurt or kill.

Related is the fact that many ailments are psychosomatic, and often curable through the powers of suggestion and faith.

Governmental agencies have waged a long and largely losing fight against quackery. The Food and Drug Administration, the Federal Trade Commission, and the Postal Service are all charged with monitoring and prosecuting quacks. The problem is that the legal behemoth is too slow and cumbersome. Once the federal government went after the Hoxie Cancer Clinic, it took ten years to close it down. Sixteen years of litigation dragged by before the FDA could get the word "liver" out of Carter's Little Liver Pills. Fifteen years ago, then FDA Commissioner Arthur Hayes was quoted as saying, "'Okay,' you may be thinking, 'if [quackery] is such a big problem, what is FDA doing about it?' The answer, I'm afraid, is not much. We are. . . simply overmatched" (*Consumer Reports* 1985). Where quackery is concerned, a free society will always be overmatched.

The Role Of Science

The healing disciplines discussed in this essay, including traditional medicine, share two inherent characteristics that can confuse any attempt at discovering the validity of their claims. These are the powerful psycho-physiological phenomenon known as the placebo effect and the logical fallacy, *post hoc, ergo propter hoc* (after which, therefore, because of which). Combined, the two are so mighty and insidious that, unchecked, they can invalidate any claim of truth in therapy. For our purposes here, the role of science is to eliminate or neutralize these two obstacles to the greatest extent possible.

The *post hoc* fallacy leads new parents to blame their baby's birthmark on the lightning strike that

narrowly missed the mother during the last month of pregnancy. It is the error that flooded Ann Landers when she opened her column to the question of cures for warts (bananas, bacon, castor oil, vitamin C and rubbing the wart with twenty pennies, which must then be given to a beggar). And it is the assumption by chiropractors, acupuncturists, patrons of quacks *and* traditional physicians that whatever medical intervention was done on Monday produced the improvement seen on Friday. It is so powerful that more than once in the history of science it has led professional investigators astray (Rostand 1960). And it is so pervasive that I have labeled it an inborn error of intellectual metabolism (Hudson 1989).

Scientists tame *post hoc* thinking by setting up prospective experiments in which the variables are either eliminated or accounted for, by repeating the procedure many times, then by setting about trying to disprove their own results.

In its power to deceive, the placebo effect is at least as strong as *post hoc* thinking. The word placebo roughly means "to please," and was around in other usages for 500 years before it was adopted by medicine. It was defined in an 1811 dictionary as "an epithet given to any medicine adopted more to please than to benefit the patient" (Shapiro 1960). Today's usage defines placebo as "any therapeutic procedure that is objectively without specific activity for the condition being treated" (Shapiro 1982).

Traditional physicians, perhaps because deceiving patients was not considered unethical at the time, used placebos freely throughout the last two centuries but rarely discussed them in print. The placebo became an open issue after 1950 with the advent of modern medical ethics and the patients' rights movement.

The placebo effect operates in *all* healing endeavors involving conscious patients. Without a systematic effort to identify and control it, the magnitude of the effect cannot be known by the healer. By extension, that portion of an experimental drug that exerts its effect pharmacologically cannot be known. And finally, since the placebo effect varies with individuals, the reliability of a test drug for large numbers of patients also eludes us. The systematic attempt to minimize the placebo effect by blind and double blind testing is another necessary function of science in testing claims of efficacy for new therapies.

As late as the mid-nineteenth century, American medicine had little science and less technology. This changed drastically in the fifty years after our Civil War, largely due to the work of European scientists. In 1865, the French physiologist Claude Bernard laid out the philosophy of biological science with unprecedented clarity and beauty in his *Introduction to the Study of Experimental Medicine*. In the Preface, Bernard wrote,

> Reasoning will always be correct when applied to accurate notions and precise facts; but it can lead only to error when the notions or facts on which it rests were originally tainted with error or inaccuracy. That is why experimentation, or the art of securing rigorous and well-defined experiments, is the practical basis and, in a way, the executive branch of the experimental method as applied to medicine. (Bernard 1927).

In this we find the main problem scientists have with many alternatives to traditional medicine. The new system usually begins with an unproved premise, and leaves us no way to decide if it was "originally tainted with error or inaccuracy."

If truth in advertising is a desirable goal for the health care system, it can only be attained through scientific method. To that end, all would-be healers are obligated to submit their claims to the rigors of the scientific method. Granted, some healing modalities, such as acupuncture, are difficult to test by the usual scientific methods, and others are complicated by ethical issues. These objections must be met scientifically to whatever degree possible. History teaches the danger of exempting such proposals merely because they are difficult to test.

Scientific Literacy

Having argued for the critical importance of science in helping society determine the validity of alternative medical systems, it remains to ask why so little has been done in this regard. The new Office of Alternative Medicine was mentioned, along with the reasons it can not solve the general problem in its present form.

. . . the major reason science has done so little in assessing alternative medicine is that the public has not insisted on it. And the main reason the public has not insisted on it is that Americans have almost no idea of what science is — what its methods can and cannot do.

Some alternative healers do not want their practices tested, so they contend that the methods of science cannot assess their particular system. But the major reason science has done so little in assessing alternative medicine is that the public has not insisted on it. And the main reason the public has not insisted on it is that Americans have almost no idea of what science is — what its methods can and cannot do. Science education in the United States is an abysmal failure, and by all appearances, getting worse. To use a current euphemism, the American public is profoundly disadvantaged scientifically.

The journal of the American Academy of Arts and Sciences, *Daedalus*, devoted an entire issue to "Scientific Literacy." It concluded that only seven per cent of Americans were "scientifically literate," meaning they could understand 1) the scientific approach (methodology), 2) basic scientific constructs (atom, molecule, cell, gravity, radiation), and 3) some of the major public policy issues that involve or directly affect the conduct of science (chemical additives to foods, nuclear power) (Miller 1983).

Scientific literacy is not likely to improve as general literacy continues its slide. After all, it is necessary to understand *words* before concepts. When NIH proved that all aspirin was simply acetylsalicylic acid, the federal government enjoined aspirin manufacturers from claiming superiority for their brand. Within a week or so, one company ran full-page advertisements in major newspapers with the banner headline: "U.S. Government Proves Brand X *Unsurpassed* In Pain Killing Ability." This was precisely what had been proved, but not the message the aspirin manufacturer knew many readers would get.

Doubters of the charge that most Americans have no useful understanding of the use and limitations of the statistics that bury us nowadays are invited to ask their college-age children what it means when television proclaims, "Doctors prefer Brand X by a margin of two to one."

A nation that is scientifically illiterate today is no better prepared to evaluate alternative medicines than the Jacksonian "common man" of the nineteenth century. People have no rational way to judge the validity of claims by quacks, naturopaths, or faith healers. The same holds for traditional medicine, which needs the closest scrutiny of all because it is so big and powerful and because its recorded mistakes are far more serious than those of all other healers combined (Moser 1964; Lambert 1978).

Science makes mistakes, but it has a unique advantage over the anecdotal system that characterizes most alternative claims of efficacy: it is self-correcting. It insists that any new evidence be replicated by others before it is accepted.

It is the one strand in the tapestry we cannot afford to break.

Endnotes

1. This essay will use "traditional" rather than the common form, "regular," because alternative healers object to the implication that they are somehow "irregular." Allopathic, as a word for traditional medicine, was not used in its present form until the eighteenth century, and also carries pejorative baggage.

2. Early civilization developed a distinct tapestry with a history of its own. It goes without emphasis that traditional properties in one time and place would appear unorthodox in another. Due to space constraints, this paper is limited to the Euro-centric tapestry as revealed in the medicine of the United States.

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