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*Health  
Regimens and  
Therapies*





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# Contents

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## ▪ INTRODUCTION

- 2** Introduction  
by John S. Haller, Jr.



## ▪ FEATURES

- 4** Wine and Medicine from Hippocrates  
to the Renaissance  
by Christopher Hoolihan
- 17** Traditional African Approaches to Healing  
by Pascal James Imperato
- 37** Frontier Pharmacy in Oregon  
by Robert A. Berk
- 45** Dinshah P. Ghadiali and the Spectro-Chrome  
by Edward S. Kubersky



## ▪ MUSEUM FOCUS

- 63** The Lloyd Library and Museum  
by Rebecca A. Perry

# Introduction

With this issue, *Caduceus* marks the end of one era of editorship under Glen W. Davidson and the beginning of a new one. Change is never routine, and this is certainly the case with the regretted departure of the journal's founding editor. On behalf of the Board of Advisors and the staff of *Caduceus*, we wish to express our heartfelt gratitude to Glen for his nurturing of the journal through its early years, his wise stewardship of manuscripts and themes, and his exemplary good judgment and leadership. He charted a course for *Caduceus* that has placed it within a select group of fine humanities journals. Since 1985, Glen has been the journal's architect and visionary, bringing to it both scholarly recognition and honors. We are delighted to carry his name on each issue as founding editor.

As Glen Davidson embarks on a challenging new career as Vice President for Academic Affairs at Doane College in Crete, Nebraska, we wish him the very best. He leaves his friends at the Southern Illinois University School of Medicine a treasury of good memories; moreover, with the staff and membership of *Caduceus*, he has established the legacy of a journal that is well managed and respected by scholars.

Life (including the life of journals) must contend with change, and *Caduceus* is prepared to meet the future. With the help of a fine staff, including Deputy Editor Phillip V. Davis, Ph.D., Managing Editor Mary Ellen McElligott, Curator of the Pearson Museum Barbara Mason, Business Manager M. Lynne Cleverdon, and Subscriptions Manager Carol Faingold, I intend to carry on the tradition so firmly established by Glen Davidson.

Beginning with this issue, we are charting a course that both captures the strength of *Caduceus* past and seeks out new options for the future. To realize this, we are announcing a new subtitle—*A Humanities Journal for Medicine and the Health Sciences*—which reinforces our commitment to these important fields. We at the journal look forward to hearing from our readers, especially about the areas and topics you feel deserve our special attention. Continuing to focus on historical and contemporary points of interest, we are planning thematic approaches for future issues, while encouraging independent submissions as well.

In order to encourage more unsolicited manuscripts, we will provide information on the back cover of this and future issues regarding our policies on style and peer review. Under consideration at this time is the designation of guest editors for special topical issues. Here again, we would like to know your opinion.

THIS ISSUE focuses on therapeutic regimens across western and non-western cultures. We have chosen four articles for your reading. The first is "Wine and Regimen from Hippocrates to the Renaissance" by Christopher Hoolihan of the Edward G. Miner

Library of the University of Rochester Medical Center. The Greeks, who first introduced humankind to the nectar of the gods, also employed it in a variety of illnesses and complaints; their treatments, in varying ways, have been carried into subsequent centuries. Although Hoolihan's study carries the wine regimen only into the Renaissance, the full history of its impact extends much further. As late as 1866, Bellevue Hospital in New York City purchased 1,637 gallons of best whiskey, 161 gallons of common whiskey, 40 gallons of brandy, 260 gallons of sherry, 68 of port, 20 of gin, 134 barrels of ale, and 85 cases of wine for medicinal use in its wards.

Pascal James Imperato, professor and chair of the Department of Preventive Medicine and Community Health at the State University of New York Health Science Center at Brooklyn, offers an insightful look at "Traditional African Approaches to Healing." According to Imperato, the "process" of illness perception is much the same between Africa and Western society; but he goes on to show the extent to which traditional healing is preoccupied with "how" and "why" the patient became ill. In this sense, traditional African medicine shares many common elements with European and American forms of alternative medicine, including today's holistic view of disease.

Robert A. Berk's "Frontier Pharmacy in Oregon" traces the career of Newton Henton and his practice of pharmacy in Albany, Oregon, in the late nineteenth century. Not unlike many in his day, Henton learned his "trade" by apprenticing in his father's drugstore in Iowa. What makes Berk's study historically significant is the availability of Henton's private formula book, which records many of the Willamette Valley's more common powders, tinctures, elixirs, and antidotes. Berk, director of the Southern Illinois University School of Medicine Library, gives us not only an insider's view of health and disease in a remote western region of the United States in the late 1870s but also a perspective on the interrelationship of physician and pharmacist.

Edward S. Kubersky's fascinating account of Dinshah P. Ghadiali and his Spectro-Chrome offers a look into the activities of one of the twentieth-century's more determined health faddists. Dinshah's apparatus had wide appeal, and the gullibility of his patients—and even a few regular physicians—tested the full mettle of the American Medical Association as well as government regulatory agencies. Kubersky, chair of the Department of Biology at St. Francis College in Brooklyn, concludes that the concerted efforts by government prosecutors to close down the Spectro-Chrome Institute often ran counter to the American belief in fair play.

Our next issue will be guest-edited by historian Audrey B. Davis of the Division of Medical Sciences, National Museum of American History. She will share with us a number of fine papers on the theme "Medical Instruments and Artifacts in the History of Medicine."

J.S.H.



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*Viniculture survived long after the political, economic, and cultural influence of Greek colonists and Roman governors had disappeared.*

# Wine and Regimen from Hippocrates to the Renaissance

**F**rom the fifth century B.C. to the twilight of classical civilization a thousand years later, a long succession of medical systems came and went. Their theoretical bases and their frequent contentions need not concern us here. What was common to them all, however, was a reliance on nature's generous provision of substances that were thought either to maintain health or to restore health once lost.

Common to them all was a universal regard for the medical uses of wine. Even before the Hippocratic era, wine had become an inseparable part of what we now term Graeco-Roman medicine. In the medical literature of Greece and Rome, no natural substance played a greater part in regimen and in therapeutics than the fermented juice of grapes.

What was the therapeutics of the ancients? In Graeco-Roman medicine it consisted of surgery, pharmacology, and "regimen." The surgical repertoire was limited. Abdominal surgery, for instance, was unheard of; but surgical procedure was extensive (and effective), running the gamut from amputation on the battlefield or in the arena, to the finer touches of cataract depression.

Pharmacopeias of the classical medical tradition boasted a wide variety of weapons, though they mostly fired blanks. Lacking methods to determine the pharmacodynamics of their many remedies, no one really knew just how effective, or ineffective, their *materia medica* actually was; and so, in the spirit of the age, they relied on the testimony of a long and authoritative tradition.

## **Regimen**

Without detracting from the surgical accomplishments of the Greeks and Romans, or from their occasional pharmacologic successes, the most effective part of classical therapeutics was its devotion to *regimen*. Regimen was that part of medicine given to consideration of how one ought to conduct one's life, either to maintain health or to restore health lost to illness. Regimen gave detailed attention to such aspects of daily living as diet, exercise, sleep, and bathing. It was continually adjusted to take into account the variations that place, climate, and the seasons make on the human constitution.

Well aware of the limitations of their therapeutics, the physicians of Greece

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by Christopher Hoolihan

and Rome concentrated their efforts on describing conditions under which health might be retained. This emphasis on regimen, in both health and disease, is the Hippocratic tradition's greatest contribution to medicine.

In the western medical tradition, from the time of Hippocrates through the eighteenth century, the maintenance of health meant a proper balance of the body's four humors: blood, phlegm, yellow bile, and black bile. Blood originates in the heart; its nature is warm and moist. Phlegm derives from the brain; its nature is cold and moist. Yellow bile is warm and dry, and derives from the liver; while black bile (or *melanchole* in Greek), is cold and dry—a product of the spleen.

Though one humor or another might dominate an individual's complexion or temperament (as one's humoral composition was called), a state of health was defined as an overall balance of the four humors: a rightly proportioned mixture within the body known as a state of *krasis*, which in Greek literally means a blending or mixture. When this balance is upset, when there is either a superabundance or deficiency of one humor or another, a state of disease ensues.

The object of regimen was to avoid any excess that might disrupt the body's *krasis*. Excess might result from improper diet, too little or too much exercise, changes in seasons, or removal to a different locale.

The process of restoring humoral balances is summed up in the phrase *contraria contrariis curantur*—that is, opposites are cured by opposites. An excess of blood, for example, or blood

that has somehow been corrupted, might be corrected by evacuating the vitiated humor through bloodletting; or, it might be rectified by administering medicines that counteract blood's warm and moist nature with something cool and dry.

Ancient physicians reasoned that if humoral imbalances could be treated with the contrary qualities of specific medicines, then the medicines themselves must have complexions or temperaments. Indeed, the humoral system of the ancients ascribed complexions to foods and beverages, which made them suitable or unsuitable for the body's various states. Virtually every author from the Hippocratic era through the eighteenth century described the complexion of wine as warm and dry.

What was it about wine that made it the object of universal regard among medical authors for more than two thousand years? The remarkable consistency of opinion is partially attributable to viticulture's persistence even after the collapse of the western half of the Roman empire. Wine remained part of the diet and, to a lesser extent, the therapeutics of peoples among whom the vine had been introduced centuries before—long after the political, economic, and cultural influence of Greek colonists or Roman governors had disappeared.

### Emulation of the Ancients

Even more important was the revival of classicism late in the Middle Ages, especially medieval Europe's emulation of the distant but not forgotten civilizations of Greece and Rome. This classical revival occurred in medicine as well, to




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"Whoever uses wine," wrote Roger Bacon in the thirteenth century, "brings on joy and lightness, mitigating melancholy."

the extent that it would be no exaggeration to say that the medicine of Renaissance Europe was essentially the medicine of Greece and Rome, resuscitated body and spirit after a lapse of nearly a thousand years.

Thus it is not surprising to read the same list of wine's virtues in the pages of the Hippocratic corpus (compiled between the fifth and third centuries B.C.), or in the many treatises of Galen (written in the second century A.D.), or in the commentaries of the sixteenth-century Italian medical botanist Pietro Mattioli (1500–1577).

Writing on the medical virtues of wine in the second century B.C., Athenaeus,

author of the wonderfully anecdotal *Deipnosophistai*, remarks: "For it gives food to them that take it, and strength in mind and body. In medicine it is most beneficial; it can be mixed with liquid drugs and brings aid to the wounded. In daily intercourse, to those who mix and drink it moderately, it gives good cheer. . . . Wherefore Dionysius is everywhere called a physician."<sup>1</sup>

In the thirteenth century the English philosopher Roger Bacon (ca. 1214–ca. 1294) made much the same observation. "Whoever uses wine," he wrote, "properly mixed and at the right time, strengthens the body's natural heat and extends it through the whole system;

purges the coleric humors through sweat and urine . . . moistens those parts of the body which have become hard through dryness . . . and brings on joy and lightness, mitigating melancholy."<sup>2</sup>

Three centuries later the English physician Thomas Cogan (ca. 1545–1607) likewise remarked:

But the commodities of wine are briefly and pithily gathered by Avicenn, where he reckoneth five benefits of wine moderately drunken. First, that it easily conveyeth the meat that it is mingled with, to all the members of the body. Secondly, that it digesteth and resolveth flegme, openeth the wayes, and stirreth up nature to expell it. Thirdly, that it avoids red choler by urine, and other insensible evacuations. . . . Fourthly, it expelleth melancholy, and through contrariety of nature amendeth the noysesomenesse of that humor. For whereas melancholy engendreth heaviness, faintnesse of heart, and covetousnesse; wine ingendreth joy, boldnesse, and easeth all sorts of lassitude and wearinesse. For it reviveth the resolute spirits again abundantly, and comforteth natural vertue, and taketh away or diminisheth such superfluous moisture as remaineth in the muskles, sinewes and joynts.<sup>3</sup>

It is indeed remarkable that most of the properties mentioned by Bacon and Cogan can be as easily found in the fourteenth book of Pliny's *Natural History* (composed in the first century A.D.) as well as in discussions of wine's medicinal virtues by authors of our own era. The four most frequently mentioned properties of wine as reflected in two thousand years of medical literature are its use as a food, as an aid to digestion,

as a stimulant to appetite, and as a psychodynamic agent.

In no area was wine more highly regarded than in dietetics, one of the most important factors in the ancient concept of *regimen*. Wine has always been valued for its ability to increase the physical desire for food. Modern research has confirmed ancient opinion that wine stimulates the appetite. In moderate amounts, wine sharpens olfactory acuity, excites the gustatory papillae, increases salivary secretion, and suppresses the sensation of fullness.<sup>4</sup>

For two millennia, wine was used to stimulate the appetite of those whose desire for food had been diminished by illness. In recent times wine has even been prescribed in the treatment of anorexia.<sup>5</sup>

As a food, wine was valued far more by the physicians of classical, medieval, and Renaissance Europe than it is by ourselves. Perhaps because we have identified the food elements of wine (unknown to the ancients), we value it less. Possibly, however, we also underestimate its dietary usefulness. We now know wine's calorie content; we know the nutritional value of the organic materials present (including purines, pectins, fats, B vitamins, and others); and we know the value of its inorganic materials, especially such minerals as potassium, magnesium, calcium, chromium (the suspected agent in wine's ability to prevent ischemic heart disease), and iron (present in quantities sufficient to be of value in the treatment of anemia).

The ancients had no notion of what the nutritional components of wine



**Arnaldus of Villanova observed of wine: "Its goodness is not only revealed in the body, but also in the soul, for it makes the soul merry and lets it forget sadness."**

might be, and no idea that such entities even existed. Apart from the abstract atoms that the so-called atomistic philosophers regarded as the basic units of matter, the very idea of breaking a substance down into different components was foreign to the scientific mind of Greece and Rome.

Nonetheless, in the medical literature of the classical period, in what survived of that tradition in medieval medical literature, and in the revived classicism of Renaissance Europe, wine's food value was universally acknowledged. This was based on three factors: first, on what this tradition regarded as wine's intrinsic food value; second, on wine's ability to be easily ingested and to permeate the entire body; and third, as a means of supplementing other foods and/or physically conveying them throughout the body.

In the necessarily naive nutritional scheme of the ancients, wine's intrinsic food value was based upon its ability to "form flesh" and to make what was termed "good blood." To this end, red wines were regarded as more nourishing than whites. Dark wines were thought more nutritious because they made better blood. "Red wines generate more blood than white," wrote Roger Bacon in the thirteenth century,<sup>6</sup> a statement echoed three centuries later by Thomas Cogan, who observed, "[R]ed wine and claret nourish more, because they are soon converted into blood."<sup>7</sup> The English physician William Turner (1510–1568) likewise wrote, "Of all wines, red and thick wines are most meet to make blood."<sup>8</sup> No author is clear on why red wines made good

blood, other than to suggest that they were hotter and thicker than white wines. Conversely, white wines, which were classified as thin and weak, were thought to produce fine or thin blood—which at certain times of the year, or in certain illnesses, might be desirable.

The ultimate result of all this "flesh" and "good blood" produced by the incorporation of wine into the diet was bodily strength. The ancients highly estimated this virtue of wine: "[T]here is nothing more useful for strengthening the body," according to the Elder Pliny, who, characteristically, gave no explanation for this statement.<sup>9</sup> Fourteen hundred years later an English physician in like manner observed: "[I]t resolveth and easeth all sorts of lassitude and weariness, for it reviveth the resolute spirits againe abundantly, and conformeth naturall vertue, and taketh away or diminisheth such superfluous moysture as remaineth in the muskles, sinewes and joynts."<sup>10</sup> In other words, the humoral complexion of wine—its ability to generate heat and to dry—acts on the contrary qualities of coldness and moisture in the muscles and joints of the body weakened by disease—or, as we shall see, by old age.

Another of wine's virtues, to both ancients and moderns, is its ability to be easily ingested and easily digested. It was thus ideal for the sick or recuperating. The ancients further reasoned that wine was not only easily ingested but (due to the subtlety of its nature) could spread nourishing powers rapidly into the remotest parts of the body and even facilitate the resolution (or metabolizing) of coarser, solid foods.

Again, we can cite any number of witnesses to this important power of wine—perhaps nowhere more neatly summarized than in this observation of Caelius Aurelianus in the fifth century A.D. Wines, he wrote, “are able to revive and strengthen the bodily conditions as a whole, to find their way into every part, large and small, to cover with rapid motion through every narrow pore, to bring with them other nourishment too, and to spread this nourishment through the body.”<sup>11</sup> In the fifteenth century the Italian physician Gabriele de Zerbis (1445–1505) made much the same observation. “Although there are many kinds of food which can fill the place of wine in restoring weakened bodies,” he wrote, “nonetheless they do so less efficiently and more slowly than wine. Of all foods wine is the swiftest and most immediate.”<sup>12</sup>

William Turner was also a witness to this virtue in the sixteenth century. “Wine hath this property, that it carryeth and leaveth the meat unto every small part, through straight ways by the proper thinness or subtleness of its parts.”<sup>13</sup> Turner recommended that white wines, although less nourishing than red wines, also be incorporated into the diet, “for they are led or carried lightly into the body, wherefore these do . . . convey and deal the nourishing juices into the body.”<sup>14</sup>

In addition to being an easily ingested food substance, wine was regarded as a powerful tonic for the stomach when digestion was impaired. Thus the Apostle Paul admonished his sickly young disciple Timothy, “No longer drink only water, but use a little wine for the sake

of your stomach and your frequent ailments.”<sup>15</sup> As an educated man from a Hellenized city, Paul was obviously aware of wine’s reputation both as a food and as a medicine.

Nor would it have come as a surprise to a Greek or Roman physician to learn that our own era has corroborated ancient opinion. Modern research has shown that in moderate amounts wine stimulates gastric secretion, increases the motility of the stomach, increases the flow of pancreatic juice, increases the flow of bile from the liver into the duodenum, and increases fat absorption among patients previously unable to digest fats.

Besides being an aid to digestion, wine was used in the successful treatment of digestive system disorders stemming from emotional tension or anxiety. This last benefit brings us to yet another of wine’s long-recognized medicinal properties: its psychodynamic effects. No greater praises have been sung to any of wine’s medicinal values than for its ability to lighten the mind afflicted by anxiety or sorrow.

The consensus of 2,500 years of medical opinion is simply stated: wine calms the troubled soul. The psychological benefits of moderate wine consumption for the relief of depression was affirmed by all physicians—even among the Arabs, to whom wine was forbidden by the Koran. Jewish and Christian physicians could cite divine sanction in prescribing wine for their depressed patients. “Give strong drink to him who is perishing,” we read in Proverbs, “and wine to those in bitter distress; let them drink and forget their poverty, and remember their

misery no more."<sup>16</sup> Likewise, from the *Book of Sirach*: "Wine is like life to men, if you drink it in moderation. What is life to a man who is without wine? It has been created to make men glad. Wine drunk in season and temperately is rejoicing of heart and gladness of soul."<sup>17</sup>

The thirteenth-century Spanish physician Arnaldus de Villanova (ca. 1240–ca. 1313), author of a widely circulated medical treatise on wine, wrote of its anti-depressant properties: "And its goodness is not only revealed in the body, but also in the soul, for it makes the soul merry and lets it forget sadness."<sup>18</sup>

"[I]t expelleth melancholy," observed Thomas Cogan in the sixteenth century, "and through contrariety of nature amendeth the noysesomenesse of that humour."<sup>19</sup> For melancholy was exactly that—the black bile, cold and dry, a product of the spleen, which when overly dominant in a humoral composition froze the mind and desiccated the spirit, engendering a moroseness that the physician knew might well be remedied by wine's moist and warm temperament.

For this very reason wine was regarded as essential to the diet of the elderly, whose complexion had become cold and dry through the body's loss of natural heat and humidity in the natural process of aging. Wine was believed to restore to the aged the natural heat and moisture with which they were born, and to refocillate their spirits as well.

"But to old men," wrote an English physician of the sixteenth century, "wine is as sucke to young children . . . for old folkes are cold, and good wine




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*Thomas Cogan warned that immoderate drinking of wine "weakeneth and dulleth the strength and force of the wit and mind."*

heateth: they are heavy and full of melancholy, and wine maketh them merry and represseth melancholinesse, they commonly sleep ill, and wine maketh them to sleepe well: they are disposed to oppilations of the bowels, and wine openeth. So that wine to old folks is most commodious."<sup>20</sup>

The other outstanding psychodynamic effect of wine most frequently discussed in the medical literature is its ability to stimulate the activities of the rational soul: that is, when drunk moderately, wine was thought to sharpen mental acuity, to stretch the imagination, and even to enhance creative ability. It might have been argued that what wine was able to do for the stomach as a stimulant to the appetite, it was analogously able to do for the mind:

sharpening its appetite for things of the intellect and of the spirit—enabling it to ingest rational and spiritual delectables and turn them into nourishment for the hungry mind and soul.

Arnaldus de Villanova made this assertion in his *Liber de Vinis*: “It gives also audacity and generosity, and well prepares the instruments of the spirit so that the soul may operate with them.”<sup>21</sup> In the fifteenth century Gabriele de Zerbis paraphrased the medieval Jewish physician Isaac Israel (ca. 832–ca. 932), who extended wine’s psychodynamic benefits even into the moral sphere: “[W]ine turns the soul away from impiety, avarice, pride, sloth, fear, idleness, taciturnity, and cowardice and toward piety, liberality, humility, solicitude, boldness, cleverness, eloquence, and talent.”<sup>22</sup>

Steeped in the classical tradition, De Zerbis himself continued: “The Greeks also when about to compose verses and to play music drank wine, having learned by experiment and reason that it made their minds more quick and supple for understanding, more skillful and shrewd in learning, increased their ability to reason, and extended their powers of action.”<sup>23</sup>

The reason for this was suggested by Thomas Cogan: “[O]f good wine more than of any other drink, are engendered and multiplied subtile spirits, clean and pure. And this is the cause . . . why the divines that imagine and study upon high and subtile matters, love to drink goode wine.”<sup>24</sup> Cogan was also aware of wine’s contrary effect on the mind: “And the excess of wine is the cause . . . why few young men that

bee students, come to profound knowledge and ripeness in these dayes: for first, immoderate drinking of wine maketh them disorderly and unruly: next it weakeneth and dulleth the strength & force of the wit and mind.”<sup>25</sup>

Even so, there existed a perennial debate in the medical literature as to whether occasional bouts of drunkenness might not actually be good for cleansing the mind—not to mention the body. To this end the Athenian physician Mnesitheus is quoted by Athenaeus, “And yet hard drinking seems to me to produce a kind of purgation of the body and a relaxation of the mind.”<sup>26</sup>

The question was taken up in the seventeenth century by the English physician Tobias Venner (1577?–1660), who titled a chapter in his book on hygiene, “Whether it be expedient for health, to be drunk with wine once or twice a month?” In his consideration of the question Venner writes: “Verily it hath been written and affirmed by some of the ancient physicians, and approved as a thing wholesome: because drunkennesse . . . doth . . . by inducing sleep, alleviate and make quiet the animall powers, provoke vomiting, urine and sweat: whereby it cometh to passe, that the weake and troubled spirits, through immoderate cares and perturbations, are revived and pacified.”<sup>27</sup>

Natural wine was not the only form in which the fermented juice of grapes was medically administered. It was often used as a solution in which other medications were dissolved—wine being an effective solvate, pleasant tasting, relatively inexpensive, and in small doses

able to induce a mild euphoria (no small boon to an anxious patient).

### Medicated Wines

Even the ancients believed that wine's medicinal powers were enhanced by combination with herbs and spices having medicinal properties of their own. In the Homeric epic, for example, wounded or simply exhausted warriors often took their wine with grated cheese or sprinkled with barley.

But the origin of the medicated wines so integral to the oenotherapy of both ancients and moderns probably derived from more practical considerations. Natural wine was highly perishable, and the ancients often added ingredients to either preserve wine (such as resin or pitch), or spices to disguise its taste once spoilage had occurred. Resinated or spiced wines were doubtless the predecessors of the medicated wines that were part of western therapeutics for two thousand years.

One of the earliest descriptions of medicated wines appears in the chapters on viticulture in the *De Agri Cultura* of the Roman statesman Cato the Censor (234–149 B.C.). Cato provides recipes for eight medicated wines, which he recommended generally as diuretics, and specifically for such diverse disorders as lumbago, indigestion, dysentery, and worms.<sup>28</sup> The Elder Pliny called them "artificial wines." Writing in the first century A.D., he provided a more extensive and sophisticated discussion of the topic than Cato (evidence of the expansion of both viticulture and Greek medicine in Italy), recommending preparations for

both internal and external application.<sup>29</sup> Galen and Dioscorides, the two most authoritative authors on pharmacology in the Graeco-Roman tradition, provide an even longer list of recipes for medicated wines. Galen's contribution was such that even after the greater part of his writings had been lost to the Latin West, his recipes for medicated wines lingered on under the rubric "Galenicals."

For most of what we ambiguously term the "Middle Ages," the tradition of medicated wines was kept alive in the monasteries of western Europe. Wine was an integral part of monastic usage. It had its sacramental use, was an important part of diet, and retained its medicinal importance. Monasteries were also the repositories of such learning as existed for much of the Middle Ages. This extended to the fragmented inheritance of Graeco-Roman medicine as well. Monastic interest in medicine was practical as well as literary, however. More often than not, monasteries were the only locus of organized medical activity for most of the Middle Ages and often maintained hospitals or hospices for the sick and poor. They were also the sole manufacturers of medicines until such time as municipalities began to encourage the activities of apothecaries. Many monasteries maintained their own *berbularia*, or herb garden, from which came the herbs and spices that were combined with local wines to produce the various cordials, apertifs, and liqueurs that are still drunk today.

Many authors who wrote on the medicinal properties of wines insisted that its healing power could only be fully realized when combined with herbs and

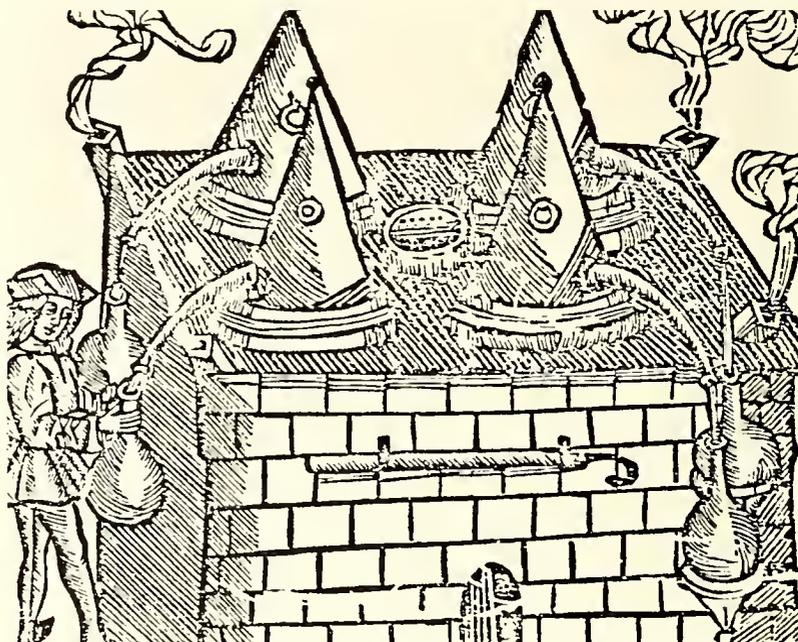
spices whose medical efficacy went unchallenged. Certainly the most authoritative treatise on medicated wines in the Middle Ages is the *Liber de Vinis* composed by Arnaldus de Villanova late in the thirteenth century. A native of Valencia, Arnaldus was a member of the Dominican order, a professor of the medical faculty at Montpellier, a prolific medical author, and physician to several monarchs and Popes.

In the *Liber de Vinis*, Arnaldus discusses several methods of preparing medicated wines. The most reliable was to strain wine repeatedly through a linen bag containing ground herbs or spices until the wine was thought to have absorbed the specific powers of the ingredients. Another recipe required boiling herbs or spices in grape juice, and then allowing the mixture to ferment in the cask.

### Distillates

From the eleventh century, medicinal wines also appeared in the form of distillates. Distillation is a process whereby a substance is converted into a vapor, and then condensed into a liquid. The purpose is either to purify a liquid or to separate liquids of different boiling points.

The latter takes place in the manufacture of brandy. When wine is heated to 78.3 degrees centigrade, its alcohol content turns to vapor, which then condenses and is subsequently collected in a receiver. This highly alcoholic, clear distillate is called *spirit*. It may be necessary to distill the *spirit* several times



before the desired rectification is attained.

Although the principles of distillation were understood in the ancient world, the distillation of alcohol was impossible until improvements were made in the apparatus that allowed the temperature to be kept low enough to cool liquids efficiently with low boiling points, such as alcohol. There is no evidence of the distillation of fermented liquids before the eleventh century; the achievement is generally credited to unidentified members of the medical faculty at Salerno, whose experiments resulted in the first *grappa*, or brandy, around the year 1100.

Until the mid-1300s, brandy was regarded primarily as a medicinal beverage. Its reputation increased in the fourteenth century as a prophylactic

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**Woodcut of an early distilling operation. The verb "distill" comes from the Latin "destillare," meaning to drip or trickle down.**

against the plague. In the wake of the horrible outbreak of plague in 1348, the demand for brandy increased to the point where it eventually came to be drunk as an ordinary alcoholic beverage, apart from its earlier medicinal reputation.

So highly regarded was the *spirit* derived from the distillation of wine that many men of learning were willing to accord brandy a place as one of the elements of the universe—alongside earth, fire, air, and water. The universal esteem accorded brandy is evidenced in the names it was given: "*aqua vitae*" (water of life), or "*aurum potabile*" (potable gold)—both far from the Dutch "*brandt wijn*," or burnt wine, from which our word "brandy" derives.

In the 1527 English translation of his *Kleines Distillierbuch*, the Strasbourg surgeon Hieronymus Brunschwig (ca. 1450–ca. 1512) enthusiastically described brandy and its medicinal virtues as "the separation of the gross from the subtle and the subtle from the gross . . . the material from the immaterial, to make the body more spiritual, the unlovely lovely, to make the spiritual lighter, [and] by its subtilty to penetrate with its virtues and forces . . . into the human body to do its healing duty."<sup>30</sup>

Wine's use as a therapeutic agent began to decline with the rise of laboratory science and experimental medicine. It still retained its place in most nineteenth-century pharmacopeias, but more often as a menstruum for other drugs than for its own sake. Wine's nutritional and therapeutic efficacy was not clearly demonstrable to the budding sci-

ences of experimental physiology and pharmacology. Even in recent times, when wine's nutritional or medicinal properties have been verified in the laboratory, those virtues have lacked the dramatic quality of the new synthetic drugs.

By the end of the nineteenth century, the only conclusive evidence of wine's medical value was the test of centuries, which had little to recommend it to so scientific an age. This has held true down to our own decade. Of 196 articles on wine cited in the *Index Medicus* from 1980 to 1990, only five, or less than three percent, discuss its therapeutic use. Another five percent are concerned with wine and alcoholism; while the rest discuss the toxic effects of substances found in wine or analyze its various components (apart from therapeutic use).

In concluding this essay it may be fitting to quote once more Thomas Cogan's *The Haven of Health*, originally published in 1584: "But although wine bee no necessary thing . . . such as Englishmen cannot live without . . . yet it is without a doubt a speciall gift of God, for . . . God giveth wine unto those that love him. And those that obey not the commandments of God, shall not drinke wine of their vineyards. And as it is in Ecclesiasticus, wine soberly drunken, is profitable for the life of man."<sup>31</sup>



## Notes

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16. Proverbs 31:27–28.
17. Sirach 31:27–28.
18. Arnaldus de Villanova, *The Earliest Printed Book on Wine, by Arnald of Villanova* (New York: Schumann, 1943), p. 24.
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20. *Ibid.*, pp. 244–45.
21. Arnaldus de Villanova, p. 24.
22. Zerbis, p. 133.
23. *Ibid.*
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25. *Ibid.*, pp. 243–44.
26. Athenaeus, 5:147.
27. Venner, *Via Recta ad Vitam Longam* (London: H. Hood, 1650), p. 44.
28. Cato the Censor, *De Agri Cultura*, Chs. 114–15, 122–23, 125, 127.
29. Pliny the Elder, bk. xxiii.
30. Brunshwig, *Book of Distillation* (New York: Johnson Reprint Corp., 1971), p. iii.
31. Cogan, pp. 239–40.

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# Traditional African Approaches to Healing



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*A large baobab tree surrounded by an enclosure of brush that serves as a dassari, the abode of village protective spirits*

**T**he process of illness perception is much the same in Africa as in Western society. In general, individuals react to alterations in normal physiology and to symptoms by concluding that they are ill. A variety of home remedies are tried first, consisting of measures that closely parallel those employed in Western society. The sick person is the focus of attention and receives recovery

wishes from relatives, friends, and neighbors. Often, the patient will lie on a bamboo litter or straw mat outdoors in a courtyard or in front of his home, and therefore is extremely accessible to well-wishers. They offer their own therapeutic advice. In Western society, a sick person may at most have family members, some friends, and occasionally some neighbors as a circle of

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**by Pascal James Imperato**

therapeutic advisers. But he rarely has as many persons involved in his care as does the African patient.

### **Home Remedies**

Part of the home regimen is the use of herbal preparations, which are often obtained in marketplaces or else cut fresh out in the bush. In most African societies, there is a well-known pharmacopeia of such home remedies. Their preparation and use are well known, as are the sites where they may be found. In a sense, these preparations correspond to the over-the-counter pharmaceuticals used in Western society. People know how to administer them and how often.

### **Natural and Supernatural Causes of Illness**

When the illness does not respond to home remedies, it is not considered to be ordinary in nature. Rather, it is viewed as being serious in nature and probably due to some supernatural cause. Thus, there exists a belief in a dualist system of disease causation, a departure from the Western world's scientific canons of pathogenesis.<sup>1</sup> Dennis M. Warren has described the complex system of words used by the Bono of Ghana for naturally- and spiritually-caused diseases. As he clearly shows, in Africa disease states are not all believed to be due to an ultimate spiritual cause.<sup>2</sup> Many are understood to have natural causes. The patient is rarely left to himself to decide whether or not a supernatural cause is involved. His family, friends, and neighbors who are familiar with the routine of his daily life

and his social connections play no small role in deciding this.

### **Supernatural Forces Related to Disease**

In Africa, man constantly lives in a close and intimate relationship not only with the individuals of the society to which he belongs but also with a pantheon of diverse spirits. It is not surprising, then, that disease and misfortune are believed at times to result from these two types of relationships. Mild disease of a self-limited nature does not generally suggest a supernatural etiology. Serious illness does, whether it is an individual case or an epidemic. There is, then, a dualist theory of disease causation encompassing diseases due to natural causes and those due to supernatural causes.<sup>3</sup>

There are four principal broad categories of supernatural forces in sub-Sahara Africa believed responsible for illness and misfortune: spirits, ghosts, witchcraft, and sorcery. While this statement may not hold true for all societies, it does for many. Most African peoples believe in a Supreme Being who is called by a variety of names and who is believed to have created the universe and all the beings and forces within it. Many of the cataclysms and disastrous changes that occur in the universe are ascribed to this Supreme Being—as the ultimate cause; but he is believed to act through lesser spirits to achieve these ends. He is not held responsible for personal and individual misfortunes and illness, and as a consequence no one in animist societies attempts to intercede directly with him to reverse such events. Among Mos-

lems in Africa, God is viewed as often permitting illness and misfortune to occur through the agency of other proximal causes, often supernatural. Beliefs differ in various African societies with respect to the relationship between God and the pantheon of spirits and ghosts in the world. In some societies, all spirits and ghosts are believed to be subordinate and under the Supreme Being's direct control; in other groups, the degree of control is believed to be much less; and among still other peoples, spirits are considered to be diverse manifestations of the Supreme Being.<sup>4</sup>

### Ghosts and Spirits

Spirits, as viewed by most of the peoples of Africa, are extra-human powers of which there are several categories. For an individual, the most important of these are the ghosts of deceased ancestors and relatives. As viewed by many Africans, a ghost is a portion of the spiritual element that remains behind on earth after a person's (or an animal's) death.<sup>5</sup> Many African societies possess elaborate formalized mechanisms for appeasing and pleasing the ghosts of ancestors and kin. Ancestor worship, among other things, prevents or minimizes the displeasure of forces capable of causing illness and misfortune. Among certain groups, such as the Banyoro of Uganda, the ghosts of ancient folk heroes and kings, known as *cwezi*, exert a powerful influence in the affairs of the living, and they are appeased and prevented from doing harm through the Cwezi Spirit Cult.<sup>6</sup>

Hunters in many societies must take precautions against the ghosts of ani-



mals they have slain since these ghosts are capable not only of impeding the hunter's future ability but also of inflicting illness on him and his family. There is also widespread belief in the spiritual powers of many inanimate things such as trees, mountains, rivers, thunder, lightning, and clouds. These are nature spirits.

In Islamized areas, there is a strong belief in *jinn*, or genies as they are often called. *Jinn* are spiritual beings and not the ghosts of deceased humans. While some *jinn* are believed to be benevolent, most are malevolent and act either on their own or for someone who controls them. They are believed to assume a number of terrifying corporeal forms and also human or animal forms if they so wish. *Jinn* are said to be circumcised Moslems, and are grouped into a number of different tribes. In contrast to them are the *shetani*, another group of

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**A Bambara hunter wearing three leather sacs (tafo) around his neck and a protective amulet on his arm**

spirits who do not assume a corporeal form. *Sbetani* are believed to cause illness by possession of an individual, either on their own initiative or under the influence of a living human who possesses the power to control them.<sup>7</sup> *Jinn* do not usually cause illness through possession.

### **Witchcraft and Sorcery**

Beliefs in witchcraft and sorcery were once common in the Western world, and are now looked upon by most Westerners as the hallmarks of superstitious societies. This attitude had made it difficult, if not impossible, for many foreigners in Africa to understand the considerable differences between witchcraft and sorcery, between witches and sorcerers, and to appreciate the significant role these beliefs play in the lives of those who espouse them. These beliefs are social and not psychological phenomena.<sup>8</sup>

It was not until 1937 that the differences between witchcraft and sorcery in Africa were fully explained by E. E. Evans-Pritchard in his book *Witchcraft, Oracles and Magic among the Azande*.<sup>9</sup> He not only provided the first clear distinction between them, but also elucidated their relationship to spirit mediums, spirit possession, divination, and the indigenous healing of illness.

John Middleton and Edward H. Winter have pointed out that the distinction between witchcraft and sorcery does not exist among certain African groups.<sup>10</sup> The Nandi of Kenya are an example of an important group of people for whom there is no distinction between witchcraft and sorcery.<sup>11</sup> In

addition, it must be pointed out that those suspected of being witches may also practice sorcery, as among the Luo of Tanzania.<sup>12</sup> These exceptions, however, are not widespread, so it can be stated in general that believers make a clear distinction between witchcraft and sorcery.

### **Witchcraft**

Witches are individuals who possess an innate malicious power that works to cause harm to either health or property.<sup>13</sup> The mystical power possessed by witches is known as witchcraft substance and is believed to be found in the gastrointestinal tracts of witches, where it grows in strength and size with advancing age. Witchcraft substance is thought inherited within certain families. It may be dormant in an individual for many years, unknown to him; he may be unaware that he is a witch until accused. An individual's witchcraft often functions without his being aware of it.<sup>14</sup> Witches are thought to operate primarily at night, and their power is believed to attack the spiritual portions of their victims' organs.

For the most part, witchcraft is thought to be restricted to women, although there are exceptions to this. Old women are often accused of being witches, and it follows that they are thought to be very powerful ones because of the strength accrued by their witchcraft substance through age.

### **Sorcery**

A sorcerer is an individual who consciously engages in bad magic for the purpose of harming someone; anyone,

therefore, can engage in sorcery, as opposed to witchcraft, if he so wishes. Although the materials possessed by sorcerers are considered magical and the rites associated with their use believed to inflict harm, there is no evidence in a scientific sense that this is the case. Sorcery usually involves the use of materials such as herbs, hair, nail parings, and other objects over which a secret formula is pronounced imparting a magical maleficent power to the substances. These materials are used in a variety of ways to achieve their imagined end. They may be deposited near the doorway of the intended victim's house, hidden in the ceiling of his house or under his bed, or buried in the ground near a wall of his house. Theoretically, one can see sorcery being practiced, but there are no specific observers who will attest that the materials and rituals used achieved their intended ends. Because the practice of sorcery is secretly carried out, few outsiders have observed it. Middleton and Winter state that while beliefs in sorcery may be widespread, the actual practice of it is probably rare.<sup>15</sup>

From the perspective of modern science, it is impossible to observe witchcraft in operation. Africans believe it is at work, but they do not themselves claim to see it. A notable exception is the claim of some Luo who say they have seen witchcraft substance at night as a round, red, glowing ball of fire moving across the countryside.<sup>16</sup>

It is quite logical to ask why African societies possess beliefs in two maleficent systems, witchcraft and sorcery, when it would seem that one alone



might suffice. The fact that beliefs in both witchcraft and sorcery are found almost consistently in most societies in Africa has been the object of considerable study. Middleton and Winter set forth the convincing argument that because witchcraft is usually confined to the members of one sex, another factor,

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*An herbalist selling herbs and roots in a Malian market*

namely sorcery, must be found to complete the belief system of misfortune and disease causation. The roots of accusations of witchcraft and sorcery generally lie in disputes among individuals who share important social relationships.

### The Bambara of Mali

The Bambara are the largest ethnic group in the West African country of Mali, numbering close to three million. They belong to the larger group of Manding peoples who live in the savanna of West Africa.

The Bambara live in a roughly inverted triangular area in west-central Mali covering 400,000 square miles of savanna and sahel. They are industrious farmers who grow millet, corn, and manioc, and who keep small herds of goats, sheep, and cattle. The Bambara are polygamous, patriarchal, patrilineal, and patrilocal. Marriage involves a bride price paid to the parents of the bride. This consists of clothing, textiles, cattle, and in recent years, cash payments.<sup>17</sup>

Over the last century, and more especially in the past few decades, Islam has been gradually spreading among these people. But many of them are still animist, remaining faithful to their ancient religion. The Bambara are primarily agriculturists, but those living in the central and northern regions keep sizeable herds of cattle, sheep, and goats. They live in villages that vary in size from one hundred or so inhabitants to more than one thousand, with the average village having about five hundred inhabitants. Through their conquests,

the Bambara carried the Manding language as far north as Timbuctoo and Mauritania, and eastward into the heart of the inland delta of the Niger. The Bambara form of the Manding languages was used by the French colonial administration as a *lingua franca*, and they carried it throughout West Africa.

Bambara beliefs about disease causation well illustrate the broad patterns described above for Africa in general. They believe in both naturally and supernaturally caused illness, and they initiate healing strategies based on cause.

### Bambara Beliefs in Supernatural Causes of Illness

The Bambara possess an elaborate system of belief in the supernatural causation of illness. This encompasses a belief in ghosts, spirits, witchcraft, and sorcery, onto which are grafted Islamic beliefs in geographic areas where many have been converted to Islam. There are some slight regional variations in some of their beliefs. Good health is of the utmost importance to the Bambara, as shown by the place that inquiries about health enjoy in their routine greetings. After saying "*Ini sogoma*" (Good morning), one asks, "*Era sira?*" (Did you sleep well?), and then, "*I kakene?*" (How are you?), the reply to which is "*Torote*" (I suffer no illness).

### Spirits and Ghosts

The Bambara believe that the human soul has two portions—the *ni*, the most important and essential element, and its double, the *dya*. In addition, man and some other creatures possess a spiritual

force known as the *tere*, which can be conceived of as being one's character. At death, all of these elements are dissociated. The *ni* rests temporarily in the ancestral altars after the appropriate rites are performed, and the *dya* enters the water where it is guarded by Faro, the most powerful of the Bambara spirits. The *tere* becomes a free force, the *nyama*, which roams about freely.<sup>18</sup>

The Bambara believe in reincarnation. The child born in a family receives the spiritual elements of the person who died most recently before his birth. The *ni* of the deceased leaves the ancestral altar at the same time that the *dya* leaves the water. The *dya* enters the body of the newborn and becomes his *ni*, and the *ni* of the deceased becomes his *dya*. Whatever the sex of the child and the deceased relative, the *ni* is always the sex of the infant and the *dya* the opposite sex. Thus, a female child born after the death of an uncle receives his spiritual elements, the *ni* of the child being female and the *dya* male.<sup>19</sup>

Domestic and wild animals also possess the *ni* and the *dya* elements. In some regions, it is believed that plants also possess these two elements. However, in other areas it is believed that plants possess only a *ni*, with the exception of wild tomatoes which possess both. This species of tomato, called *ngoyo* in Bambara, is used in sacrifices to Faro. Domestic animals that are closely associated with man also possess a *tere*, which upon death becomes a *nyama*. Wild animals, however, do not possess a *tere*. However, they do possess a *nyama*, which is released when they die. This *nyama* is not asso-

ciated with a *tere*.<sup>20</sup> Such spiritual forces are also found in inanimate objects such as hills and mountains, rivers and ponds, minerals, caves, and such elements as the wind, rain, thunder, lightning, and the sky.

The *nyama* of living beings—men, animals, insects, and plants and trees—become operative when they die. In some areas, the *nyama* of trees are believed to be operative even while the trees are alive. Men are surrounded by these spiritual forces, *nyama*, which can do him considerable harm. During the course of his daily existence, a man will destroy plants and kill insects and animals, the *nyama* of which will work to harm him. In addition, he may inadvertently incur the malevolent power of the *nyama* of inanimate objects and of elements. Certain physical locations such as caves and mountain peaks are avoided by ordinary people, since they may fall ill by coming into contact with the *nyama* that reside there. Many eruptive diseases such as smallpox and urticaria are attributed to such *nyama*.<sup>21</sup>

*Nyama* are immortal and cannot be destroyed. If a man offends them or if he has killed their previous living material support, he suffers dire consequences that usually take the form of illness and misfortune. To rectify this situation, he performs regular sacrificial rituals that appease these spirits and that atone for his transgressions. Similarly, he regularly performs ritual sacrifices of animals over the ancestral altars to appease the *nyama* of the ancestors.<sup>22</sup>

One might well ask what happens to the *nyama* of animals killed in such routine sacrifices. The *nyama* of these

animals are captured during the ritual and fastened to the material support, either an altar or a fetish, over which the sacrifice is made. Consequently, they cause no harm. A similar mechanism applies to animals that are killed for consumption and plants that are harvested for food. It is believed that Faro, having directed man to do these acts, keeps the *nyama* of these animals and plants under control.<sup>23</sup>

Villages generally possess protector spirits, known as *dassiri*, which reside in such material supports as trees, animals, or unusual rock formations. These spirits act to counteract the *nyama* of animals, men, and inanimate objects that seek to harm the village as a whole. In many villages, the *dassiri* is an acacia tree (*Acacia albida*), but it may be any type of tree. Animals such as donkeys, lizards, pythons, and goats also serve as village *dassiri*. An annual ritual sacrifice lasting three days is held in most villages, with everyone participating. A bull is generally slaughtered, and each head of a family makes a sacrifice of millet porridge and kills a chicken.<sup>24</sup>

Requests for fertility are often made of *dassiri* by women who are barren. As part of their ritual, they pour white millet porridge over the tree or on the rock and promise to name any offspring after the *dassiri*. This ritual is still common in the town of Kita, where the *dassiri* is a tall rock standing on the edge of town.

### Spirits of Animals

In some areas of the Bambara country, it is believed that certain wild

animals possess several *nyama* that reside in various parts of the anatomy. Some of these are considered so dangerous that a hunter will not bring this part of the animal into his village even after he has performed the required ritual to appease the *nyama*.<sup>25</sup> Bambara hunters are organized into societies that have social, religious, and magical functions. On the surface, it would appear that such individuals would be especially vulnerable to the nefarious effects of *nyama* since they kill so many wild animals. However, a hunter wears a talisman, called *dozoboli*, on his shoulder, which captures the *nyama* as soon as the wild animal is killed.

Most patronymic groups among the Bambara possess animal totems known as *tne* or *tana*. These animals possess protective powers for their appropriate patronymic group, and as a consequence are not allowed to be harmed, killed, or eaten.<sup>26</sup> Periodic ritual sacrifices are made to them. The consequences of killing a family totem are serious for the individual. It is believed that the *nyama* of the dead animal will inflict serious illness and misfortune on his family.

The killing of animals by Europeans near villages has historically created serious problems. Tauxier, for example, recorded that in 1907 an epidemic of influenza occurred in the village of Songhobougou, which was attributed to the *nyama* of a vulture that had been shot near the village by a French administrator. In 1957, a European shot and killed a bustard (a large bird) near a village in the Segou region, and an epidemic of measles that occurred shortly

thereafter was attributed to the angry *nyama* of this bird. Measles carries a very high mortality in this part of the world, sometimes close to 50 percent.<sup>27</sup>

### Bambara Witchcraft

Witches are known as *souba* in the Bambara language. Other appellations include *soubaka*, *souya-maou*, and *soubara*. The nature of witches is summed up in a well-known Bambara aphorism: "*Bemba bi souba-ou da ni uolola e, n'ka dougouma ou t'ou don*" (God makes witches from the time of their birth, but people of their village do not know them).

Witches are believed to cause illness by attacking the victims' *dya*. The witches may assume various animal or reptile forms, including birds, bats, or snakes. They generally attack their victims at night over an extended period of time, devouring, it is believed, vital organs such as the heart and liver.

Although witchcraft is inherited, it does not necessarily become manifest in a given individual. Both men and women can be witches, but women are more frequent. Accusations of witchcraft were once frequently made against old women and individuals who behaved in some slightly deviant manner. Such unusual behavior aroused suspicions about their being witches.

As seen by the Bambara, witches never cease to cause misfortune and illness because they must continuously eat the souls (*dya*) and vital organs of humans whenever witchcraft becomes manifest. This permanent attribute means that they are a menace as long as they live. Tauxier states that certain

spirit mediums were believed to be able to cure witches of their witchcraft.<sup>28</sup>

With the continual spread of Islam and the deepening of Koranic beliefs among those Islamized, beliefs in witches have waned. The Moslem Tukolor who conquered much of the Bambara country in the mid-nineteenth century abolished poison ordeals for detecting witches and the killing of accused witches by burning.<sup>29</sup> At the present time, although the Bambara still profess to believe in the existence of witches, few concretize such a belief through accusation of specific individuals. Islam has provided substitute supernatural causes to which illnesses may be attributed. Islamization and a decline in witchcraft beliefs have led to an abandonment of the *Nama* cult, one of the six Bambara secret societies. One of the principal functions of the *nama* was to protect villages from witchcraft and sorcery.

### Bambara Sorcery

The Bambara maintain that anyone can practice sorcery if he so desires. Sorcery is aimed at a specific individual, and so, unlike witchcraft, is not a menace to an entire community. Individuals can avoid being the victims of sorcery if they take care not to arouse anger and jealousy among their social contacts. The Bambara maintain that certain categories of diviners, spirit mediums, and healers practice sorcery on the side at the request of someone who wishes to harm the intended victim.

Sorcery is a technique and can be learned by anyone. The act of sorcery is referred to by the Bambara as *nyenyini*.

and those suspected of engaging in it are called either by the same name or *flelikela*. There are a number of techniques used, and they can be grouped into two broad categories. First, there are those techniques that use material substances of some kind; and second, there are those that use spirit agents.

Both of these types of techniques have been described in great detail.<sup>30</sup> Among the material substances used are actual poisons of plant origin, generally called *donkono*. These are slipped into the victim's food or drink. In this same category is the *korte*, a small grain of cereal, bone, stone, or wood that is dispatched through the air by practicing sorcery. The *korte* then enters the body of its victim, usually through the skin. Prior to release of the *korte*, rituals are pronounced over the *korte* to confer on it the power to harm the intended victim. Other *korte* are said to fall into the intended victim's food or drink. Often, actual poisons are given to the victim, a common one being strophanthin (from the dried seeds of strophanthus plants).

Sorcery is also practiced with nail parings, hair, or some other material obtained from the intended victim. Rituals conducted over these items are believed to cause illness in the victim. Magical substances may also be buried beneath the floor of a victim's house or placed on the path to his doorway by the sorcerer.

Sorcery is believed to be practiced frequently through the use of spirit agents. A common technique among the Bambara is the use of the *sirikoun*, which is an oracular fetish. It consists of the tail of an animal, usually a bull,

### Remote Causes of Illness Among the Bambara

| Cause    | Controlling Agent | Description of Cause  |
|----------|-------------------|---|
| Basi     | Diviner-Healers   | Charms used for both protection and for inflicting illness  |
| Danga    | Moslem Clerics    | Curses inflicted by Moslem clerics ( <i>moriba</i> ) who are referred to as <i>morijougu</i> in this role   |
| Donkono  | Sorcerers         | Actual poisons that are surreptitiously placed in food or drink   |
| Dyina    | Jinn (genies)     | In Moslem areas, live genies who are believed capable of causing illness  |
| Kenke    | Sorcerers         | Granules that remain after the <i>korte</i> is made. They arrive with the rain.   |
| Korte    | Sorcerers         | A small physical form the size of a granule that is believed to penetrate the skin and enter the body   |
| Sirikoun | Sorcerers         | A magical fetish composed of animal horns, hair and hide, and cotton threads. The intentional pronouncement of magical formulae over it is believed to cause illness in the intended victim. They are often worn from a belt. |

around which is tied a cotton thread and seven small pieces of straw. The tail is kept in a small sac of red cloth. *Sirikoun* are usually used for divination, but they can also be used to cause harm to a victim by directing the *nyama*, which resides in the animal tail, to afflict the intended victim.

Spirit mediums, who in Bambara are called *soma*, *nyabouin*, and *gnefla*, may practice sorcery against someone

at the request of a client. The victim is possessed by a *nyama* over which the medium has control.

### Traditional Bambara Practitioners

Traditional medical practice among the Bambara typifies the structure of a system that is found in many African societies. Naturally, there are differences in the folk medicine practices and beliefs among the various African societies, and in detail these are often encyclopedic. But, in general, most societies possess practitioners who deal with either naturally- or supernaturally-caused illnesses. The latter group often consist of an elaborate hierarchy of specialists or a spectrum of specialists not integrated into an organization matrix.

As has been already stated, diseases thought to have a natural causation are treated at home with known remedies. The Bambara possess a pharmacopeia of well-known herbal remedies for diarrhea, skin ulcerations, cuts and bruises, headaches, joint pains, etc. In most Bambara villages, there are herbalists, *furatigui* (masters of the leaf), who are often consulted when a tried remedy does not work. They supply the herbs, advise how they are to be prepared, and sometimes administer them themselves. In the past, they did not often charge a fee for their services, but today they do.

Traditional midwives and bonesetters are two categories of practitioners who deal with the non-supernatural. The latter may be either men or women, and often they are quite skilled. The former are elderly women who have acquired a reputation for skill in aiding at births. In several areas of Africa, attempts have

been made to teach traditional midwives some basic concepts of antisepsis, to diagnose potentially dangerous complications, and to improve their techniques. Some of these programs have been quite successful. Bonesetters often enjoy much esteem because of their success.<sup>31</sup>

### Herbalists

In a sense, herbalists bridge the gap between the two broad categories of disease, those with a natural cause and those with a supernatural cause. They are often involved in the management of both. They are available with their extensive pharmacopeia to provide herbs for the management of diseases believed to have a natural cause; but they often also practice divination, attempting to uncover the supernatural cause of a patient's illness. Among the Bambara, there is much blurring of role function in this regard in that most herbalists also practice divination. Elsewhere in Africa, herbalists do restrict themselves to diagnosis and treatment of naturally-caused diseases. In Botswana, for example, the herbalists, known as *dingaka tsa dichochwa*, are essentially dealers in herbal medicines; they consult, prescribe, and treat, and are analogous to the itinerants who once peddled patent medicines in the United States.<sup>32</sup>

Knowledge of herbs and their use is often passed from father to son or mother to daughter, and in some families both men and women are knowledgeable herbalists. There is sometimes specialization among herbalists, either by choice or because they

have earned a particularly good reputation for success in treating a specific disease. If herbalists fail at treating a disease, the patient, on his own or on the advice of the treating herbalist, will assume the causation to be supernatural, and seek out the help of an appropriate practitioner. Bambara herbalists divine, and so they can diagnose the cause—either on the first encounter or, as is preferably done, when initial therapies fail. At this point, they will divine a supernatural cause and refer the patient to another category of healer.

There is much collegiality among Bambara herbalists; often patients are referred by an herbalist to a colleague thought to be more skilled in treating a particular illness. There is also a considerable exchange of knowledge about the preparation and use of herbs, although sometimes herbalists carefully guard as secret some of their more sought-after treatments.

While herbalists are usually cast in the role of benevolent practitioners, their extensive knowledge of plants also qualifies them for malevolent activities. Poisonous plants abound in Africa, and such poisons can be obtained from herbalists and slipped into the food of an intended victim. Among the Bambara, the providing of plant poisons by herbalists is not rare.

### **Divination, Oracles, and Spirit Mediums**

Divination is a function that several categories of traditional practitioners carry out, but it is unusual to find a category of practitioner whose sole role is divination. As already mentioned,

### **Traditional Bambara Medical Practitioners**

| <b>Practitioner</b>   | <b>Function</b>   |
|-----------------------|---|
| Basitigui             | Diviners whose role is benevolent or malevolent or both. They produce amulets, identify supernatural causes of illness, and treat illnesses with magical formulas and charms. |
| Furatigui             | Herbalists who provide herbal remedies and confer supernatural powers on them   |
| Moriba<br>(Marabout)  | Koranic teachers who diagnose and treat illness by supernatural means   |
| Nya bouin<br>(Gnefla) | Anti-sorcerers (diviners and spirit mediums) who can identify sorcerers   |
| Soma                  | Spirit mediums and diviners who uncover the supernatural causes of illness and who use supernatural therapeutic methods   |

Bambara herbalists practice divination; but more frequently it is done by two other types of practitioners, the *basitigui*, who are in a sense diviner-healers, and the *soma*, who are diviners and spirit mediums. The Bambara diviner-healers employ herbal preparations for treating the sick, but in addition, they prepare amulets and talismans. Many of them are hunters, who wear scores of talismans made of animal hair, teeth, claws, and skin. They are often suspected of practicing sorcery on the side.

The divination methods used by Bambara herbalists and diviner-healers are the same. Three methods are used. *Belee* are small stones thrown on the ground and their relative positions interpreted; kola nuts are widely used in



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*Golongise (cowrie shells)  
being read by a  
diviner-healer (basitigui)*

place of stones. *Golongise* are cowrie shells that are also thrown on the ground and their positions interpreted. *N'kenyede* is a system of sand reading in which marks are made in the sand with one's fingers.

When used by an herbalist or a diviner-healer, these three systems of divination reveal the type of supernatural cause involved in the patient's illness. It may be spirits, ghosts, witchcraft, or sorcery. Once the cause is revealed, the appropriate therapeutic measures are implemented; if witchcraft is involved, the appropriate social measures implemented.

The cause of illness may also be uncovered through the use of oracles. Among the Bambara, the *sirikoun* is an oracle or fetish that when consulted reveals the supernatural causation of illness. These fetishes, which contain

the tail of a bull, also contain the animal's *nyama* (ghost), which can be used to inflict harm as well. The *sirikoun* is said to speak, but only those possessing special powers can hear what is said.

The ghosts of dead ancestors and animals, as well as the spirits of inanimate objects, can affect the living and cause illness. The Bambara call these ghosts and spirits *nyama*. They may inflict harm exteriorly, but more often they do so through possession.

Spirit mediumship is an activity whereby an individual known as a *spirit medium* serves as an intermediary between certain spirits and men. Among the Bambara, there are three types of practitioners who are capable of communicating with spirits; that is, three types of spirit mediums. The *soma* are individuals who from the time of their

birth are identified as being spirit mediums.<sup>33</sup> They are thought capable of communicating with spirits for a variety of purposes. They also practice divination. *Soma* possess harps containing cords that are played for specific purposes. Thus, the cord called *fade* is plucked when the *soma* conducts a seance dealing with health matters. As he does so, he sings a repetitive song. While *soma* do go into mild trances during their seances, these seances are quite different from the spectacular—and often wild—public trances found in other areas of Africa. The *soma* communicates to the patient the cause of his illness and what must be done to appease the offending spirit. Patients are never invited by a *soma* to enter into a mediumistic relationship with a spirit.

*Quinnékilia* are not born spirit mediums, but learn the art. They are fortune-tellers primarily but practice spirit mediumship on the side, and they are believed to control a number of spirits that they can use for malevolent purposes if they so wish. These practitioners divine by using one of the three methods outlined above.

*Nya-bouin* or *gnefla* are individuals who can identify sorcerers and witches through divination. But they can also function as spirit mediums.

### Spirit Medium Cults

In many parts of Africa, spirit medium cults exist in order to maintain good relations between men and the ghosts of deceased ancestors. Those who are capable of communicating with such spirits do so when in a trance. At such times, the spirit or ghost is believed to

reveal what is vexing it and what must be done to appease it. Often, diviners will advise a patient that the cause of his illness is neglect of an ancestral or other spirit. The solution lies in permitting the spirit to express itself through mediumship and to make its wishes known. A spirit medium is then consulted, and while in an induced trance, he communicates with the spirit or ghost that is causing the patient's illness. The spirit will state what it wants, and this in turn will be passed on to the patient.

Spirit medium cults are rare among the Bambara and their cousins the Malinke. But in the western Bambara country, a spirit medium cult known as the *Dyidé* was once fairly widespread.<sup>34</sup> As with similar cults in many other parts of Africa, individuals were initiated as a means of curing them of a serious disease. Initiation was costly, in that initiates had to donate chickens, goats, cereal, and other material items. The *Dyidé* cult was headed by a chief medium known as the *dyidé-kountigui*, and had two levels of initiates—the higher *tondemi na yelena* and the lower *tonde mi ma layele*. The upper level consisted of individuals who had already entered into a mediumistic relationship with the spirit that was causing their illness. Those in the lower level had not yet achieved this relationship. The passage from the first to the second level was achieved by the payment of two kola nuts, a goat, two chickens, milk, and small items such as soap. The initiate was given a drink made from the leaves of *Mitragyne africana*, known as *dyou* in Bambara, which was known for

its hallucinogenic effects. The initiate was then isolated in a hut alone and made to lie down on a white sheet while the other members of the cult danced outside. (Initiation into the first level was also accompanied by drinking this same infusion.)

The purpose of the *Dyidé* was to cure individuals of severe illness. In many areas, such as in the towns of Kita and Toukoto, the local chiefs of the cult were individuals who had recovered from paralysis. The cult gained many members during the 1930s and 1940s, and held regular public ceremonies in most localities where it was present. It became extremely popular and, like many spirit medium cults, assumed an important political role. Because of this, the French administration eventually took measures to curtail the activities of the cult. The *Dyidé* is now virtually extinct in most of the Bambara country.

### Dealing with Witchcraft

Witchcraft is often suspected when an illness is serious and protracted, and these suspicions are confirmed through divination. Although patients can be protected somewhat from further attacks from witches, in most societies the ultimate solution lay in the destruction of witches. Because this solution to witchcraft was so drastic, it is obvious that the accusation was made when social relations had become so strained that rupture was the only way out.<sup>36</sup>

The poison ordeal was usually used for witch-finding. The concept basic to

the poison ordeal is that a witch dies on drinking a poison beverage because the witchcraft substance within him absorbs the poison. On the other hand, the stomach of a non-witch rejects the poison and vomits it. Those who died were proven to be what their accusers said they were. Those who survived confounded their accusers.<sup>35</sup> It is impossible to say what proportion of those who drank ordeal poisons died, but interviews with those who witnessed such rites indicate that the proportion who died was high.

Among the Bambara, witches were dealt with very severely. They were usually burned to death after being tortured, and frequently were killed by having only their heads burned. Thick mats of straw were tied around their heads and then ignited, the individuals dying of suffocation and smoke inhalation. Poison ordeals among the Bambara were abolished during the Moslem Tukolor occupation of the Bambara country a century ago. Likewise, execution of so-called witches was stopped.

Although there is still a strong belief in witches in much of Africa, the traditional means of dealing with suspected witches have been banned. Instead, individuals accused of being witches are banished from their villages in certain areas; in the absence of the poison ordeal, social ostracism is the only recourse. Among the Bambara, witchcraft may be suspected, but specific accusations are not made. This has been compensated for by an increase in a belief in sorcery as a cause of disease. Also, traditional practitioners now

concentrate on providing their patients with those devices that will protect them from further harm from witchcraft.

### Dealing With Sorcery

Sorcery is effectively dealt with by countermeasures of which there are many. Among the Bambara, the *nyabouin* are experts at identifying sorcerers. They and a number of other practitioners provide patients with anti-sorcery amulets and give warning to those who are suspected of the practice.

### Talismans and Amulets

Modern laws, promulgated either by colonial governments or by the governments of independent nations, have effectively outlawed witch-finding and poison ordeals, and they have provided some punishment for sorcery and spirit mediumship. Anti-sorcery efforts have not been effectively implemented, however. These laws made spirit mediumship a clandestine activity in many parts of Africa. For people who still believe in sorcery and witchcraft (and the influence of spirits and ghosts) this has meant a disappearance of the usual lines of defense against these forces. In their place, African societies have elaborated upon the use of amulets as devices to protect against witchcraft and sorcery.

By definition, *talismans* are small objects worn on the body that bring good fortune. *Amulets* are similar objects employed to protect against evil. Neither are necessarily material objects. Either can consist of a verbal pronouncement that confers protection or good fortune, as the case may be. In some instances,

secret formulas are used in conjunction with a material support.

Bambara herbalists usually pronounce a verbal formula over their herbal preparations. Such formulas are believed to have supernatural powers. Even individuals who prepare their own herbal medicines at home pronounce these formulas, which are called *kilisi*. The formulas are physically implanted into herbal preparations in one of three ways. The herbalist may spit into the preparation as he speaks; a chicken may be bled from its neck over the herbs, and the words pronounced as the blood drips in; or finally, the words may simply be pronounced.

The Bambara believe that the first two techniques are more effective. They also believe that the *ni* (soul) that is present in plants is essential to curing the patient, and that such formulas must be recited for these souls to become operative. They have no concept of pharmacologically active ingredients in plants; in a sense, the *ni* of plants represent these unseen chemical compounds in Bambara culture.

*Tafo* are verbal formulas that are materialized. They are made by herbalists in some areas, by Moslem clerics (marabouts), and by diviner-healers (*basitigui*). *Tafo* may consist of a cotton cord with knots tied at various intervals. The practitioner preparing them spits on the knots as they are tied, reciting the verbal formula at the same time. *Tafo* sometimes consist of bits of herbs or bones sealed in tiny leather sacs that are then worn around the affected part of the body. Marabouts write verses from the Koran or cryptic



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*Lesions on the head following smallpox vaccination on the arm. Four amulets (tafo) are suspended from a cord. The sac on the left contains herbs, while the three on the right contain verses from the Koran written in Arabic on small pieces of paper.*

Arabic words on small bits of paper and sew these into small leather sacs; these preparations are also referred to as *tafo* and are considered amulets. *Moson* are *tafo* that consist of a ball of mud made from a termite hill or a ball of shea butter (fat from the seeds of the shea tree, *Butyrospermum parkii*). The shea butterball is called *kana*. The practitioner preparing these pronounces the formula over them and instills his words by one of the three methods described above. At given intervals, the patient or a member of his family rubs the surface of the ball and then coats the skin of his body with the mud or shea butter. That part of the anatomy that is symptomatic

is covered first, and at other times the mud or shea butter is painted all over, although sometimes no other part of the body may be coated.

### **Islamic Practices**

Moslem clerics—marabouts or moriba—are found throughout Islamized areas of Africa. Among the Bambara, they now fulfill roles played at one time by diviner-healers and spirit mediums. Their religious, magical, and healing roles are not neatly separated. They uncover the cause of illness by reading the Koran, and they treat illness through the use of Koranic amulets. Often, the bulk of a marabout's income

comes from the making of Koranic charms for curing illness, preventing illness, and bringing good fortune. In making these amulets and talismans, marabouts consult standard Islamic magic manuals. These charms are called *barab* by the Bambara, a derivation from the Arabic *dabbara*, which means "magic making."

There are two general types of charms made by Moslem clerics: those written on paper and worn in a leather sac on the body as a belt, arm band, or necklace; and those written on paper or on a wooden slate and eventually washed off with water that is either drunk or else rubbed on the body. These amulets and talismans contain mysterious formulas and passages from the Koran or the names of angels or *jinn*. Personal charms are carried on the body, and are called *sewei*. Marabouts produce a popular form of charm called *mandara-ba*, which is thought to protect the wearer from assault with knives. In times of communicable disease epidemics, they make written Koranic amulets called *katemi*, which are buried beneath the ground at the doorway of a compound.

Some marabouts possess a reputation for their ability to invoke genies. The invocation of benevolent genies requires several weeks of intense meditation, and such genies are often invoked for good health.

### Conclusions

Traditional African approaches to healing are directed toward dealing with why a patient became ill. This approach is markedly different from

Western medicine's preoccupation with how a patient developed a disease. African folk medicine rests on a foundation of shared beliefs. To be successful, traditional practitioners must provide an answer to why the patient is ill and a remedy for the illness. They are eminently successful at the former because their training, experience, and shared beliefs with patients enable them to provide a ready answer. As Una Maclean notes, they rarely fail to cure, since most illnesses are self-limited with credit for the cure going to the healer.<sup>36</sup>

Traditional African approaches to healing share a number of common elements with some forms of alternative medicine as practiced in Europe and North America. These include a close patient-healer relationship, a holistic view of disease, the power of touch and speech, and—above all—caring. Modern Western medicine, with its emphasis on diagnostic and therapeutic technologies, has frequently relegated these elements to a peripheral role. Yet, alternative medicine is now being seriously examined in the United States as demonstrated by the establishment in 1992 of the Office of Alternative Medicine within the National Institutes of Health.<sup>37</sup> Similarly, traditional African approaches to healing as well as the African pharmacopeia have been under careful study for a number of years, and elements of them integrated into the modern health care delivery system in some countries.



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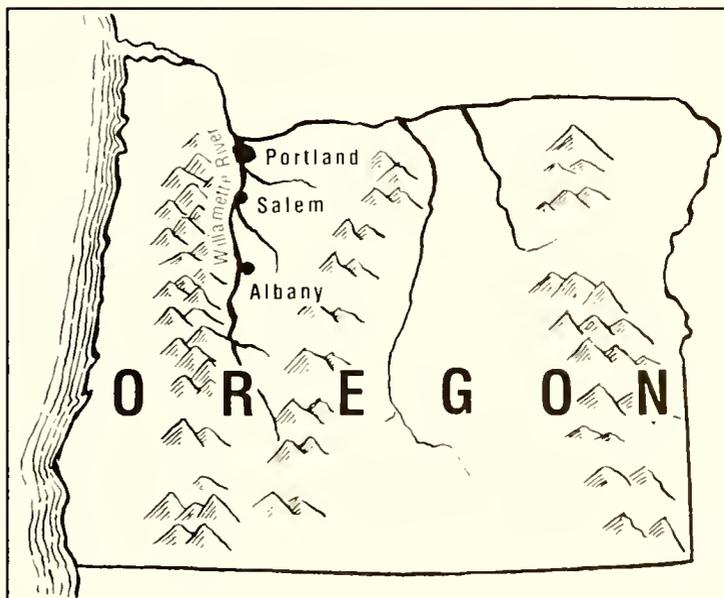
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## Frontier Pharmacy in Oregon

**N**ewton Henton (1849–1903) of Oskaloosa, Iowa, was one of many who chose to migrate to Oregon as part of the great influx of population in the second half of the nineteenth century. The son of a physician who also operated a drugstore, Henton had studied both law and science at Iowa Wesleyan College. During his school years, he also helped his father in the family drugstore. In this respect, the Hentons were far from unusual. The combined practice of medicine and pharmacy was common throughout the nineteenth century.<sup>1</sup>

Certainly, the western frontier made combining the practice of medicine and pharmacy a frequent necessity. Newton Henton's early background in his father's pharmacy had included the chance to witness firsthand the practice of medicine and to aid his father in formulating specific compounds for the treatment of the sick. He brought these skills with him when he moved to Oregon. His decision to make the move, in fact, was a consequence of his father's earlier migration to the state.

Henton's father had migrated to Oregon in 1875 at the age of fifty-one, accompanied by his wife and some of



his children. They settled in Albany, Linn County, in the Willamette Valley. One can speculate that, in spite of his age, Dr. Henton was an adventurous individual willing to face the challenges of a young and developing state. His medical skills would have been a valuable commodity in the growing Willamette Valley, which had experienced a rise in population from two

**Map of the Willamette Valley**

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**by Robert A. Berk**

72

## Liniments,

#1

## 1 Pain Killer

|                 |       |
|-----------------|-------|
| Spts Camphor    | 3 ii  |
| Linct. Capsicum | 3 i   |
| Gum Guaiac,     | 3 ii  |
| " Myrrh         | 3 ii  |
| Alcohol         | 3 iii |

M.

## #2 Soap. Liniment

|                 |      |
|-----------------|------|
| Linct. Capsicum | 3 ii |
| Aqua Ammonia    | 3 ii |
| Alcohol         | 3 ii |

|              |       |
|--------------|-------|
| Wht. Soap    | 3 xii |
| Spts Camphor | 3 ii  |

718

## #3 Nerve and Bone Liniment-

|                |         |
|----------------|---------|
| Oil. Origamum  | 3 ii    |
| " Rosemary     | 3 ii    |
| " Amber        | 3 ii    |
| " Hemlock      | 3 ii    |
| " Turpentine   | com. ii |
| " Linseed. Oil | " iii   |

M.

Henton's formula book contained several pages of liniment recipes.

hundred in 1840 to several thousand by 1870. In many households, however, wives and mothers were the primary doctors. They relied on simple remedies, the lore of which was part of the domestic tradition transplanted from the Mississippi and Missouri valleys.<sup>2</sup>

Newton Henton did not set out to Oregon until 1876, when it became apparent that his father needed his help in keeping up with the demands of a frontier medical practice. Horseback was the doctor's means of conveyance, and patients were generally spread over large geographical distances. Ensuring a well-stocked medicine bag was critical to the frontier doctor's ability to function.

The challenges of medical practice in the young state were significant. In a country of abundant rain, the fording of streams was a daily matter of no small consequence. In addition, the landscape was often hilly and heavily forested. Indians were not a problem, but injury, infection, and contagious diseases were. It is also likely that depression was endemic. The months of endless rain that typify Oregon's climate undoubtedly affected those early residents, much as it seems to affect those transplanted to Oregon today.

Upon his arrival in Albany, however, Newton Henton found that his father had again set off, this time for Ellensburg in what was to become the state of Washington. Instead of following the family, Henton decided to make his home in Albany, seat of government for Linn County. With a population exceeding two thousand, Albany boasted a railroad, an active agricultural trade, and a flourishing press.<sup>3</sup>

The first recorded drugstore in Albany had opened soon after statehood, in 1860. Henton's training in pharmacy and drugstore operation was doubtless welcomed, and in 1878 he put that past experience to use by finding employment in the newly opened drugstore of D. P. Mason and J. Foshay.<sup>4</sup> Although he worked there only two years, those years are of particular interest. The documentation that he left behind allows us an insight into an important source of pharmaceutical information available to communities in the closing decades of the nineteenth century.<sup>5</sup> Henton is an example of the trained and conscientious pharmacist/druggist who offered assistance to both physicians and townspeople.

Nothing is known of Henton's proficiency in the art of pharmacy, nor of his reputation among his fellow townspeople. The latter may be inferred to some extent by his subsequent election to the office of City Recorder from 1880 to 1893, but the former is probably unknowable. In fact, what the drugstore business was like in Albany from 1878 to 1880 can only be surmised from the study of medicine and pharmacy in general during that era. Henton's time in Albany occurred ten years before the founding of the Department of Pharmacy at Willamette University in Salem and ten years before the state legislature would begin to adopt controls for the dispensing of drugs.<sup>6</sup>

Considering the state of medicine in Oregon in the latter half of the nineteenth century, its cost, and the frequent inconvenience of even finding a physician when needed, it is probable that

many townspeople turned to drugstores and pharmacies as a source for medical advice and remedies. If the pharmacist was called upon to offer medical advice, he, in turn, would probably turn to his own formula book for assistance in identifying how to properly compound a medicine or therapy. These individual formula books were critically important because the *U.S. Pharmacopeia* of 1878 was not only outdated but may not even have been readily available in remote areas.

Henton's legacy is found in his formula book, and it is likely that the book used by Henton at the Mason and Foshay drugstore was similar to many others of the time. In fact, such formula books provide the professional analogue to the pioneer tradition that dictated that every woman maintain "a 'receipt' book chock-full of cures for various ailments."<sup>7</sup>

### **Newton Henton's Formula Book**

All that we know about Newton Henton's time as an Albany pharmacist is what can be inferred from his formula book, his self-compiled practical pharmacopeia. While the sources of the recipes are unknown, it seems likely that some were learned in Indiana where Henton helped in his father's business, others were gleaned from texts and professional contacts, and still others developed through trial and error. The contents of the book are not only interesting as an example of the level of pharmacologic knowledge available in the developing west but also as a source of information about the diseases and ailments of the time. In addition, an




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**Newton Henton**

analysis of the contents of this small volume is of interest because it may allow us to better understand the scope of a frontier pharmacist's role.

For the contemporary reader, Henton's book is most useful as it helps us understand what health care practitioners of the time regarded as acceptable or suitable drug therapy. It provides an opportunity to look at the practice of pharmacy prior to the establishment of pharmaceutical controls or the rise of formal pharmaceutical education.

Henton's formula book is a small leatherbound ledger, measuring 4 <sup>3</sup>/<sub>4</sub> by 7 <sup>1</sup>/<sub>2</sub> inches, with lined pages. The contents are preceded by an alphabetic index referring to printed page numbers. Of the 180 pages, all but a few have handwritten entries, and all are in Henton's hand. Each page has a heading that generally lists a type of

pharmaceutical being compounded. One or more recipes indicating ingredients, amounts, and mixing directions are then detailed. The method of administration is also included. Interestingly, specific diseases or actual symptoms are infrequently noted. The lack of such notation argues for a considerable degree of knowledge on the part of the pharmacist in identifying the correct compound to match the customer's illness.

Henton's formula book is not unique except in that it has survived intact for more than one hundred years. It is a record of common experience, however; as such, it achieves a singular importance because such records usually disappear. Rarely used or unusual materials are those that are most frequently preserved and protected. Common records, however, disappear precisely because they are common; they are literally "used up" as part of daily living.

Henton's formula book is of interest for other reasons as well. Although medical journals provide evidence of what the profession thought and prescribed, this recipe book indicates the day-to-day needs of the late-nineteenth-century druggist and his customers. It offers an overview of town life and standards; in addition to pharmaceuticals, the formula book contains recipes for such diverse items as cosmetics, pesticides, cleaners, and household items. As such, it is a useful and interesting reflection of a transitional era in western development.

His recipes are compiled in no particular order, although preparations with similar uses are generally grouped to-

22

Poison, Oak

|    |               |       |
|----|---------------|-------|
| #1 | Carbolic Acid | 3i    |
|    | Acetic Acid   | 3i    |
|    | Alcohol       | 3.85  |
|    | aq. Pure      | 3viii |
|    | M.            |       |

Sig. Apply with sponge to parts affected

|    |                      |     |
|----|----------------------|-----|
| #2 | Sulfur               | 3ss |
|    | Salicine             | 3ii |
|    | Glycerine            | 3ss |
|    | Miscate. Simply q.s. |     |

M. Sig. Apply to the parts affected twice a day.

gether. Early pages in the formula book are devoted to cough mixtures, surely a popular item in an area as wet and damp as Oregon's Willamette Valley. Occasionally, when the method of administration is given, the information is quite descriptive. One of the recipes under "Tar Syrups," for example, indicates that an adult is to receive a "dessert spoonful every 3 to 4 hours; increased to a tablespoonful if the case requires it." The variety of cough mixtures suggests that Henton could eventually come up with one that seemed to soothe a rasping customer and offer some relief.

**Newton Henton's two antidotes for poison oak**

62

*Gonorrhoea.*

|                   |     |
|-------------------|-----|
| #1 Ruc. Capassia  | 3i  |
| Oil. Cerebrum     | 3i  |
| " ascorbilla      | 3ii |
| " Urtica dioica   | 3ii |
| ℞. Oil. unguifera | ℞ss |
| Mix. daily.       |     |
| #2 Ruc. Capassia  | ℞ss |
| Oil. unguifera    | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | 3x  |
| ℞. Oil.           |     |
| ℞. Oil. unguifera | ℞ss |
| #3 Ruc. Capassia  | ℞ss |
| Oil. unguifera    | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| ℞. Oil.           |     |
| ℞. Oil. unguifera | ℞ss |

63

*Gonorrhoea*

|                    |      |
|--------------------|------|
| #4 Ruc. Capassia   | 3ii  |
| Oil. unguifera     | 3i   |
| Urtica dioica      | 3ii  |
| Urtica dioica      | 3ii  |
| Urtica dioica      | 3ii  |
| ℞. Oil.            |      |
| ℞. Oil. unguifera  | ℞ss  |
| #5 Oil. Sandalwood | 3ii  |
| Sacc. H. Alba      | 3ii  |
| Urtica dioica      | 3ii  |
| Urtica dioica      | 3ii  |
| ℞. Oil.            |      |
| ℞. Oil. unguifera  | ℞ss  |
| #6 Ruc. Capassia   | ℞ss  |
| Urtica dioica      | 3ii  |
| Urtica dioica      | 2xii |
| ℞. Oil.            |      |
| ℞. Oil. unguifera  | ℞ss  |

64

*Gonorrhoea*

|                   |     |
|-------------------|-----|
| #7 Ruc. Capassia  | ℞ss |
| Oil. unguifera    | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| ℞. Oil.           |     |
| ℞. Oil. unguifera | ℞ss |
| #8 Ruc. Capassia  | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| ℞. Oil.           |     |
| ℞. Oil. unguifera | ℞ss |
| #9 Ruc. Capassia  | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| Urtica dioica     | ℞ss |
| ℞. Oil.           |     |
| ℞. Oil. unguifera | ℞ss |

The formulas for "Hair, Restoratives and Dyes" indicate that Albany residents were interested in cosmetic preparations. Henton may even have mixed preparations and dyes for the local barber; the formula book includes both soaps and creams for shaving.

Other recipes provide directions for the standard self-treatments popular in the period, including formulas for powders and elixirs that were not all that different from those hawked in travelling medicine shows. Many of the preparations sold by such merchants were worthless or even harmful:

The nostrum peddler was the aristocrat of the travelling merchandisers. He usually assumed a knowing air on

matters of ailments and diagnosis, travelled under the title of "doctor," and carried himself with an aplomb that could leave little doubt in the rustic's mind that he was both "book-learned" and superior to the crafty Yankee button peddler. . . . He diagnosed. He smelled out plague and pestilence before it struck and had the remedy on hand to ward it off.<sup>8</sup>

Some of Henton's elixirs were undoubtedly tasty preparations, often with a large dose of alcohol among the ingredients. Tinctures, liniments, and ointments are also found in his formula book. A number of antidotes for poisons are included, and it is interesting to compare such recipes with the information

**Henton offered several palliatives for venereal disease.**

sources available to today's physician. The practitioner of 1878 had no body of relevant literature readily available, no poison control centers, no drug information programs, and no on-line toxicology databases. The few pages in a pharmacist's private formula book, including his prescription of castor oil as a purge, became the determining factor in whether the victim would see another day.

Among the specific complaints treated in Henton's formula book are burns, toothache, fevers, chilblains, cholera, barber's itch, and dyspepsia. He lists five remedies for sore throat, four for rheumatism, two for delirium tremens, seven for asthma, and twenty for coughs and sore throat. Moreover, he gives twenty-two antidotes for poisons and nine treatments for gonorrhea—as well as numerous recipes for cough candy, eyewashes, and salves for chaffing and chapping.

Henton's source for his recipes is open to speculation. They may have been the result of trial and error, been copied or learned from other written sources, been the result of prior knowledge and experience gained in Iowa, or been derived in a combination of ways. Regardless of their origins, however, Henton's recipes reflect the concerns of the age. While the bulk of the recipes are for traditional pharmaceuticals, there are also instructions for sizing paper, mixing mocking bird food, formulating deodorant powder, and compounding freckle lotions.

After consulting the contents of the formula book, one is tempted to offer a brief profile of Henton's neighbors.

They suffered from frequent fevers, sore throats, and toothaches. They drank considerable quantities of alcohol (even Henton's ginger ale recipe calls for a gallon of it), they exposed themselves to venereal disease, and they occasionally ingested something that endangered their lives. They were prone to respiratory diseases, infections, and injury.

But the citizens of Albany were also concerned about making their homes pleasant, healthy, and free of rodents, flies, and bedbugs. They were concerned about their appearance and about how things looked and tasted. They could rely on their druggist for shoe polish, licorice powder, adhesive labels, silver polish, marble cleaner, ink, and rum; they understood the use of cosmetics, hair dyes, and skin lotions.

### Conclusion

As pharmacy began to emerge as a profession, it was plagued by the problems typical of a discipline seeking its own identity. Accordingly, some who practiced the calling at its edges dealt in highly suspect and frequently harmful nostrums that did little to persuade people of the beneficial effects of many drugs prepared by competent pharmacists. The developing profession of pharmacy had need of a body of literature to report and codify information relating to drugs. In Oregon, the problem was compounded by the remoteness of the western frontier. Additional problems could be solved only through legislation and regulation of educational standards.

In the chaotic state in which pharmacy was trying to develop in the late 1870s,

the role of the pharmacist included aspects more in the physician's domain. The pharmacist acting as a trusted and reliable friend might be called upon to offer medical advice and then provide the correct curatives. The transitional role played by this individual in a young state is sparsely documented but nonetheless intriguing. His importance is not in his medical recipes nor in the effectiveness of his recipes, but rather in the fact that his record is one man's attempt to bring competency to what was rapidly to become a twentieth-century phenomenon—the modern drugstore.



## Notes

1. Edward Creamers and G. Urdang, *Kremers and Urdang's History of Pharmacy*, 3rd ed. (Philadelphia: Lippincott, 1963), p. 238.

2. Arturo Castiglioni, *A History of Medicine* (New York: Alfred A. Knopf, 1941), p. 222; Olof Larsell, *The Doctor in Oregon* (Portland, OR: Binford & Mort, 1947), pp. 130, 132, 138.

3. Howard McKinley Corning, ed., *Dictionary of Oregon History* (Portland, OR: Binford & Mort, 1956), p. 6.

4. George B. Griffenhagen and W. C. Felner, *The Oregon Trail of Pharmacy* (Madison, WI: American Institute of the History of Pharmacy, 1952), p. 48; Larsell, p. 134.

5. The Newton Henton formula book is in the possession of the author, Springfield, Ill.

6. Laurence Dagenais Lockie, *From Potions to Pills to Penicillin* (Buffalo, MI: n.p., 1954), pp. 85–87; Griffenhagen and Felner, p. 32.

7. Richard R. Mathison, *The Eternal Search: The Story of Man and His Drugs* (New York: G. P. Putnam's Sons, 1958), p. 285.

8. *Ibid.*, p. 281.

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**A great-grandson of Newton Henton, Robert A. Berk has pursued a lifelong interest in the history of the health sciences. He completed a minor in the history of science before earning a doctorate in library and information science from the University of Illinois. He has taught in several graduate library programs, and is currently Director of the Medical Library and Chair of the Department of Information and Communication Sciences at the Southern Illinois University School of Medicine.**

# Dinshah P. Ghadiali and the Spectro-Chrome

**D**inshah Pestanji Framji Ghadiali was probably one of the most persistent individuals ever to run afoul of the American medical establishment. Dinshah, as he preferred to be called, was born in Bombay, India, in 1873, a Parsee Zoroastrian. His first name meant "King of Duty, son of Pestanji the Watchmaker."<sup>1</sup> By the time Dinshah died in 1966, at ninety-two years of age, he had assembled an international following of adherents to an unconventional health therapy, incurred the wrath of the American Medical Association and the United States Post Office, served time in a federal penitentiary, and defended himself in numerous legal actions. Along the way he produced volumes of writings and meticulously saved the documents recounting his achievements and notoriety.

## Early Years in India

According to Dinshah's autobiography, he was considered by his parents and teachers to be a genius. He reportedly entered primary school at the age of three, high school at eleven, and sat for the Bombay University examination at the age of thirteen. He served as an assistant to the professor of mathematics and science at Wilson College and gave

demonstrations in chemistry and physics.<sup>2</sup>

By his early teens, Dinshah had begun studying and experimenting with health regimens based on a combination of spiritual ideas and Eastern science. At the age of nineteen he was initiated as a fellow of the Theosophical Society, and he became a lecturer for that philosophy, which promoted a religion based on Brahmanic and Buddhist teachings. He also took up eating reforms, including prohibition and lacto-vegetarianism (which advocated a diet restricted to dairy products and vegetables).<sup>3</sup>

Dinshah was especially interested in the possibilities offered by electricity. Exemplary of this, he began an electric light installation business, worked as a superintendent for a telephone and telegraph company, and was an electrical or mechanical engineer for a steamship company and flour mill.<sup>4</sup>

By the time of his first visit to the United States in 1896, he had developed a set of lectures on the existence of spiritual powers that he denominated the "fourth dimension." He also made the acquaintance of Thomas Edison and other scientists who were experimenting with electricity. Dinshah's visit came to the attention of the *New York Times*, which reported: "Although not yet



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*Dinshah P. Ghadiali often used the title "Humble Servant of Suffering Mankind."*

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by Edward S. Kubersky

twenty-three years old he has been a lecturer six years in a variety of subjects connected with electricity, magnetism, odic force [hypothetical forces that supposedly exist in all natural things and manifest themselves in such forces as magnetism, mesmerism, and chemical action], heat, light, and various phases of the vital forces. . . . [His] ardor was unquenchable."<sup>5</sup>

Returning to India, Dinshah continued his experiments with medicine and electricity. During an outbreak of bubonic plague in Bombay, he developed a therapeutic treatment consisting of caffeine, ammonia, and iodine terchloride; as a result of the treatment he claimed a 60 percent recovery rate. In 1899, he became stage manager of the Bombay Theatre, where he installed one of the earliest electric motion-picture projectors. He also appeared on stage as an actor.<sup>6</sup>

### Experiments in Chromopathy

During those early years, Dinshah developed a unique treatment based on the therapeutic power of light, or Chromopathy. Following theories developed by Edwin Dwight Babbitt in his *Principles of Light and Color* (1875) and Seth Pancoast in his *Blue and Red Light . . . Light and Its Rays as Medicine* (1877), Dinshah directed the light from a kerosene lantern onto a patient, bedridden with colitis, using an indigo-colored glass bottle as a filter.<sup>7</sup> He also concocted a tonic of milk exposed to sunlight in an indigo glass bottle. After three days of treatment, Dinshah reported that the patient was ambulatory.<sup>8</sup>



On the basis of those efforts and various alleged cures, Dinshah opened an Electro-Medical Hall at Ajmer in 1900, which featured a combined regimen of healing by the use of what he called "color, magneto-therapy, electro-therapy, and suggesto-therapy." A second hall opened in Surat in 1901. Dinshah claimed to have disposed of his own case of tuberculosis in 1905 by following a regimen of vegetarianism and vigorous physical training.<sup>9</sup>

In 1908, he set out on a lecture tour through Europe. Within a year he brought his wife and two children to London, where he became a prohibition and anti-vaccination lecturer and sold fruit juices (processed in Switzerland) under the name "Alcohol-Free Wines."<sup>10</sup>

### Emigration to the United States

Dinshah's success in Europe served as an enticement to emigrate to the United

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***Dinshah's Electro-Medical Hall in India, where he advertised both Eastern and Western health regimens***

States. In September, 1911, at the age of thirty-eight, he arrived in New York, bearing the passport of a British subject. Dinshah settled his family in Hillsdale, New Jersey, and he commuted to a series of jobs in Manhattan—chief instructor and examiner for the R. H. Cony College of Engineering and Automobile Instruction; private secretary to the superintendent of the Prudential Insurance Company; and general manager and efficiency engineer for the Independent Electrical Supply Company. His wife Manek was unable to adjust to America and returned alone to India. Dinshah eventually sought a divorce on grounds of desertion.<sup>11</sup>

During those early years, Dinshah pursued several inventions, including the “Dinshah Automobile Engine Fault-Finder” (which he donated to the United States government for use on aircraft engines) and the “Anti-Forgery Electric Pen.”<sup>12</sup> He also renewed his association with Thomas Edison, whom he had met on his first trip to the United States. In 1916, Dinshah organized the Dinshah Photokinephone Corporation for developing a sound-on-film, shutterless, flickerless motion picture projector.<sup>13</sup>

When Dinshah became a naturalized citizen in June of 1917, he proudly published a calling card commemorating the event.<sup>14</sup> After the outbreak of World War I, he became active in home defense, serving in 1918 as captain in the New York Police Reserve Air Service and, in 1919, as governor of the New York City Police Aviation School. He was later commissioned colonel and commander of the Pioneer Wing of the Police Reserve Air Service. Thereafter,

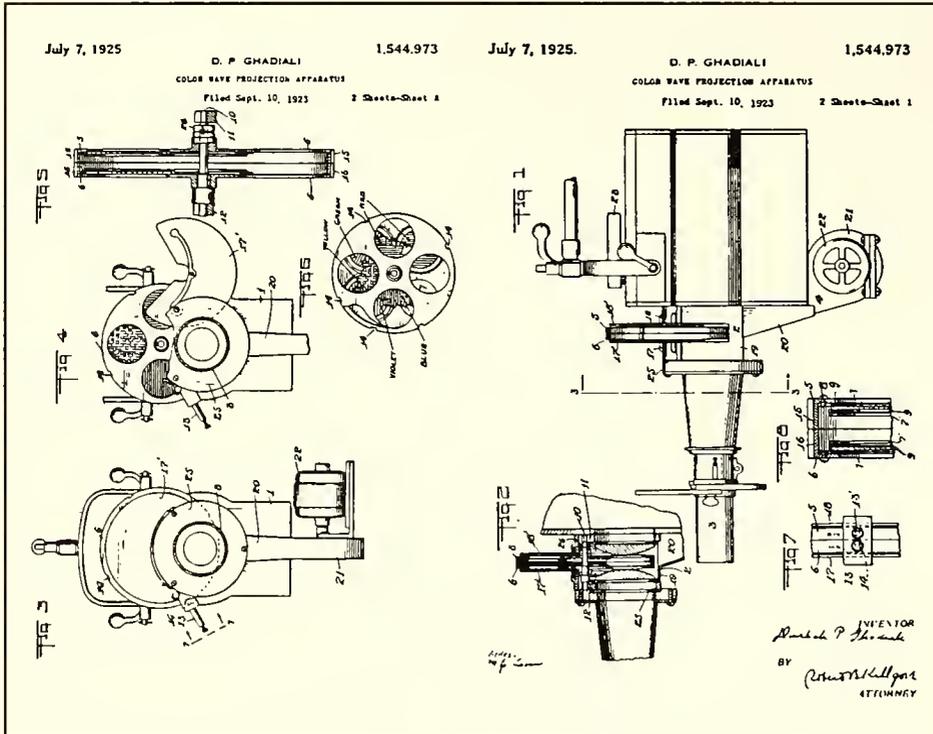


*This January, 1912, photograph shows Dinshah, his wife Manek, son Kushcheher (left), and daughter Kashmirira (right).*

he regularly referred to himself as “Colonel Dinshah P. Ghadiali,” sometimes with the additional initials “M.D.”<sup>15</sup>

### Healing Theories

Dinshah soon sought leadership positions with alternative health organizations. At a 1919 meeting of the Allied Medical Associations of America (a loose coalition of irregular physicians and their organizations), he predicted that medical systems used in India but barred in the United States would eventually win recognition.<sup>16</sup> In an address to the National Association of Drugless Practitioners, he condemned the prevailing practice of swimming costumes and instead endorsed “scant bathing raiment”



These diagrams were submitted with Dinshah's patent applications for his Spectro-Chrome color wave projection apparatus.

for women. To the the same group he delivered lectures on "Unexplained Anatomy and Centres of Psychic Force in Man," "Rational Human Diet," and "Mysterious Relations of the Sexes." He served as vice president of both the Allied Medical Associations and the National Association of Drugless Practitioners, and was an officer in the All Cults Association, the American Anti-Vivisection Society, the Anti-Vaccination League of London, and the American Association of Orificial Surgeons.<sup>17</sup>

### Development of Spectro-Chrome

In April 1920, Dinshah began classes in his most famous therapy, Spectro-Chrome, based on his early experiments with colored light. He established the Spectro-Chrome Institute in New York City and, by year's end, had published *Spectro-Chrome Therapy: Treatment of Diseases by Attuned Color Waves*. Two years later he moved the Institute to Philadelphia and began publishing *Spectro-Chrome* magazine. By 1924 the number of Spectro-Chrome students exceeded eight hundred.<sup>18</sup>

Dinshah's promotional brochures soon came to the attention of the *Journal of the American Medical Association*, which pilloried him in its "Propaganda for Reform" series. Quoting liberally from Dinshah's own writings, the journal described the Spectro-Chrome apparatus as "a steel hood, a lamp bracket, an electric light bulb, 15 feet of cord, an attachment plug, and—mystery of mysteries—'special attuned color slides, chart and full course of instructions.'" The two-week classes were described as "cash in advance." The writer also enu-



**First graduating class  
of the New York  
Spectro-Chrome Institute,  
1921**

merated the available complementary charts: "Spectro-Chrome Acoustic Therapeutic System," the "Universal Mirror showing Cosmic Evolution," and the "Occult Operation of the Great Sympathetic Nervous System." The writer accused Dinshah of appealing to "that vast field . . . the hypochondriac public." The article further observed:

Ghadiali has an appalling list of titles. The leading one, for his present purpose at least, is that of "M.D." So far as the records of the American Medical Association show, and they are the most complete extant and based on official data, no man by the name of Dinshah P. Ghadiali has ever been graduated by any reputable medical college nor licensed to practice medicine in any state in the Union. One wonders whether Ghadiali's other "degrees" rest on as flimsy a foundation. [The Spectro-Chrome brochure, partially reprinted in the article, listed "M.D., D.C., Ph.D., and LL.D."] . . .

A cult to be successful must have plausibility. It should have some apparent scientific basis. The Spectro-Chrome fad

plays on the public's ignorance of light therapy. The layman has hazy notions of the use of ultraviolet and infra-red rays in medicine. The public knows, too, that heliotherapy has an established—although limited—place in the scientific treatment of certain diseased conditions. . . . What more plausible, then, to those possessing that small knowledge that is dangerous, that human pathology is due to a lack of balance in the alleged “color wave potencies”—whatever that may mean.

Some physicians, after reading this article, may wonder why we have devoted the amount of space to a subject that, on its face, seems so preposterous as to condemn itself.

When [according to Spectro-Chrome advertising] it is realized that helpless but credulous patients are being treated for such serious conditions as syphilitic conjunctivitis, ovaritis, diabetes mellitus, pulmonary tuberculosis and chronic gonorrhoea with colored lights, the space devoted to this latest cult will not be deemed excessive.<sup>19</sup>

In 1923, Dinshah married a nineteen-year-old Spectro-Chrome student, Irene Grace Hoger. Together, they purchased a twenty-four-acre property in rural Malaga, New Jersey, which became both the family home and manufacturing plant for Spectro-Chrome. On the premises were built a smelting plant, woodworking shop, laboratory, and printery. From there Dinshah directed the affairs of the Spectro-Chrome “planets”—as the branches of his venture were known. His new wife and daughter (from his former marriage) accepted the Zoroastrian faith, and as the family grew to include eight more children, all

were educated at home and helped in the Spectro-Chrome business.<sup>20</sup>

The Spectro-Chrome machines were designed to shine, or “tonate,” a part of the body with a color, normally for a one-hour period. Spectro-Chrome consisted of a wooden cabinet and slide carrier with five glass slides: red, yellow, green, blue, and violet. The five colors were matched or “attuned” to Dinshah's standards. By combining slides, he produced a total of twelve colors.<sup>21</sup>

Dinshah believed that an aura, or energy field, surrounded and extended from the body, generated by electrochemical cellular activity. His color therapy could either reinforce or interfere with the aura. An illness or injury, for example, resulted in the weakening of an aura, requiring tonation with the appropriate color. Conversely, if an aura had an excess of activity, tonation with an opposite color would be required. Each of the twelve Spectro-Chrome colors had specific attributes: Red was said to stimulate the liver; yellow stimulated the nervous and digestive systems; orange built bones and depressed parathyroid activity. According to the *Spectro-Chrome Home Guide*, diagnosis was unnecessary because tonation alone would “normalize” most patients.<sup>22</sup>

Dinshah observed that acute conditions caused a rise in body temperature (fever), while chronic ailments had little or no fever. He believed that acute conditions required tonations of ultra-green colors (including turquoise, blue, indigo, and violet, all of which are of shorter wavelength than green), while

chronic conditions required exposure to infra-green colors (shades of red, orange, yellow, and lemon, which are of longer wavelength than green). Because the patient's temperature was the guide to whether the problem was acute or chronic, Dinshah designed a sensitive electric thermometer, which he called an *Itisometer*, that could be applied to the bare skin over each vital organ. Based on the readings of that instrument, the patient or practitioner could select the appropriate color for a tonation.<sup>23</sup>

In a manner similar to the tides of the sea, Dinshah held that there were "tides" several times each day within the human body when the bodily forces were more receptive to the influence of color therapy. Curiously, he demonstrated his tidal phenomenon by detecting varying pressures in the left and right nostrils while an individual breathed. For the purpose of measuring pressure in each nostril, Dinshah designed a pair of calibrated *Spirometer Rods*. Tonation could begin when a particular nostril was at its minimum pressure; conversely, after sufficient treatment, the nostril formerly at minimum pressure should have slightly exceeded the pressure of the other nostril.

Dinshah produced several other products to accompany tonation. His *Favor-Scope* assisted the practitioner in predicting the likely time of minimal nostril pressure (i.e., when tonation should begin). The *Sympthometer* clock, running on a cycle of two hours and fifty-six minutes, indicated optimum tonation times and other information relating to variances in nostril pressures.



At sunset the clock was reset for the optimal evening tonation times.<sup>24</sup>

Another crucial formula for tonation was what Dinshah called the "Ratio"—meaning the heart rate divided by the respiration rate. To compute the Ratio he designed and manufactured the *Kaspirameter*, which automatically counted the heartbeat and respiration rates.<sup>25</sup>

Dinshah specified optimal positions for receiving tonations, usually with the patient lying on his or her back or side, with the head pointed to the north. Lying parallel with the earth's magnetic field, he believed, would properly align the body's magnetic field. And, because electricity flows at right angles to a magnetic field, it also aligns the body's electrical polarity. Tonation was performed in a darkened room, with the patient disrobed. For the sake of modesty,

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***Spectro-Chrome office,  
laboratory, and  
auditorium at Malaga,  
New Jersey***

Dinshah designed a special tonation garment, called an *Antimude*, which featured flaps over various organ areas that could be opened for direct access of the Spectro-Chrome rays.<sup>26</sup>

Dinshah also applied tonation to fluids. A glass of any fluid exposed to the light of the Spectro-Chrome was promised to improve the drinker's health. For this purpose, Dinshah designed the *Irradiator*, a small box (intended to hold five special bottles) that could be inserted in the Spectro-Chrome.

### The Spectro-Chrome Printery

Dinshah was a prodigious writer, communicating with his followers through magazines, books, and pamphlets—all published by the Spectro-Chrome Institute at Malaga. (An attempt from 1937 to 1938 to write articles for a local newspaper was so controversial that the advertisers withdrew and the newspaper failed.)<sup>27</sup>

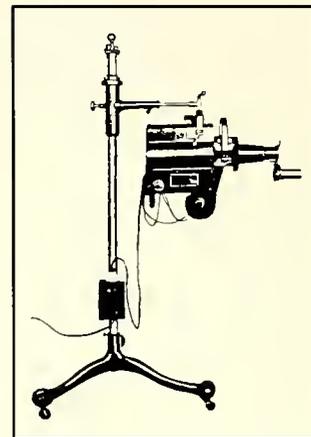
Among the books and pamphlets written by Dinshah and published by the Spectro-Chrome Institute were: *American Sex Problems* (1929); *Good Thoughts: One Good Thought a Day, Keeps the Evil Away* (1929); *Healing Triangle of Light* (1930); *The Spectro-Chrome Home Guide* (1934); *Master of Occultism* (1935); *Jewel in the Lotus . . . Occult Drama of Devotional Love* (1936); *Spectro-Chrome Metry Encyclopaedia* (1939); and *Family Health Protector* (1943). As Dinshah encountered problems with local and federal authorities, the Spectro-Chrome press became an important part of his defense.

Two slogans appeared throughout Dinshah's publications and on the Institute letterhead: "No Diagnosis—No Drugs—No Surgery" and "Spectro-Chrome in Every Home." In addition to promoting the Spectro-Chrome products, he advocated abstaining from alcohol, tobacco, coffee, tea, honey, and meat. He further preached against cosmetics, blood tests for marriage, the germ theory of disease, vaccination, and most surgical procedures. He frequently attacked the American Medical Association, which he blamed for most of his legal problems.<sup>28</sup>

### Conviction and Sentence

Dinshah's initial brush with the law occurred in 1925, when a former secretary accused him of engaging in "white slavery" while on a promotional trip to Portland, Oregon. Specifically, he was charged under the Mann Act with transporting a woman across state lines for immoral purposes.

The woman, who was twenty years old, testified that she had been placed in a hypnotic trance for a period of ten months, during which time Dinshah allegedly forced her into prostitution. Dinshah was convicted on December 4, 1925, sentenced to a five-year term in the federal penitentiary at Atlanta, and fined \$5,000. He lost appeals to the state and the United States Supreme Court. Undaunted, he appealed to President Calvin Coolidge who, in June 1927, granted a sixty-day respite of sentence (later extended to ninety days) on the grounds that the United States Department of Justice was also studying the



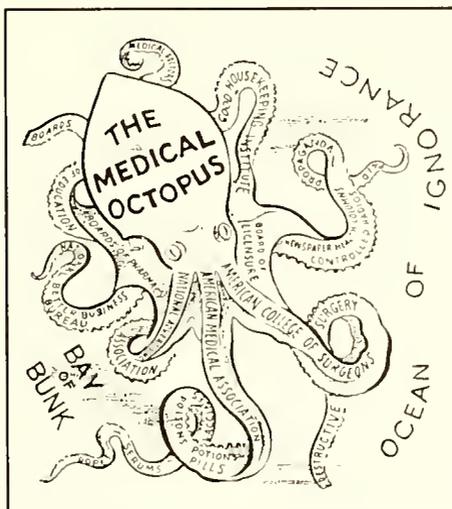
**The "Graduate Model" Spectro-Chrome projector, ca. 1925, featured a 2,000-watt bulb and a fan.**

conviction. At the end of the ninety days, Dinshah returned to prison, but because of his collaboration with prison officials in foiling a rebellion, President Coolidge commuted the sentence to three years and remitted the fine. An appeal for parole was denied the next year; but in February of 1929, Coolidge commuted the sentence after Dinshah served nearly eighteen months. On the basis of that experience, Dinshah published the two-volume *Railroading a Citizen: Diabolical Perjury . . . Supernatural Powers . . . Fearlessly Exposing Flagrant Injustice in America by Its Victim, Colonel Dinshah P. Ghadiali*, which recounted the events of his trial and imprisonment.<sup>29</sup>

### Spectro-Chrome Trials

Dinshah's return to Spectro-Chrome work was interrupted when he was again arrested, this time on the complaint of a former New York student, Housman Hughes, who claimed that Spectro-Chrome did not perform as promised. Dinshah, who by now had manufactured more than 2,800 machines, was arraigned on a second degree grand larceny charge and pleaded not guilty.<sup>30</sup>

Throughout the trial, which was heard in Buffalo in April 1931, Hughes gave a lengthy description of the training practices of Spectro-Chrome. He testified that he considered himself a "natural-born doctor" and had been eager to become a Spectro-Chrome "normalator" or practitioner. He repeated Dinshah's claim that Spectro-Chrome could correct all diseases and ailments except broken bones. He also related how Dinshah



This cartoon, from a Spectro-Chrome publication, expressed Dinshah's disdain for the medical community. The caption reads: "This fearful-looking monster is the dread of America, but, the Truth behind the Scientific Researches of DINSHAH makes it squirm in agony; hence, it uses underhanded, nefarious, wicked methods, because in an OPEN, PUBLIC DEBATE, Dinshah is able to reduce it to a pulp."

cautioned students to use terms like "normalate" instead of "cure," and "normalator" instead of "doctor" in order to avoid entanglements with the AMA and state licensing officials. Spectro-Chrome normalators were instructed to charge \$3 for each tonation, of which \$2 was to be sent to Dinshah. Yet after sixty hours of instruction, Hughes had not learned how to use the machine!<sup>31</sup>

During cross-examination, Hughes stated that his wife refused to take Spectro-Chrome treatments because the instrument resembled a machine gun. Furthermore, Hughes accused Dinshah of hypnotizing him into signing the Spectro-Chrome contract.<sup>32</sup>

The prosecution presented two expert witnesses: a physician who testified that Spectro-Chrome had no therapeutic value and a physicist who testified that the Spectro-Chrome cabinet contained nothing but an ordinary light bulb and plain colored glass.<sup>33</sup>

Dinshah avoided taking the stand in his own defense, lest he might open the way for the prosecution to bring up his Mann Act conviction. He acted as his own counsel (a pattern he would repeat in all later legal proceedings) and called as witnesses his own satisfied Spectro-Chrome graduates. Also, he called the jury's attention to the fact that Spectro-Chrome was patented; that Hughes had praised the course in his final examination paper; and that the machine was leased only to persons who had completed a course in its use (at a cost of \$200 security deposit, plus 25 cents per day for a minimum one-year lease period).

Among the witnesses called by Dinshah was a former student, Welcome A. Hanor, M.D., who reported that he had successfully treated patients with Spectro-Chrome for ten years. But the strongest support was offered by Kate W. Baldwin, M.D., senior surgeon of the Woman's Hospital of Philadelphia for twenty-three years. In 1921, Baldwin had attended one of Dinshah's first Spectro-Chrome classes and subsequently used the system at the hospital from 1922 to 1926. Baldwin's testimonial to the therapy was printed in the earliest promotional brochures, and she was singled out for attack in the AMA journal exposing Dinshah in 1924. She claimed that she was eventually forced to resign from her hospital position because of pressure from the AMA. Undaunted, however, she had continued to use as many as eleven Spectro-Chromes in her private practice.<sup>34</sup>

Baldwin cited her success with Grace Shirlow, a severe burn victim, who recovered after being treated exclusively with Spectro-Chrome and the vegetarian diet recommended by Dinshah. Baldwin also claimed that she had successfully treated cases of glaucoma, tuberculosis, cancer, syphilis, and other diseases with Spectro-Chrome. She testified that anyone knowledgeable in the use of Spectro-Chrome would be better able to treat diseases than the average medical doctor. Furthermore, she concluded, "I would close my office tonight never to reopen if I could not use Spectro-Chrome."<sup>35</sup>

Another physician, Martha J. Peebles of Brooklyn, testified that she not only had used Spectro-Chrome successfully for her own arthritis and neuritis, but had purchased a total of seventeen Spectro-Chromes for her patients, all with good results. "Spectro-Chrome is better than anything I know of in the drug line," she declared. A lay practitioner, Bessie A. Hasenau, testified that she had tonated two thousand patients with a variety of ailments, including mumps, measles, and ulcers.<sup>36</sup>

As the trial drew to a close, witness Jessie Ness, a lay practitioner from Detroit, testified that Dinshah had never claimed that Spectro-Chrome could "cure" anything, but rather that it would "restore the Radio-Active and Radio-Emanative Equilibrium of the human being."<sup>37</sup>

In his closing argument to the jury, Dinshah described Hughes as a "Judas" and likened himself to Christ, portrayed as a scientific pioneer, disadvantaged by

his race and religion, but wishing only to serve "suffering humanity."<sup>38</sup>

Prosecutor Leo Hagerty countered that Dinshah had left India for the United States not to heal but for pure monetary greed. He likened Dinshah's charts and devices to those of a fortune-teller or magician. He insisted that Dinshah offered his machine as a cure-all, and that all but one of the witnesses he offered in his defense were females who had "fallen for him." The prosecutor questioned why Dinshah had never produced other Spectro-Chrome teachers, but rather had reserved exclusive rights to teaching the discipline; why he forbade students from taking notes; and why all students were required to sign a statement affirming that they were not representatives of any medical group.<sup>39</sup>

Judge Thomas Noonan charged the jury that to find Dinshah guilty they must conclude that he made false claims to Hughes; that he relied on those claims to extract money; and that he intended to cheat and defraud. In little more than an hour, the jury brought back a "not guilty" verdict.<sup>40</sup>

But that was not the end of Spectro-Chrome litigation. In 1931 Dinshah was fined \$25 for violating the Medical Practice Act in Cleveland, and in 1933 he was fined \$250 and court costs for practicing medicine without a license in Wilmington, Delaware.<sup>41</sup>

### Naturalization Trials

Dinshah never gave up his attempts to win a full and unconditional pardon for his earlier Mann Act conviction. In 1932 he placed a new application before President Herbert Hoover's attorney general,



William D. Mitchell. The response was unexpected: The government filed a suit to invalidate Dinshah's naturalization and thereby revoke his citizenship.<sup>42</sup> The government charged that, in violation of Section 2169 of the *U.S. Revised Statutes*, Dinshah had falsely stated in his original naturalization petition that he was of the "white" race. (Section 2169 related to the Naturalization Test of 1890, which limited citizenship to whites.) Although citizenship was possible for persons of African descent, the

*Dinshah preparing for a Spectro-Chrome class*

government said that Dinshah was neither white nor black, and therefore ineligible racially for naturalization.<sup>45</sup>

In contrast to his earlier experiences with the legal system, Dinshah received overwhelming support of the press. The *New York Times* argued: "To go in for cancelling citizenship rights after a decade and a half seems neither justice nor common sense." The American Civil Liberties Union offered to take the case, but Dinshah preferred to represent himself.<sup>44</sup>

The trial began in Camden before Judge John Boyd Avis in May 1934. The prosecutor was Assistant United States Attorney Oliver Randolph, himself a black. Dinshah's testimony was dramatic. He related how, at his first naturalization hearing in 1917, officers had attempted to eject him because he refused to remove his Zoroastrian cap. (The cap was required by his religion, which was neither Mohamadanism nor Hinduism).<sup>45</sup> Dinshah lifted the leg of his trousers to show that his skin was indeed white. He recounted his service in the New York Police Reserves. He submitted copies of his honorary degrees, copies of state charters for the Spectro-Chrome Institute, his authorization as a Notary Public, and photographs of his American-born wife and children. "If you rob me of my citizenship, you rob me of my honor," he pleaded to the judge. "I do not care for money. Money is nothing where the honor and reputation of a man and his family and business are concerned."<sup>46</sup>

Dinshah also claimed that the proceedings were in retaliation for his book *Railroading a Citizen*, in which he ar-

gued that his conviction under the Mann Act had been a frame-up. But the government countered that the timing of the proceedings had a precedent in a ruling against a Hindu from India who was being de-naturalized because he was considered neither white nor black.<sup>47</sup>

Dinshah affirmed that as a Parsee Zoroastrian, he was a member of Indo-European or Caucasian stock. He pointed out that at his original naturalization hearing he had documented his white descent, since he was the first naturalized Parsee Zoroastrian in the United States. He explained that Parsees (or Persians) are the followers in India of Zoroaster (Zarathustra)—the educated and industrious descendants of the ancient Persians who emigrated to India after the conquest of their country by the Arabs in the eighth century. Since elements of Zoroastrianism were absorbed by Christians and Jews, Americans should be happy to have a Parsee as a fellow citizen. Dinshah was not above taking advantage of the racial attitudes motivating Section 2169. "I am of the . . . Caucasian Stock . . . Aryan Race, the highest in the world—nothing superior."<sup>48</sup> Judge Avis found that Dinshah was indeed a white man and his citizenship was secure. Dinshah chronicled the trial in his 1944 book *Dinshah Naturalization Case Clearing Contested Citizenship*, which he subtitled *A Medico-Political Plot*.<sup>49</sup>

### Later Years

In 1933, Dinshah had intended to run for governor of New Jersey, but the naturalization trial and the complications over his Mann Act conviction caused

him to reconsider. On July 12, 1937, however, President Roosevelt granted him a full and unconditional pardon; and Dinshah immediately announced his independent candidacy. "At the present time," he declared, "the country is headed toward bankruptcy. . . . Our governor gets \$20,000 a year, and yet he attends strawberry festivals. He should be working twenty hours a day, as I do. It should be the honor of the office that appeals to the man, not the gain." Dinshah came in next to last in the vote count.<sup>50</sup>

At the age of sixty-six, Dinshah embarked on an around-the-world lecture tour and opened two new Spectro-Chrome offices in India. In the United States, however, the climate was becoming increasingly hostile to his work. The federal Food and Drug Act of 1938 sharply regulated the sale of devices claimed to be therapeutic. The law was intended to restrict what the government regarded as "quack" devices. The United States Post Office cited the Spectro-Chrome Institute for using the mails to make fraudulent claims, and thus the local postmaster was instructed to return to the sender all mail addressed to the "Offender" (i.e., the Institute), stamped with the notation, "Fraudulent. Mail to this address returned by order of Postmaster General." In response to this action, Dinshah dissolved the Spectro-Chrome Institute in 1941 and chartered the Dinshah Spectro-Chrome Institute, a non-profit corporation, using the Malaga address.<sup>51</sup>

Notwithstanding this change, Dinshah's problems with the law continued. As he was preparing to defend

himself in yet another federal fraud suit in January of 1945, a fire totally destroyed the Institute building, which contained his scientific devices, invention models, library, and case histories.<sup>52</sup> In April of that year, an all-women jury began listening to seven weeks of evidence. Again, Dinshah was his own counsel. Assistant United States Attorney Morris K. Siegel stated that Spectro-Chrome had no healing power and that Dinshah himself was guilty of "preying upon the gullibility of people for his own personal profit." Dinshah called more than one hundred lay witnesses in his defense, but this time there were no medical professionals among his supporters.

When a guilty verdict was announced, the judge remarked that the jury deserved "the praise of the court for their careful attention to the evidence." Dinshah was fined court costs, and the one Spectro-Chrome in the court's possession was confiscated.<sup>53</sup>

The following year, Dinshah faced another criminal charge in Camden on twelve counts of violating the Food and Drug Act and introducing a misbranded article into interstate commerce.<sup>54</sup> According to records produced at the trial, more than ten thousand Spectro-Chromes had been manufactured. Dinshah again called dozens of witnesses in his behalf. One such "tense little man" testified, "I had fits all my life till Dr. Ghadiali cured me," but then suddenly paled, stiffened in his chair, and frothed at the mouth. He had to be removed by a government physician.<sup>55</sup>

The prosecution presented five examples of false or misleading claims,

including proofs of death of three patients who had died from conditions Dinshah had claimed to have corrected: two from tuberculosis and a third from complications following severe burns. (The burn victim was a Grace Shirlow, whose "cure" had been reported at an earlier trial and was featured prominently in Spectro-Chrome literature.) Other false claims included a girl whose sight Dinshah claimed to have restored, but who, in fact, was still totally blind, and a woman, paralyzed from the waist down, who had been portrayed as healed.<sup>56</sup>

For the first time, Dinshah's scientific qualifications were formally challenged in court. Spectro-Chrome publications and advertisements listed his accomplishments as a graduate degree in "Hypnotism, Suggestive Therapeutics, Psycho-Therapeutics, Magnetic Healing and Personal Magnetism" from the New York Institute of Science (1902); an honorary Ph.D. from Oskaloosa College, Iowa (1912); a Doctor of Chiropractic degree from the Nature Science College of Chiropractic, Jersey City (1920); and doctorates in 1922 in "Hydrotherapy, Psychotherapy, Food Science, Optometry, and Naturopathy" from the National School of Naturopathy in Cedar Rapids, Iowa (1922). His honorary M.D. had been granted by the Independent Medical College of Chicago, whose diplomas were not recognized by the Illinois State Board of Health and whose charter was revoked in 1899. Also, it was revealed that at least one of the degrees had been obtained through the mail.<sup>57</sup>

On January 7, 1947, the jury found Dinshah guilty of introducing a mis-



***Diplomas lined the walls of Dinshah's institute.***

branded article into interstate commerce. Before sentencing, the judge declared: "Very, very emphatically it is my duty to implement that decision of the jury so as to bring to a stop the evil suggested in the verdict. There is evil in this thing [Spectro-Chrome]. . . . I will endeavor to construct the sentence against you . . . to bring to a complete stop the promotion of this."<sup>58</sup>

The Institute was fined \$12,000; Dinshah was fined \$5,000 and sentenced to five years probation, with a suspended three-year sentence to be served if he resumed his illegal activities.<sup>59</sup> In 1948 the FDA impounded every Spectro-Chrome in Dinshah's possession and trucked all but one set of his literature to the Camden city incinerator.<sup>60</sup>

The terms of Dinshah's probation stipulated that he dissolve the Institute and dissociate himself from any form of pro-

motion of Spectro-Chrome. In 1953, on the day his probation ended, he announced his intention to resume his work. He founded the Visible Spectrum Research Institute, headquartered at Malaga. He and his sons built more machines—now called Visible Spectrum Projectors—and sold them with a warning that stated, according to then-accepted medical views, the Projectors had “no curative or therapeutic value.” Dinshah also resumed leadership of local “planets” of the Institute, now renamed “studios.”<sup>61</sup>

The FDA regarded the new literature as bearing substantially the same unwarranted claims as before. The government obtained an injunction, which became permanent in July 1958, that prevented shipment of the projectors and their literature across state lines. The court held that warnings on the machines were insufficient, resembling those of Spectro-Chrome. FDA Commissioner George P. Larrick remarked: “This case is an illustration of the problem of enforcing the law against the chronic violator. We are hopeful that the injunction will bring these activities of Mr. Ghadiali to a permanent end.” The injunction was never overturned.<sup>62</sup>

Dinshah, then eighty-five years old, restricted the sale of his projectors to customers in the state of New Jersey, where FDA oversight of interstate commerce would not be a concern. The Visible Spectrum Research Institute continued to sponsor meetings and classes. Dinshah died on April 30, 1966.<sup>63</sup>

From 1966 to 1975, three of Dinshah’s sons served as officers of the Visible Spectrum Research Institute. They con-



tinued publications and meetings, and even introduced a new compact color projector, which they marketed only in New Jersey.

In 1975 the Visible Spectrum Research Institute was dissolved, and the Dinshah Health Society of Malaga was registered as a non-profit corporation. The Internal Revenue Service approved an application for status as a non-profit scientific and educational organization for tax-exemption purposes in 1977. A manual titled *The Spectro-Chrome System* was compiled by the Society in 1978 and updated and titled *Let There Be Light* in 1985.<sup>64</sup>

### Conclusion

The endurance of Dinshah’s appeal, even to the present, is remarkable and says much about human nature. The simplicity of his claim that light could

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***Spectroscopy Room of the Spectro-Chrome Institute***

heal appealed to a society that was—and still is—largely unable to understand either the physical basis of illness or the methodology of modern medicine. Further, the non-invasive nature of Dinshah's therapy was reassuring to a fearful public.

The success of the Spectro-Chrome, however, rested squarely on Dinshah's own charismatic personality. His exotic appearance, encyclopedic knowledge, and skill with language must have held audiences spellbound. Undoubtedly, Dinshah's self-image as a persecuted humanitarian (an identity partly justified by the patently racist climate of the times), also made him a kind of fringe folk hero. Dinshah played out in his life, as many Americans do today, the role of David struggling against the Goliath's of Government and Accepted Practice. Presently, as the pace of scientific progress and medical technology increases at an unprecedented rate, we see a new generation of Americans, such as those extolling the virtues of healing crystals and imaging, drawn to the ancient gospel of healing forces that Dinshah espoused.



## Notes

1. "New Jersey Preacher and Parsi," *Time*, Oct. 4, 1937, p. 16.
2. Dinshah printed much of this information in a "life sketch" provided in *Colonel Dinshah Ghadiali . . . The Originator of Spectro-Chrome Therapy* (n.p., n.d. [1923?]), as excerpted in "Spectro-Chrome Therapy, 'The Latest Revelation in the Healing Art,'" *Journal of the American Medical Association* 82 (1924): 321–23. See also Darius Dinshah, *Let There Be Light* (Malaga, NJ: Dinshah Health Society, 1985).
3. "Says X-Rays Are Not New," *New York Times*, March 1, 1896.
4. Col. Dinshah P. Ghadiali, *Triumph of Spectro-Chrome* (Malaga, NJ: Dinshah Spectro-Chrome Institute, 1944), p. 334.
5. "Says X-Rays Are Not New," *New York Times*, March 1, 1896.
6. "Spectro-Chrome Therapy, 'The Latest Revelation in the Healing Art,'" pp. 321–23; Dinshah, *Let There Be Light*, p. 15.
7. Babbitt, *Principles of Light and Color: Including among Other Things the Harmonic Laus of the Universe* (New York: Babbitt & Co., 1875); Pancoast, *Blue and Red Light: Or, Light and Its Rays as Medicine . . . Together with a Chapter on Light in the Vegetable Kingdom* (Philadelphia: J. M. Stoddart & Co., 1877). Babbitt's book was reprinted in 1925 by Dinshah's Spectro-Chrome Institute.
8. Col. Dinshah P. Ghadiali, *Family Health Protector* (Malaga, NJ: Dinshah Spectro-Chrome Institute, 1943), p. 46.
9. Ghadiali, *Triumph of Spectro-Chrome*, p. 334.
10. *Ibid.*, p. 335; deposition of Irene Grace Dinshah, Kashmira Dinshah, and Dinshah Pashotan [sic] Ghadiali, Nov. 15,

1923, and reprinted in Col. Dinshah P. Ghadiali, *Dinshah Naturalization Case Clearing Contested Citizenship* (Malaga, NJ: Dinshah Spectro-Chrome Institute, 1944), Fig. 28.

11. Ghadiali, *Triumph of Spectro-Chrome*, p. 335; Dinshah, *Let There Be Light*, p. 14. Dinshah married Manek H. Mehta in 1902; their children were Kashmira (born in 1904) and Khushcheher (born in 1906). Khushcheher died at an explosion at the Hillsdale home in 1917.

12. Dinshah, *Let There Be Light*, p. 13.

13. *Ibid.*, p. 14; "His Auto X-Ray will Minimize Profanity," *The Sun* (New York), Oct. 20, 1912.

14. Ghadiali, *Triumph of Spectro-Chrome*, p. 335. The card is reprinted in *Dinshah Naturalization Case*, Fig. 29.

15. Ghadiali, *Triumph of Spectro-Chrome*, p. 335. See, for example, the 1919 poster announcing a Reserve Air demonstration at Hillsdale in which Dinshah identifies himself as "Colonel Dinshah P. Ghadiali, M.D.," and reprinted in *Dinshah Naturalization Case*, Fig. 26.

16. *New York Times*, June 19, 1919.

17. *Ibid.*, July 18, 1919.

18. Ghadiali, *Triumph of Spectro-Chrome*, p. A17; *Dinshah Naturalization Case*, Fig. 72.

19. "Spectro-Chrome Therapy, 'The Latest Revelation in the Healing Art,'" pp. 321-23.

20. Dinshah deposition, reprinted in *Dinshah Naturalization Case*, Fig. 28; Ghadiali, *Triumph of Spectro-Chrome*, p. A17; Dinshah, *Let There Be Light*, p. 14.

21. Col. Dinshah P. Ghadiali, *Spectro-Chrome Metry Encyclopaedia* (Malaga, NJ: Spectro-Chrome Institute, 1939), p. 299.

22. Col. Dinshah P. Ghadiali, *Spectro-Chrome Home Guide* (Malaga, NJ: Spectro-Chrome Institute, 1934), pp. 7, 47.

23. *Ibid.*, p. 48; Dinshah, *Let There Be Light*, p. 29.

24. Ghadiali, *Spectro-Chrome Home Guide*, p. 30.

25. Dinshah, *Let There Be Light*, p. 28.

26. "Cure-Alls," *Time*, June 2, 1947, p. 76.

27. The unfortunate paper was the *Bridgton Record*. Dinshah published the columns in 1943 as *Family Health Protector*.

28. See items in Darius Dinshah Collection, Vineland, N.J.

29. Col. Dinshah P. Ghadiali, *Dinshah Naturalization Case Clearing Contested Citizenship* (Malaga, NJ: Dinshah Spectro-Chrome Institute, 1944), pp. 51-56. *Railroading a Citizen* was published by Spectro-Chrome Institute in 1926. See also *Dinshah P. Ghadiali, Plaintiff in Error vs. The United States of America, Defendant in Error* (Malaga, NJ: Spectro-Chrome Institute, 1926).

30. Ghadiali, *Triumph of Spectro-Chrome*, p. A34.

31. *Ibid.*, p. 39.

32. *Ibid.*, p. 197.

33. *Ibid.*, p. 52.

34. *Ibid.*, p. 131.

35. Shirlow's cure is also reported in Ghadiali, *Family Health Protector*, p. 67.

36. *Triumph of Spectro-Chrome*, pp. 155, 184.

37. *Ibid.*, p. 224.

38. *Ibid.*, p. 283.

39. *Ibid.*, p. 290.

40. *Ibid.*, p. 297.

41. Dinshah, *Let There Be Light*, p. 15.

42. Ghadiali, *Dinshah Naturalization Case*, p. 3.

43. *Ibid.*, p. 6.

44. "White and Asiatic," *New York Times*, Jan. 26, 1933, p. 16, col. 5; "Fights Racial Ban on His Citizenship," *ibid.*, Jan. 25, 1933, p. 19, col. 4.

45. Ghadiali, *Dinshah Naturalization Case*, p. 20.

46. *Ibid.*, pp. 34, 36.

47. *Ibid.*, p. 40.

48. *Ibid.*, p. 43.

49. *Ibid.*, p. 45.

50. "D. P. Ghadiali Files as Independent Candidate," *New York Times*, Sept. 8, 1937, p. 12, col. 4; "Dinshah Opens Campaign Talks," *Evening News* (Newark), Aug. 21, 1937; "Seven 'Also Rans' Got Weak Support," *Evening News*, Nov. 3, 1937; "Dinshah a Candidate 'Until Elected' Governor," *Evening News*, Aug. 26, 1937.

51. Dinshah, *Let There Be Light*, p. 15.

52. "Fire Destroys Spectro-Chrome Institute Lab at Malaga, NJ," *Glassboro Enterprise*, Jan. 4, 1945.

53. "All-Curing Device Beaten in Court," *New York Times*, June 27, 1945, p. 21.

54. "Mail Fraud Indictment Filed," *ibid.*, Aug. 29, 1945, p. 15.

55. Roger R. Shipley and Carolyn G. Plonsky, *Consumer Health: Protecting Your Health and Money* (New York: Harper & Row, 1980), p. 275.

56. *Ibid.*, p. 276.

57. Jack Kaplan, "The Health Machine Menace: Therapy by Witchcraft," *Today's Health*, Feb., 1961, p. 28; Ghadiali, *Dinshah Naturalization Case*, p. 1.

58. Judge Philip Forman's remarks were reprinted by Darius Dinshah in the Dinshah Health Society's newsletter, Aug. 23, 1990.

59. "Quacks on Parade," *Newsweek*, Sept. 20, 1948, p. 58; Warren E. Shaller and Charles R. Carroll, *Health Quackery & The Consumer* (Philadelphia: W. B. Saunders 1976), p. 231.

60. "Lights Out," *Time*, June 7, 1948, p. 80.

61. Kaplan, p. 84.

62. For Larrick's remarks, see *ibid.*

63. Dinshah, *Let There Be Light*, p. 16.

64. *Ibid.*

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#### **Acknowledgements**

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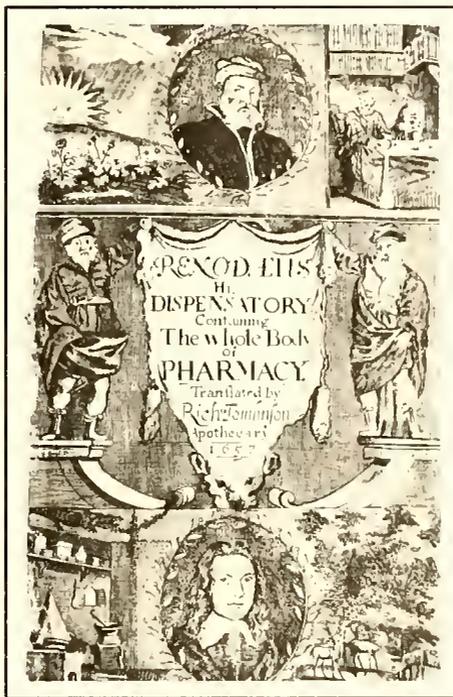
# The Lloyd Library and Museum

**T**he Lloyd Library and Museum in Cincinnati, Ohio, houses an internationally renowned collection in the fields of botany, pharmacy, and materia medica. The modern library building is situated in downtown Cincinnati, in a historical district that once was home to a number of sectarian medical schools and pharmaceutical companies. The Lloyd Library is the sole survivor of the city's medico/pharmaceutical past.

Among the outstanding collections in the Lloyd Library and Museum are pharmaceutical works spanning five centuries, a comprehensive collection of floras from around the world, herbals dating from the sixteenth century, and what is considered to be one of the largest collections of materials relating to the so-called "Irregular" sects of American medicine, including the Eclectic and Thomsonian schools of the nineteenth century. This unique library had its beginnings more than one hundred years ago with the lives of its three founders, the Lloyd brothers.

## The Lloyd Brothers

John Uri Lloyd, Nelson Ashley Lloyd, and Curtis Gates Lloyd grew up in northern Kentucky in the mid-1800s. All three received their early education in the proverbial one-room schoolhouse, with



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*Title page of a 1657 translation of Jean de Renou's classic medicinal dispensatory*

their parents responsible for a large portion of their schooling. The eldest brother, John Uri Lloyd, exhibited an extraordinary inventiveness and scientific curiosity as a young boy. He spent countless hours in his backyard "laboratory" conducting experiments—many far advanced for his years. In 1863, at the age of fourteen, he was apprenticed

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by Rebecca A. Perry

by his father to an apothecary business in Cincinnati.

John Uri Lloyd learned the apothecary business from the ground up, serving two consecutive two-year apprenticeships. He routinely worked ten or more hours a day performing menial tasks, including running errands, cleaning, soda-jerking, and assisting the pharmacist. He eventually advanced to compounding medicines while under the close supervision of his superior. During his few spare hours he began a systematic study of chemistry and pharmacy. He became an avid collector of scientific volumes to support his personal studies; his first purchase was a secondhand copy of Edward Parrish's *Treatise on Pharmacy*.

Although John Uri Lloyd occasionally attended chemistry lectures at a nearby college, he did not pursue any further formal education. Rather, through diligent personal study, he acquired a near encyclopedic knowledge of pharmacy and chemistry. From those humble beginnings, his career as a chemist—and the start of the Lloyd Brothers business—was launched.

John Uri Lloyd maintained his personal library in a large walnut bookcase situated in the room where he resided. That historic bookcase and the volumes that eventually filled its shelves formed the nucleus of what was to become the Lloyd Library and Museum. Today, the bookcase is proudly displayed on the first floor of the library.

### The Eclectic Collections

In 1871, John Uri Lloyd took a position as chemist with H. M. Merrell and




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**John Uri Lloyd, 1849–1936**

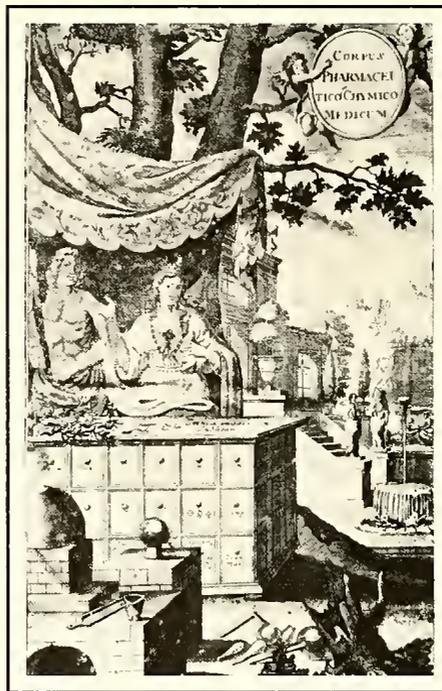
Company, which was affiliated with the eclectic medical community of Cincinnati. This “Irregular” school of medicine had begun in New York in the mid-1800s. The Eclectic dispensatory consisted primarily of plant-derived remedies. Dr. John King, a leading eclectic practitioner, impressed upon John Uri Lloyd the need for an improved American materia medica. The young chemist thus embarked on a lifelong mission to perfect the chemical analyses of native American plants used in medicine. His pioneering research set the groundwork for much of the phytochemical work being performed today.

### Lloyd Brothers Medicines

The younger Lloyd brothers, Nelson Ashley Lloyd and Curtis Gates Lloyd, also served apothecary apprenticeships and subsequently received their licenses



**An assortment of Lloyd Brothers "Specific Medicines," along with a dose book for "Standard Medicines." In all, the Lloyd Brothers developed and marketed more than 379 medicines, mostly from North American plants.**



Title page and frontispiece  
from Johann H.  
Jungken's 1732 *Corpus  
Pharmaceutico-Chymico-  
Medicum Universale*

to practice pharmacy. In 1885, after several years of business partnerships and mergers, the brothers formed their own firm, Lloyd Brothers. Each brother played a vital role in the success of the company. John Uri Lloyd was responsible for the actual analysis and processing of the Lloyd medicines. Curtis Gates Lloyd, a self-taught yet gifted botanist, located and identified the plants so vital to John Uri Lloyd's research. Nelson Ashley Lloyd became the business manager.

The "Specific Medicines" produced by the firm were generally accepted even outside of Eclectic circles as being efficacious, of good quality, and of the highest standards. John Uri Lloyd taught at both

the Eclectic Medical Institute (later College) and the Cincinnati College of Pharmacy. In 1887 he was elected president of the American Pharmaceutical Association, and he received its Ebert Prize three times. He was also the recipient of the Remington Honor Medal in 1920 and the Procter International Award in 1934.

As the Lloyds' business prospered, they continued to add scientific volumes to their research library. The collection became the special project of Curtis Gates Lloyd, who solicited pertinent literature from national and international contacts. When his search for botanical specimens took him to diverse parts of the world, he faithfully sought out

booksellers' establishments for the printed materials that might support his own plant studies as well as the general research of the Lloyd firm.

The brothers' library eventually grew to such proportions that a separate building was acquired to house it. In 1891, most of the thousands of books and journals—along with the vast number of plant specimens accumulated by Curtis Gates Lloyd—were moved to a building at 224 West Court Street in downtown Cincinnati. In 1907, after the collections outgrew that building, a second structure was erected at 309 West Court Street. The first building was renamed the Lloyd Museum and continued to house Curtis Gates Lloyd's outstanding herbarium and mycological library.

Curtis Gates Lloyd resolved that the library should be perpetuated for the use of future scholars. A bachelor, he established a generous endowment that has allowed the library to continue to the present day. In 1971 the Lloyd Library and Museum moved into its third and present building, next door to where the second Lloyd building stood. Today, the four-story structure at 917 Plum Street houses nearly 200,000 volumes. The Lloyd Library actively collects printed materials in the fields of pharmacy and botany, with special emphasis on medicinal plant literature. Other sciences are also well represented. In order to keep abreast of the most current information, the Lloyd Library currently receives approximately 650 journal titles.

The extensive herbarium accumulated by Curtis Gates Lloyd is no longer on the site of the library. In 1940 his



**Title page from John Parkinson's *Theatrum Botanicum, or Theater of Plantes*, published in 1640**

flowering plant collection (totalling nearly 29,000 specimens) was presented to the University of Cincinnati as a permanent loan. His mycological collection, numbering nearly 60,000 specimens, are now at the Bureau of Plant Industry in Beltsville, Maryland.

In a 1920 letter to a colleague, Curtis Gates Lloyd described his mycological collection as second only to that of the Royal Botanic Gardens in Kew, England. He could well have added that the Lloyd holdings also comprised the strongest concentration of medical botany, or materia medica, in the United States. Lloyd Library holds one of the largest collections of pharmacopeias and dispensaries in the world. Dating from



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### The Lloyd Library and Museum

The Lloyd Library and Museum is open Monday through Friday, 8:30 A.M. – 4:00 P.M., as well as the first and third Saturday of each month, 9:00 A.M. – 4:00 P.M. The address is 917 Plum Street, Cincinnati, OH 45202. The telephone number is (513) 721-3707; Fax (513) 721-6575.

Volumes in the Lloyd do not circulate, nor are patrons permitted to enter the stacks except by special permission. The library staff answers reasonable phone or mail requests, but in-depth research should be performed by the individual patron.

the library's oldest title of 1493 (a vernacular Mesue, *Incomencia el Libro della Consolatione de la Medicina Simplicie Solutive*, printed by Zohani in Venice) the Lloyd Library holdings include historic and contemporary works in several languages. Of special value to scholars are the many editions of a particular

work. Also valuable to historians of commerce are the price lists and circulars from drug companies from around the country. The several hundred items in this collection date from the early 1800s to the mid-1900s.

The Lloyd is the repository for the records of the Eclectic Medical College

of Cincinnati, which closed its doors in the late 1930s. The Lloyd's extensive collection of American materia medica includes Johann David Schoepf's *Materia medica Americana potissimum regnum vegetabilis* of 1787 (the earliest printed book dealing with American medicinal plants), the early nineteenth-century works by Samuel Stearns (1801) and Samuel Henry (1814), dispensatories, and ethnobotanical titles. Printed and manuscript collections relating to Eclectic medicine are unexcelled—archival and manuscript holdings of Dr. John King, Dr. John Scudder, and the commercial and personal papers of John Uri Lloyd and Curtis Gates Lloyd. Of added interest and usefulness are the related journals and monographs of botanic medicine.

The international scope of the printed collections, the diversity of the herbal specimens, and the variety of research and personal manuscripts make the Lloyd Library and Museum a veritable mecca for medical and botanical scholars.




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**Credits**

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Cover illustration: Medicine vial case, dose book, and medicine bottle from the Lloyd Brothers pharmaceutical company. These items are from the extensive collection of the Lloyd Library and Museum, Cincinnati. Photograph by Mary Lee Schmidt.



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