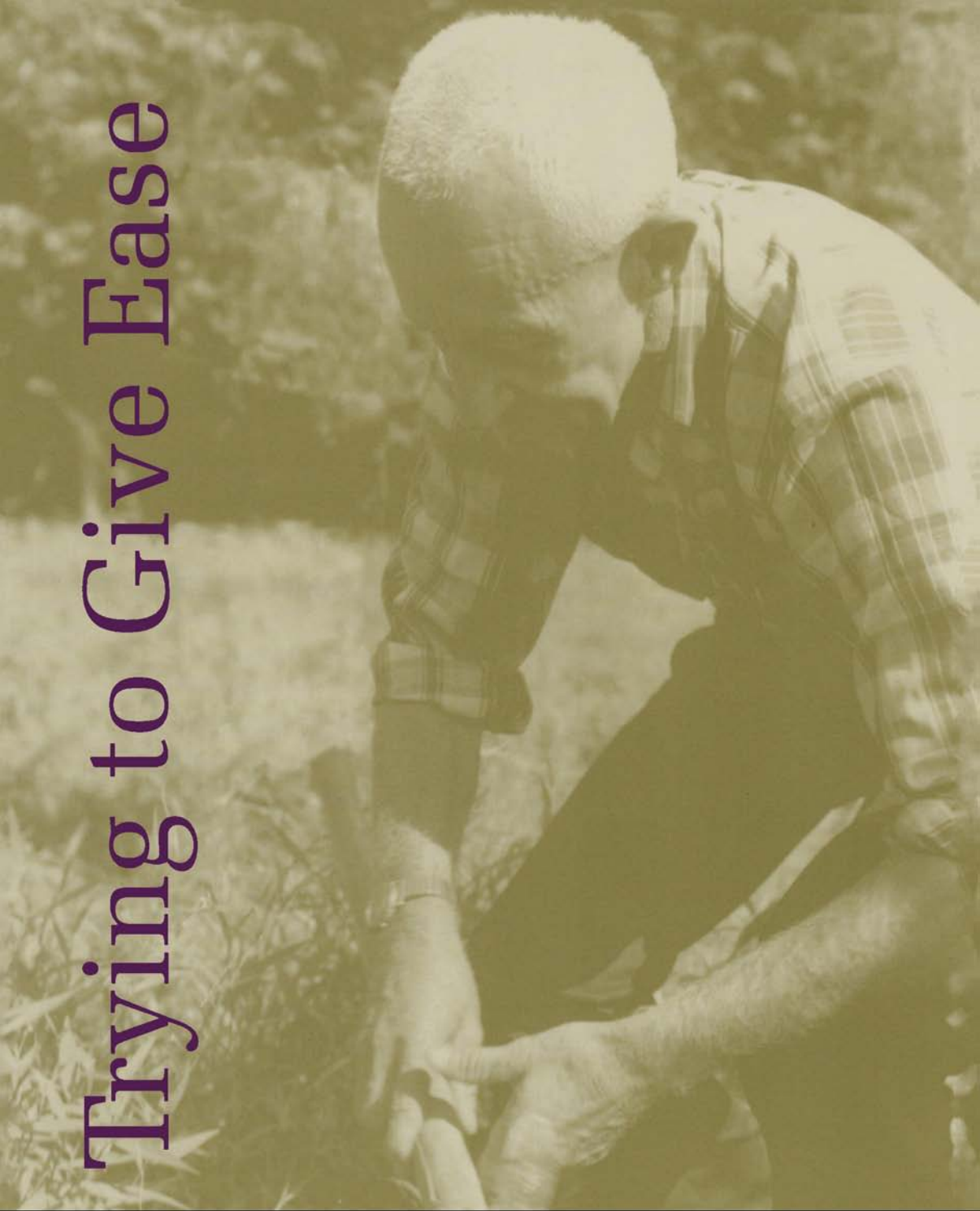

Trying to Give Ease

Tommie Bass and the Story of Herbal Medicine

JOHN K. CRELLIN and JANE PHILPOTT

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This work is not intended as a field guide or formulary. The information from Bass and from the historical record is to be read in the context of traditional wisdom and practices and is not a recommendation for using herbs in the changed conditions of today's health care. Herbs can be toxic or interfere with other medications.

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Dedicated to the spirit of the World Health Organization's call for health for all by the year 2000.

Contents

A. L. Tommie Bass died in August 1996, about eight years after the original manuscript of this volume was completed. He had seen a remarkable growth of interest in herbal medicine during that time. As one reflection of this interest, Peggy Brevoort, in a 1996 discussion on the U.S. botanical market, stated that the size and intensity of consumer interest in botanicals was "exemplified in 1994 when this small [herb] industry successfully lobbied to pass legislation which dramatically changed the way botanicals are regulated. Congress received more mail on the Dietary Supplement Health and Education Act of 1994 than on any subject since the Vietnam War."

Tommie Bass began to promote commercially prepared herb capsules in 1983, even though this countered his long-standing recommendations of using teas and salves. Moreover, commercialism contrasted sharply with his own service to patients, which was mentioned in his *New York Times* obituary: "[Bass] spent much of his life treating the people of Cherokee County and surrounding areas without taking payment."

Since 1988, various approaches to the use of herbs in health care have become more conspicuous. For some people, nutritional herbalism has come of age as a result of the 1994 Dietary Supplement Health and Education Act, which legislates that herbs can be marketed as "safe" unless proven otherwise by the government. In addition, given certain criteria, labels can include dosage recommendations and warnings about particular uses without dooming the herb or product to be branded as a drug or food additive.

Nutritional herbalism often shades into what can be described as eclectic herbalism, which embraces an interweaving of concepts that are called on to rationalize recommended uses of a particular herb. Concepts are drawn from traditional systems—for example, aboriginal medicine of North America and China—as well as from new ideas about energy medicine.

In contrast to such eclecticism is so-called rational herbalism. Its proponents will only accept the effectiveness of an herb on the basis of western science. The reputation of an herb is, or tends to be, dismissed if it cannot be explained by modern pharmacological studies and clinical trials. The exclusive emphasis on science makes this approach a favorite among many health care professionals and government regulatory bodies, as well as a few practitioners of alternative medicine. In fact, a noticeable feature of herbal medicine in recent years has been renewed interest in the chemical and pharmacological investigation of herbal medicines as part of the search for new drugs. Specialist volumes such as *Phytochemistry of Plants Used in Traditional Medicine* (Oxford: Clarendon, 1995) reflect this search, as well as the emergence of such sociopolitical issues as the intellectual property rights of indigenous peoples and the urgent need for plant conservation.

The recent growth of diverse approaches to herbal medicine, along with limited legislative controls, has allowed questionable practices to emerge; some, in fact, appear to be downright fraudulent. There is, we believe, a greater need now than in 1988 to investigate many of the current recommendations. Because society only has limited scientific resources for such studies, we must judiciously use other means to assess herbal medicine. The experience and knowledge of "old-timers," like Tommie Bass, is one. New uses, or those unknown to Bass, are not necessarily invalid; however, if they have no scientific basis, and if they are absent from the historical record (and here we include Bass) or if they have not been generally mainstream in the past when herbs were in everyday use, we must be extra cautious before accepting them. This volume pursues these issues as they describe and contextualize the practice of a unique individual.

John K. Crellin
Jane Philpott
1997

Acknowledgments

This book emerged out of an invitation from Allen Tullos to evaluate the reputation of the herbs known to and used by A. L. Tommie Bass. Once we saw that Mr. Bass's practice was both extensive and a significant social force in his area, it became clear that the project had to be expanded in order to avoid an overly superficial review. Although Allen Tullos did not remain with the project because of his own schedule, many thanks are due to him for his seminal role in initiating an intriguing journey.

Many people have responded to queries or provided general support. In the early years of the project, many students in a medicinal plant course led by Philpott and Crellin in the botany department at Duke University provided enthusiasm that encouraged a broad study. Later, Professors Robert Kral and Robert L. Wilbur helped enormously with various questions about identification and current botanical nomenclature. Invaluable for specific queries have been Janus Antonovics, Richard Bell, Lincoln Constance, J. A. Duke, Frances Hammersand, James Harden, J. T. Kartesz, Jim Massy, Mildred Mathias, Donald E. Stone, Philip Teigen, Sue Thompson, Rytas Vilgalys, and Norman Farnsworth. The latter also provided some monetary savings by providing free copies of NAPRALERT bibliographies. General support in the form of secretarial services and office supplies has come from the Medical History Program and the Mary Duke Biddle Foundation, and (including word-processing help) from the Department of Botany and, personally, from Jane Philpott. Library support has

been crucial and three librarians at Duke University and their staffs deserve special gratitude: Bert Livingstone, Biology-Forestry Library; Warren Bird, Duke University Medical Center Library; and G. R. T. Cavanagh, Trent Collection, Duke University Medical Center Library. Some travel money for the collection of specimens has been provided by the Duke University Research Fund.

Above all, the project has been dependent on the patience of A. L. Tommie Bass, who has responded to endless queries for eight years. Moreover, he has encouraged visitors to be candid in talking about their use of herbal remedies. It is invidious to single out particular visitors to Bass, many of whom have patiently spent much time imparting ideas and information, but Judy and Barry James deserve thanks for facilitating many introductions, especially in the nutritional product phase of Mr. Bass's practice; additionally, they have provided insights into aspects of southern Appalachian life. Another person who has been patient during much of the gestation of the book, even while easing its birth in many ways, has been Joanne Ferguson, editor-in-chief at Duke University Press. Not only have her quiet, penetrating questions helped enormously but she also has never appeared overly daunted by the substantial size of the manuscript. Particular thanks are also due to the keen eye of copyeditor Mindy Conner, and to the many courtesies of the staff of Duke University Press.

Jane Philpott's ill health throughout much of the project and vision problems since 1984 have meant that an overwhelming portion of the work and the authorship of the book is that of John Crellin. Her personal thanks go to many friends, including colleagues who, through sustained high interest in the project, have been personally helpful in many ways, especially to long-time friend Jane Elchlepp. Thanks, too, to those who helped with transport after driving became unsafe, especially to Mel Turner and others he recruited. For computer related services and advice appreciation is due to Robert Chau, Molly Mcmullen, Cleo Robertson, Susan Garbeth Jones and the Computation Center at Duke University.

Introduction

People today face a bewildering choice of medical treatments supplemental or alternative (some say complementary) to orthodox medicine, including osteopathy, chiropractic, Christian Science and other forms of faith healing, herbal medicine, over-the-counter pharmacy, and many more. Most people retain a basic confidence in orthodox medicine, but many are intrigued by alternative practices and sample or use them regularly, notwithstanding much perplexity about the reliability and safety of alternative approaches and questions about the honesty and qualifications of the practitioners. A vast array of advocacy literature dealing with alternative health care exists, but, unfortunately, few balanced and analytical approaches are available. The present account aims to describe and evaluate impartially one alternative practice in an Anglo-Saxon setting.

Studies of traditional herbal practices have followed many overlapping directions. Prior to the 1930s, accounts for the most part focused on charms and magical recipes, suggesting analogies to the beginnings of Western medicine. Other studies were Baconian in approach, compiling lists of folk beliefs to preserve information in order to trace the spread of ideas or to illuminate thought processes. Recent investigations tend to focus more on the context in which folk medicine is practiced, its contribution to local health care, and its relation-

ship to regular Western medicine. Another approach, mostly used by ethnobotanists, chemists, and pharmacologists, rather than folklorists and anthropologists, examines the possible pharmacological effectiveness of plants for use in Western medicine. These studies garner information on remedies used by folk practitioners and laypeople, screen plants for active principles, and follow up leads from chemical or cross-cultural comparisons. Whatever the approach to traditional medicine, basic questions arise as to why people turn to it rather than to scientific medicine, and whether or not it is effective.

The present account is broader than most, even though it is based largely on our study of a single herbalist in the southern Appalachians, A. L. Tommie Bass. We have omitted descriptions of herb uses by such practitioners as root doctors and spiritualists, and do not cover recent trends in herbal medicine embracing vitalist ideas. In fact, during the early stages of the study, its scope quickly grew as attention was given to relevant social factors, popular ideas about disease, and analyses of historical roots and background. In many ways information on the matrix of relevant factors grew in topsy-turvy fashion as Mr. Bass's memory was prompted in different ways, and we constantly witnessed new aspects of his practice. Taken together, the diverse material illustrates the complexity of people's attitudes and behavior as a consequence of innumerable cultural and genetic considerations. Of course, not all considerations are relevant all the time for explaining particular practices, because individual patients "select" consciously or unconsciously (sometimes to reinforce notions already held) factors congenial to their needs.

II

Individual readers will find different parts of the study of special interest according to their own attitudes and interests. Some physicians may conclude that the study reinforces their concerns over the dangers of traditional medicine, while others can appreciate that most remedies are analogous to over-the-counter medicines available from drugstores and elsewhere. They may also see this account, or at least certain aspects of it, as contributing to discussions about primary health care and community medicine. In fact, much of the discussion shows that physicians, pharmacists, and other health professionals

should become better acquainted with herbal remedies as part of self-care, and that herbal medicine need not be viewed as confrontational to regular practice.[1]

The ready availability of herbal remedies raises as many issues for consumers as for health professionals. Although a profusion of books, pamphlets, and articles have appeared on herbal remedies, most are uncritical compilations. The discussions on the apparent success of herbal remedies and on the dangers of taking some of them are of interest to all. Among the variety of reasons for success are confidence in the biological activity of plants, a positive attitude toward or faith in the practitioner (whose ability may have been acquired by "gift," apprenticeship, or formal or self-education), personal involvement in the treatment, a sense of tradition, and a common cultural background and knowledge of herbs between patients and practitioners.

While social and cultural factors are undeniably important, how much they contribute to the success of herbal practitioners occasions much debate and disagreement. Certainly the outcome of each meeting between practitioner and patient reflects individual personalities and idiosyncracies, the nature of the medical problem, and the patient's reasons for seeking the consultation. Some people visit herbal practitioners hesitantly after disillusionment with orthodox medicine, while others always employ herbal practitioners for second opinions. It seems clear that the concerns and needs of individuals when they are ill are variable and that the flexibility of herbal practice accommodates the needs of a variety of people.

Two questions arise for all readers. Is the local study that is central to this book relevant to the American scene in general? Does the American experience have anything to offer to an understanding of herbal medicine in other countries? After all, Appalachia is generally viewed as a unique region in an advanced Western country.[2]

The answer to both questions is surely yes, for the study raises many general issues ranging from concerns for an individual's medical problems to the dynamic relationship between alternative and professional practices. Furthermore, aspects of the American herbal story have had a direct impact on practices elsewhere, notably in Britain. Although alternative medical practices are probably no more conspicuous today than at many times in the past, more studies are needed on reasons for the present high level of interest in many

Western countries. This includes Britain, where the National Health Service generally ensures that no economic barriers stand in the way of seeking medical care, as is often the case elsewhere, and where the upper classes are turning to alternative therapies in significant numbers.[3]

Generally accepted reasons for the recent widespread growth of Western interest in marginal medicine are considered. These include disquiet with regular practices, such as side effects of drugs, high hospital costs, and the frequently impersonal approach of many physicians and allied health personnel. Factors generally given less attention include a general suspicion of technology and nostalgia for the "old days." It has been implied that nostalgia contributed to the success of the practice of Dr. Jarvis, a licensed physician who attracted widespread attention in the 1950s and 1960s by promoting the medicinal value of honey and apple cider vinegar. Jarvis's views were presented as an alternative to orthodox medicine and provided a pastoral view that seemed to reinforce differences between an urbanized, cultured society and a rural one.[4]

The World Health Organization recognizes that traditional medicine remains the major source of health care for more than two-thirds of the world's population.[5] Conclusions to the present study note a number of points linked to the widely asked question: "Whither traditional medicine?" We consider, for instance, attempts at integrating traditional and Western medical systems and approaches to understanding traditional pharmacology.[6] This account can be seen as a description of the persistence of traditional practice in a modern, industrialized nation committed to scientific medicine. In turn, this raises questions about the future of traditional practices in developing countries as they become more industrialized.

III

Among the academic disciplines that find common ground in the themes and issues of traditional medicine are anthropology and sociology (especially the "applied" areas of medical anthropology and medical sociology), folk-life studies, ethnobotany, and ethnopharmacology. The study of traditional medicine has been more the preserve of anthropology, with its in-depth interviews, than of sociology,

with its tendency to elicit information by questionnaires. Even so, as anthropologists have vigorously pursued analytical frameworks for their observations, the flavor of more and more studies of traditional medicine has become sociological.

The present study has an anthropological approach insofar as it is based on participant observation and interviews over a long period of time. We also relied on the approaches—common in folk-life studies—of recording and endeavoring to distinguish the oral and popular traditions, mostly through the extraordinarily acute memory and narrative talents of Mr. Bass.

Some anthropologists may consider that the findings are not adequately placed in an overall theoretical framework (including attention to symbolism), as many studies on cultures in Africa and elsewhere have been. Two factors have shaped a direction away from a single theoretical position. One is the deep disagreements within anthropology on how best to understand cultural groups; the second, that during the last twenty years or so Bass's practice (like others observed) has developed an increasingly broad clientele crossing all social classes. For this reason, too, we take a cautious attitude toward sociological views that see an association between many forms of healing and new religious movements. Theories about the multiple reasons that exist for using herbal remedies can too easily impose an order, a neatness, which does not do justice to the whims of fancy, coincidence of events, and complex interplay of factors uncovered by our study.

Much of the analysis is based on historical perspectives. This highlights a close similarity between much present-day herbal practice and therapies prescribed within regular medicine until around the 1940s. The term herbal medicine has been used in the title both because it embraces the folk and professional sectors of health care and because the terms "traditional" and "folk" medicine imply developments long distinct from regular medicine rather than the dynamic relationships that exist between the two.[7]

Reasons for placing emphasis on the history of medicinal plants perhaps merit additional comment, because it is commonplace knowledge that herbs have a long history; indeed, it is so well known that many people see herbal medicine as merely a quaint legacy of the past. However, an emphasis on the history of medicinal plants re-

veals that the conceptual framework of modern herbal practice rests on theories and notions that have long been part of regular medicine and have acquired a cultural force, though often in modified form.

A number of issues are highlighted by our approach. They include the perennial questions, Why there is a persistence of folk beliefs? and Can making decisions to research the chemistry and pharmacology of a plant be helped by historical perspectives? Precise documentation contributes to both issues because it is necessary to make adequate assessments of a plant's historical popularity and whether or not a reputation rests on sound testimony and critical sources or is the consequence of hearsay or doubtful theory. Folklorists often have been fascinated more by geographical relationships than by common historical origins. Diffusion, rather than origins, has been the main concern; yet historical accounts can explain, or at least suggest, why plants are used for similar purposes in diverse, apparently unrelated cultures.[8]

The oral history we recorded—mostly from Mr. Bass, who has garnered and synthesized a community's knowledge—is an important part of the volume; it can be seen as contributing to folk-life studies which preserve information on bygone and rustic ways of life. However, this is no longer the thrust of most folk-life studies, and while perspectives and knowledge generally unrecorded from a working practice and now disappearing from Anglo-Saxon traditions are preserved, the material also contributes to an understanding of many popular ideas about disease and treatment, people's foibles and concerns, and the relations between academic and popular knowledge. All of this is a reminder of the value of understanding the scope of a society's stock of knowledge.[9] Furthermore, the oral accounts (plus commentary) illuminate perceptions about twentieth-century social change and contribute to understanding the impacts of changes in medicine, not so much in terms of medical science and the medical profession, but in the context of minor and chronic illnesses, which impinge on everyone and exact a major economic toll everywhere.

Considerations of botany—plant identification and distribution—are also essential in assessing traditional medicine. Exact identification of plants raises many questions, especially when allied or analogous species are found to be used rather than those commonly reported in the literature. This suggests that regional differences in

traditional medicine are often the direct outcome of plant distributions rather than the result of different levels of knowledge about plants from one region to another. Undoubtedly the richness of Appalachian flora has been an important factor in shaping Bass's practice. We give some attention to false identifications of plants by herbalists and the significance of this for herbal medicine. Hopefully, the way botany and history are combined in the account helps to establish the herbal pedigree of many plants. Amid current concerns over the safety and effectiveness of herbs, some health authorities are increasingly relying on a plant's past reputation in their assessments of herbs. Unfortunately, there is a paucity of information that sifts advocatory from other positions.

IV

Details on how the practical part of the study was undertaken need comment. The project started in 1980 after Allen Tullos, who had reviewed aspects of Mr. Bass's life in a master's thesis in the curriculum in folklore at the University of North Carolina, Chapel Hill (1976), suggested that the story of Tommie Bass as herbalist be written. The authors visited Mr. Bass frequently, collecting information about his life and knowledge of herbs. During field trips, voucher specimens were acquired for the Duke University herbarium.

John Crellin gathered information about the plants and about Bass's practice from Mr. Bass and his visitors, friends, and acquaintances, as well as from people in his community who have never sought his advice. This resulted in hundreds of hours of discussions, generally recorded on tape. The use of questionnaires proved to be a serious disruption to the relationship between Mr. Bass and his visitors, and they were rarely used. However, specific questions were asked during lengthy informal and semistructured chats with visitors.

All the activities with Mr. Bass prompted his memory in various directions. Bass also cooperated by tape-recording a diary for an eight-month period, listing the daily number of visitors and many of the reasons for their visits. He also has supplemented this information with innumerable tapes on special topics and with many telephone conversations.

Complementing visits to Leesburg, Mr. Bass has been to North Carolina on eight occasions for week-long visits. On such trips his memory was further triggered in different ways by visits to medical and pharmaceutical museums, and by repeated conversations about each remedy that he knows. The latter approach included detailed discussions on such works as Jane Bolyard's *Medicinal Plants and Home Remedies of Appalachia* (1981), R. B. Browne's *Popular Beliefs and Practices from Alabama* (1958), and V. E. Tyler's *The Honest Herbal* (1982).

As the study proceeded, some of Bass's friends, neighbors, and visitors became principal sources of information, not only about him and his herbal practice but about their own attitudes toward herbs and their effectiveness. Bass and his friends and acquaintances have shown a great deal of interest in self-treatment through the use of herbs now commercially marketed in capsules, a trend we discuss in chapter 6.

Unlike some traditional healers, Mr. Bass has been especially forthright in sharing information. Indeed, in recent years it has become his mission to spread knowledge about the identity of herbs. It is a mark of Bass's knowledge and integrity that he is consistent in the information he has given over a period of years.

An inevitable concern is how much our attention has altered Bass's practice. He once said, "I don't want to be telling something I can't back up. I know I'm not connected with your college, but I don't want people to get the impression I'm talking out of my head. All we're trying to do is to teach you people. A preacher said at a talk of mine, 'Ladies and gentlemen, black and white, we're glad to have Mr. Bass. He has given his time. He has been to the University of North Carolina and to Duke. He's not connected with the universities in no way, but you know they're a lot of help to him.' "

It seems clear that our attention has added an aura of authority to his practice and encouraged interest in it in the minds of many who know Mr. Bass. However, the growth of his practice up to 1982, when he was offering advice to about two thousand people a year, is due more to the local newspaper publicity he has received and the widespread revival of interest in herbal remedies. Likewise, while it is clear that Mr. Bass has imbibed some knowledge and ideas from

us, the impact has been miniscule compared to the recent influence of the health food movement and its promotional strategies.

V

The decision to begin this account with an extended historical perspective was made not only because this sets a general scene, but also because we introduce many points considered later in the specific context of Bass's practice. Some readers may prefer to start with the voice of Mr. Bass (chapter 2) and return to chapter 1 prior to beginning an analysis of his practice (chapter 7). Chapter 2 illustrates Bass's oral talents and patterns of thinking, and also gives a clear sense of his geographical and social environment. Chapters 3, 4, and 5 focus on specific aspects of his life which relate to his development as an herbalist. Chapter 6 describes the extent of the practice in terms of the numbers and attitudes of his visitors. Details of his advice and herbal recommendations are covered in chapter 7, although much specific information is also found in the second volume,* which is a guide to medicinal plants. Chapter 8 serves as a summary and also reinforces and develops various points to show how Bass's practice helps illuminate traditional herbal medicine in general.

*Volume 2 is *A Reference Guide to Medicinal Plants: Herbal Medicine Past and Present,* which was previously published under the title *Herbal Medicine Past and Present Volume 2: A Reference Guide to Medicinal Plants.*

CHAPTER 1

Medicinal Plants and Their Traditions: A Complex of Ideas

This plant has given ease ever since time.

Much of the faith Mr. Bass and his visitors place in herbs rests on longtime beliefs as well as on such concepts as the role of sensory characteristics in determining medicinal properties. By illuminating such features, the historical perspective given in this volume provides a sense of why herbal knowledge persists with a strong cultural presence, if not force, within a popular tradition. The account as a whole also provides some explanation for the uneven persistence of knowledge about certain herbs by covering many factors ranging from changing opinions about physiological effects to the changing influence of such symbolism as life-giving properties "seen" in certain evergreen plants.

"DISCOVERING" MEDICINAL PROPERTIES

One of the most perplexing features of traditional—and regular—therapy is why so many seemingly diverse uses have been recorded for medicinal plants. Confusion arises not only because of the effects of changing theories and the introduction from time to time of new uses and regimens, but also because the same use is sometimes described from a variety of viewpoints. For example, a plant may be listed as a diuretic (function), a kidney cleanser (action), or a cure (e.g., for kidney stones). In other words, functions, actions, and uses, all closely related, may be listed together as distinct entities.[1] This

has to be constantly borne in mind whenever medicinal properties are listed either in present or past use.

The beginnings of Western therapy as recorded on Mesopotamian clay tablets and Egyptian papyri, and the Greek and Roman writings by Theophrastus, Galen, Pliny, and Dioscorides are not considered here, except to note that they pose questions that are pertinent to the story of therapy in many eras. How has man learned about the medicinal properties of plants? How does he view the relations between empiricism and theory, and between popular and scientific knowledge?

Most considerations of the origins of knowledge about medicinal plants tend to stress the importance of instinct, psychological needs, and empirical observation working together over long periods of time.[2] Pertinent to this are observations on the use of plants by sick animals (a source of information Bass still believes to be very valuable) and the use of sensory properties, as discussed below.[3] Perhaps, too, man's employment of many medicinal plants for a variety of nonmedical uses has been important, for the consequent familiarity aided in learning and spreading information about medicinal properties. Nowadays, many herbalists believe that they have an almost intuitive sense of whether or not a plant is "medical."

A fascinating question about medicinal plants is why, out of the thousands that have been introduced, has only a core group of a few hundred been used within any given culture? Perhaps 200 or so plants formed the basis of the ancient materia medica; 68 made up the core of three late medieval herbals; the 680 simples included in the May edition of the celebrated 1618 London *Pharmacopoeia* are generally considered more representative of everyday practice than the 1,190 in the December issue of the same year; and about 600 medicinal plants were known or used in the United States in the 1830s. A recent survey of herbal medicines currently sold in Britain indicates that the 5,500 or so products available are derived from about 550 plants.[4]

Undoubtedly many factors contribute to the introduction of drugs, their popularity, and the length of time they remain in general use. Many botanical remedies were seemingly overenthusiastically introduced. Aside from entrepreneurship, this fervor sometimes rested on empirical grounds and sometimes on theoretical considerations,

although the latter two factors are often so closely intertwined that it is commonly difficult to discern which contributes most to the acceptance or rejection of a new medicine or of a new use for an existing one.

Empiricism—observations and information gathered supposedly without theoretical presuppositions—is conspicuous in all areas of medicine. The discussion of self-treatment in chapter 4 illustrates the willingness of laypersons to try out new remedies, an attitude that seems almost timeless.[5] Laypeople have not been alone in empirically trying out recipes new to them. Countless physicians, conspicuously from the late seventeenth century onward, have stressed that the "best" medical practice rests on experience, not theory. Disputes have long been waged over the relative values of theory ("Dr. Reason," or rational medicine) and empiricism ("Dr. Tradition," or clinical experience), but even some who felt intellectually uncomfortable with empiricism have argued that, "though pregnant with evils," empirical approaches have provided many "benefits to the science of medicine."[6] Empiricism has frequently been valued on the basis that the data collected was in accord with nature, especially if it was garnered from perceptive native peoples, a viewpoint still commonplace today.

The empirical thrust—the constant search for new remedies so conspicuous in the history of medicine—is prominent in many current herbal practices. Bass, for instance, is always ready to try out a new remedy, as reflected in periodic enthusiasms. In 1981, on the advice of a Cherokee Indian, he started to use goldenrod regularly in one of his medicines for rheumatism, and in 1983 he employed wild yam for rheumatism on the basis of a newspaper article. Many of his visitors are likewise eclectic, some—even in Bass's mind—to the point of gullibility when they use certain herbs such as Solomon's seal in a "magical" way.

Empiricism in therapy relies a great deal on personal testimony that a medicine has worked. Since the late eighteenth century, and especially in recent decades, the misinterpretations that can arise from a single or relatively few instances of usage with favorable outcome have been emphasized by physicians, but commonly this has made little impression on laypeople. The notion of rigorous scientific thought is difficult for many to grasp; it seems only natural to

link two closely related events as cause and effect, rather than wonder whether or not a coincidence exists. This is often seen in Bass's practice.[7]

Although empiricism and a readiness to extrapolate from one or a few positive therapeutic experiences is central to Bass's thinking, he continually draws upon theoretical concepts. In fact, when the "rampant empiricism"—as it is often called—in medicine at any time is examined closely, it is often seen to be sustained by theoretical or cultural notions. As some of the monographs in volume 2 make clear, the apparently inexplicable reputation of various plant remedies may rest more on theoretical than on empirical grounds. It is clear, too, that shifts in theories can occur without altering therapeutic practice, which sometimes suggests fundamental confidence in empiricism, sometimes excessive faith, and sometimes an inertia to change.[8]

There is no doubt that theory has played a considerable role in the enlargement of the materia medica over time within both domestic and professional medicine; indeed, it has often been the case that some new remedies that were found empirically or introduced through an erroneous concept became established only if they were theoretically acceptable to many physicians.[9]

One of the most pervasive concepts of all time, and still current today, is the humoral theory. Established in classical times, it has unquestionably shaped not only the choice of medicines but also just how they were employed for particular ailments.[10] Early humoral theory postulated that every living body was composed of four basic qualities or principles: hot, cold, moist, and dry. By a combination of these, in pairs, four humors were formed: blood (moist and hot), black bile (dry and cold), yellow bile (dry and hot), and phlegm (moist and cold). Ill health and disease were thought to rest on a lack of equilibrium of the humors, an idea which provided the basis for the employment of numerous medicaments believed to act either by possessing opposite qualities or by removing humors via, for example, urine or sweat. By the Middle Ages quantification of drug action based on degrees of qualities led to sophisticated compounded medicinal preparations with many ingredients.[11] After the seventeenth century specific references to such drug qualities as "hot," "dry," "cold," and "moist" tended to disappear from Western scientific medicine. Even so, many ideas, certainly the notions of hot and cold, persisted and

can be found today in traditional medicine in many parts of the world, including Appalachia.[12]

Central to the humoral theory—and to most approaches to therapy over time—is the constant comparison of one treatment with another. Conclusions drawn from analogy always have been a key feature of medical and scientific thinking. At times these conclusions have been accepted at face value rather than serving as sources of scientific and medical hypotheses, as has generally been the case since the eighteenth century.[13]

One persistent example of the employment of analogy is the doctrine of signatures. Pervasive by the sixteenth century, this doctrine explained that the "inner virtues" of a plant (or animal) stand out if the "signature," or outer appearance, is observed carefully.[14] Some signatures are easy to discern: the yellow color of saffron suggests usefulness for jaundice, and the brainlike surface of a walnut indicates its value for head ailments. It is not easy to say how influential the doctrine actually has been. It certainly did not excite the curiosity of mankind, as is sometimes said,[15] especially after it disappeared from regular medicine during the eighteenth century, yet the doctrine is still pervasive. Viewed in either the context that God left a signature on remedies, or the context of what is called sympathetic magic ("like cures like"), examples of its use today are easy to find both in published herbals and in oral testimony ("wild ginger is good for the heart, since it looks like one").[16] Bass employs the concept more to suggest possible new uses (yellow plants can be tried for jaundice) than to rationalize existing practices.

The fully developed doctrine of signatures embraced various levels of complexity, including astrological explanations. The stars, for instance, were said to represent way stations, a sort of "halfway house," which aided virtues and powers from the ineffable, spiritual, divine being entering into material objects on Earth. In consequence, close relationships were postulated between various healing powers and the motions and activities of the stars.[17]

Although astrology plays a negligible part in Bass's thinking, he and many visitors—especially those who see unity in nature—keep an open mind about its role in herbal medicine. After all, astrology still has a pervasive influence in nonmedical facets of life (even if not openly admitted) such as knowledge and use of the signs for planting

and sowing. Furthermore, the astrology widely disseminated by Culpeper's famed herbal (for example, that herbs under Venus cure, by sympathy, infirmities under Jupiter), which is known to Bass, is still commonplace in many recently published herbals.[18]

For similar reasons associated with cultural influences, nonnatural (magical) explanations probably influence Bass's practice more than is immediately apparent. Bass's visitors were often reluctant—at least initially—to discuss magical beliefs, not so much because they run counter to modern medicine, but more because many are considered "old-fashioned" and have overtones of being antireligious. Yet it became clear that magical associations, obvious with such plants as black snakeroot, Solomon's seal, and five-finger grass, are pervasive.[19] Nonnatural folk beliefs remain in people's systems; even if belief is muted, some feel—especially if "granny knew them and she lived to a ripe old age"—that it is prudent to use them, thus contributing to persistent usage.

Another long-standing concept conspicuous in Bass's thinking—more so than the doctrine of signatures—is the employment of sensory properties to determine medicinal uses. This is considered below as part of the discussion of plants naturalized in North America and used by Mr. Bass.

NATURALIZED REMEDIES: CONSTANCY AND CHANGE

Bass is well aware that many of the plants he knows have a history extending "back to the Bible" (especially "biblical hyssop") or were brought over by colonists or immigrants. In one sense, numerous naturalized remedies have the special pedigree of exotic drugs (like the Chinese rhubarb he knows), a term generally used for plants from the "East and faraway places." There is no doubt that colonial physicians relied mainly on cultivated or naturalized (i.e., introduced) plants and imported remedies (sometimes of plants already naturalized), and used only a few plants indigenous to North America.[20] The rich eighteenth-century records, such as the letters written between 1710 and 1717 by London merchant Joseph Cruttendon to customers in the New World, reveal an abundant trade in many drugs and preparations—clearly subject to seasonal problems of supply and consequent high prices—that remained popular until the late nineteenth

century; others faded from general usage in consequence of revisions of the materia medica in the eighteenth century (for example, salt of vipers, surfeit water, and spirit of cockle purge).[21]

Around six hundred crude drugs and prepared medicines were generally available to eighteenth-century colonial physicians.[22] Of the principal imported medicines of that time, Bass knows or uses only a few, such as anise, asafetida, calamus, camphor, peppermint, turpentine, and storax, as well as three New World plants well established early in European medicine: sarsaparilla, sassafras, and Virginia snakeroot. During the eighteenth century, naturalized remedies already in domestic practice in the Colonies crept into regular colonial medicine rather than being imported. Of these, Bass uses apple, beech, bramble (blackberry and raspberry), catnip, clover, comfrey, dandelion, elder, ground-ivy, hyssop, mullein, oak, wild carrot, and willow. Bass knows but does not use other items employed in colonial times like calomel, cinchona bark, cinnamon, lavender water, paregoric (a preparation of opium), saffron, and sulfur.

Illustrating both late colonial reliance on European remedies and a sense of change is a serialized herbal in Christopher Sauer's Pennsylvania German almanacs published from 1762 to 1778. Two hundred and sixty-six plants, essentially selected from Theodor Zwinger's *Theatrum Botanicum*, were described. Sauer, who recognized the needs of Pennsylvania readers, did not slavishly copy Zwinger. Although he rarely cited indigenous American drugs—a few were mentioned, like Indian turnip, in the belief that they were essentially the same as European plants—Sauer recognized the availability of naturalized plants. He also indicated that some exotics could be obtained at local apothecaries' shops. It has been suggested that Sauer's selection of plants (only 19 percent of 1,418 in Zwinger's *Theatrum*) reflected those especially helpful for the diseases facing the Pennsylvanians.[23]

Other German almanac publishers—Heinrich Miller (1769–77) and Bailey (1778–89)—also included herbs. Nine plants were recorded by all three publishers, suggesting that considerable importance was attached to them. These plants (some of which are considered in the monographs in volume 2) are celery, elderberry, elecampane, fennel, greater celendine, mallow, parsley, rue, and spoonwort.[24] In fact, these were not viewed as important medicines in a first-aid sense.

They were simply alternative choices to medicines widely used in the eighteenth century. Representative of major categories popular at the time are: aloes (purgative), antimony (diaphoretic), calomel (for biliary problems), cinchona bark (a tonic and for fevers), hartshorn drops (stimulant), ipecacuanha (emetic), jalap (purgative), opium (analgesic and for diarrhea), senna (purgative), tarter emetic (emetic and purgative), and valerian (for nerves).[25]

Many of the monographs in volume 2 illustrate the long history of naturalized plants, the changing concepts behind their use, and the waxing and waning of their popularity. Many uses listed for such "hot and dry" plants as calamus, catnip, and wild carrot were described as "deobstruent"; for instance, diuretic, emmenagogue, carminative, and for removal of humors. During the eighteenth century, many medical uses, physiologically efficacious or otherwise, of countless "hot" plants were scrutinized and reevaluated as part of a general revision of therapy motivated by a sense of professional responsibility on the part of many physicians. Some plants fell by the wayside, some disappeared from the prescriptions of doctors but remained domestic remedies, and others persisted in regular medicine, generally with a reduced range of recommended uses and made into a smaller range of medicinal preparations.[26]

The revision movement embraced a rhetoric of criticism of all "old" practices, changing fashions (for example, fading interest in distilled waters),[27] and "scientific" attitudes (or at least a basis of experience). Critical-minded and influential William Cullen (1775) said that since calamus—to give one example—is not remarkable for *aromatic* and *bitter* virtues "it has been, of late, neglected."[28] Such attitudes led another influential author, William Lewis (1791), to write: "This root is generally looked upon as a carminative and stomachic medicine, and as such is sometimes made use of in practice. . . . It was formerly an ingredient in the mithridate and theriaca of the London pharmacopoeia; and in the aromatic and stomachic tinctures, and compound arum powder of the *Edinburgh Pharmacopoeia*; but it is now rejected from these, and it does not at present enter any official preparation."[29]

Despite its decline in popularity, calamus persisted in use into this century, and many continued to emphasize its effectiveness. An occasional commentator, at least early in the nineteenth century, was enthusiastic. American William Barton (1818) said that "it is one of

the most efficacious stomachics" for "dyspeptic, flatulancy, and other disorders of the stomach, and in colic," and that it deserved the attention of physicians.[30] Most American works were more circumspect, mentioning only carminative properties with occasional reference to sudorific and tonic actions.[31] Calamus is still used, despite a ban on its sale by the U.S. Food and Drug Administration (FDA). Mr. Bass employs it modestly as a carminative, in contrast to the smorgasbord of uses with little historical pedigree often found in today's herbal advocacy literature, generally the result of indiscriminate garnering of all reputed uses—some theoretical—from past literature.

Many naturalized plants employed by Bass were once considered "cold and dry" (e.g., oak) and, less frequently, as "temperate and dry" (e.g., mullein) rather than hot and dry. Such properties as cold, dry, and temperate were correlated with certain uses, often binding or astringent. Uses like treating sore throats with astringent botanicals are accepted today as having an empirical basis, whereas such other actions as the management of menorrhagia apparently had a justification based primarily on theory or analogy.[32] The practices of today's herbalists still reflect a mixture of empiricism and theory, the latter accounting for both the origin and continuance of certain uses. Bass generally is far more in line with empirical usage than many herbalists who have acquired much of their knowledge through schools of herbal medicine.

THE ROLE OF SENSORY PROPERTIES

Mullein (temperate and dry) is relatively bland, with no overt sensory properties apart from a mucilaginous chewing gum-like quality. Plants with bland properties, like the almost tasteless chickweed, became less widely used in the eighteenth and nineteenth centuries and generally declined in popularity more quickly than such aromatic plants as catnip. In suggesting why the mildness of the plant contributed to its decline in popularity, some comments are appropriate on the plant qualities of hot, dry, cold, and moist—so conspicuous in Gerard's *Herball* and other discussions on medicinal plants at the time—and how these were thought to correlate with medical properties, ideas very pertinent to Mr. Bass's practice today.

There is some debate on whether the four qualities are based on ob-

servable sensory properties (e.g., the hotness of mustard) or primarily on theoretical ideas in accord with the general concept of humors described above. One commentator has argued recently, largely based on a study of sixteenth-century herbals, that the qualities were empirically derived from the taste of a plant: hot from a bitter taste, dry from sourness, and moist from sweetness, while cold was a theoretical concept or perhaps linked with an appreciation of poison causing death.[33] Such a viewpoint has much to offer but may give insufficient attention to the fact that a considerable matrix of factors has been at play in characterizing medicinal plants, including smell.

While the study of the effects of sensory properties on the body is, in many ways, in its infancy, one can speculate that plants produce physiological effects through stimulation of the taste buds. Any understanding of the past use of sensory properties has to consider that observations on the range of tastes were probably interpreted to fit prevailing theory. We suggest that since there were only four components of matter—earth, air, fire, and water—only four taste categories emerged. Different shades of taste, more than the well-known sweet, sour, salt, and bitter (all of which perhaps form a continuum), were therefore accommodated into the four qualities hot, cold, dry, and moist.[34] Additionally, observed pharmacological actions were often rationalized in the same manner. John Gerard and others associated particular qualities with specific medicinal effects (see, for example, "Mustard" and "Puffball" in volume 2).

A discussion of the early story of sensory properties and associated medical uses in classical times is unnecessary here, but it is important to understand that the employment of sensory characteristics to ascertain or rationalize medical actions continued within the framework of regular medicine until well into the nineteenth century, and persists within alternative medicine today.

In terms of colonial medicine, John Floyer's *Touchstones of Medicines* is an appropriate starting point among many others, including ideas on the most effective odors—sweet or sharp—to purify the air. Floyer, who subsequently established a considerable medical reputation, saw himself building on past knowledge found in the writings of Hippocrates, Dioscorides, and Galen. But, no longer bound by Galenic concepts of four humors and four basic elements of matter, he consciously went beyond describing plant properties solely in terms of

hot, cold, moist, and dry.[35] From his own experiences he widened the sensory categories to be considered in determining medicinal properties and included compound tastes to identify the constituents, and hence properties, of plants. ("The most simple principles of plants [do not have] one simple mode or affection [e.g., watery, earthy, oily, and acid] but two or more depending on their motion and texture.") Floyer focused on the acerbic, acrid, aromatic, astringent, austere, bitter, fetid, mucilaginous, nauseous, nitrose, pungent, and sweet.[36] He once wrote:

> God has given us our senses whereby, with the help of experiments we can discern the virtues of all our medicines. By their tastes and smells we know their qualities: hot medicines which accelerate our circulations, and all the cold tastes which stop the velocity of it and the secretions. . . . Plants which have mixed tastes have mixed principles. We cure diseases by contrary tastes. The watery, acid, styptic and mucilaginous tastes correct the bitter, salt and acrid humours, by cooling and diluting them; and the acrid, bitter, salt and sweet correct mucilaginous humour by fermenting, incising and attenuating of them.[37]

In many ways Floyer's approach provides merely another way of explaining uses recorded in Gerard's *Herball*. For instance, Floyer's comments on calamus echo Gerard's views on deobstruent action: "The aromatick weed: The roots taste bitterish, with an aromatick taste and smell, by which it discusses wind. It is cordial and provokes urine and works as an aromatick. It favours something of balsamick turpentine."[38] Even if Floyer's work essentially reexplained existing practices, his influence and enthusiasm must not be underestimated.

One of the most influential eighteenth-century writers on materia medica, both for Europeans and Americans, was Edinburgh's William Cullen (1710–1783). When discussing his own belief in the value of ascertaining sensory properties, he made clear his indebtedness to Floyer as well as to "David Abercrombie, Hoffman and several others." He did not specifically mention the celebrated Linnaeus, whose confidence in sensory properties unquestionably influenced him.[39] Cullen referred to sensory properties throughout his writings on materia medica. He wrote, for instance, that, "in general, a stimulant virtue is discovered by a strong impression on our senses."[40] On

the other hand, he wrote explicitly that "the want of odor or taste" suggests the absence of medicinal virtue. The difficulty, he said, "is to ascertain the degree," and he added that substances which did not affect or hardly affected taste or smell should be considered "inert and useless," and thus be rejected from the materia medica. (Exceptions were a few "of a nourishing, emollient or demulcent quality.")[41] When Cullen described chickweed as a mild, "insipid plant," he added that it is ranked "sometimes as astringent, sometimes as emollient, but in either intention its virtues are inconsiderable."[42]

Interestingly, "neutral" plants have never been conspicuous in medicine, and they declined in numbers during the eighteenth century. The relatively small number of such plants (commonly foods) in present-day traditional medicine in certain regions has occasioned considerable discussion—often without historical context—on how much acculturation has occurred in particular societies.[43]

Although J. Schoepf included plants he supposed, judging by smell or taste, to have medical properties in his influential *Materia Medica Americana* (1787), doubts over identifying properties through sensory characteristics were emerging. This was partly a result of numerous eighteenth-century studies on the effects of drugs on the body and partly due to a growing appreciation that the sensory properties did not always correlate with new information on constituents.[44] James Murray in 1815 indicated that many instances of "obscurity and error" undermined any extensive application of the idea: "The different tastes and odors are so little reducible to precise definition or description, that few general rules can be formed by them."[45]

Emphasis on the value of taste and smell was pushed to one side as more and more active principles of plants and new chemical remedies, characterized on chemical rather than sensory grounds, were introduced after the 1820s. Indeed, the enthusiasm associated with the discovery of many alkaloids in the 1820s, along with new concepts in physiology and pharmacology, served to focus much interest on plant remedies, but from new viewpoints.[46] Even so, significant interest in sensory properties persisted for a while. C. S. Rafinesque, for instance, in his *Medical Flora, or Manual of Medical Botany of the United States of North America* (1828–30) said that the most obvious indication of medicinal properties of plants arose from the evidence of sensible properties. For example: (1) nauseous-tasting plants are

narcotics, emetics, cathartics, and antispasmodics; (2) acrid-tasting plants are salivatories and stimulants; (3) bitter-tasting plants are tonic and corroborant; (4) acerbic plants are astringents and diuretics; and (5) insipid plants are emollients, demulcents, and diluents. He also advocated the helpfulness of the sense of feeling, such as coolness (refrigerants), heat (stimulant and rubefacient), and stinging (external stimulants).[47]

Although the importance placed on sensory properties diminished in the nineteenth century, it remains conspicuous in Bass's practice, both in his own thinking and among those who visit him. In fact, he appreciates clearly the following associations listed by Murray in 1815,[48] some, from today's perspective, based more on theory than on an empirical basis:

Property	*Taste*
astringency	styptic
tonic	bitter
stimulants	aromatics
narcotics	fetid

Bass has an acute sense of smell, and he describes many plants by their odor (mayapple "has a medicinal powerful odor," and pokeroot "an obnoxious odor"). He also readily employs sensory characteristics to suggest that a plant he has not seen before might have medicinal properties, just as he believes a local physician, Dr. Matthews, did in the 1920s.[49] Above all, Bass employs sensory properties to rationalize the existing reputations of many plants. For example, "all bitter medicines are tonics"; "bitter medicines are good for the liver"; "all astringent medicines are good for rheumatism" and as styptics and to control diarrhea; "all fetid medicines are good for the nerves"; and the "stronger the smell, the stronger the medicine." Bass also argues that plant analysis helps us to understand why sensory properties are so important; he gives the example (one accepted as correct) that all barks have an astringent taste because of their tannin content.[50]

INDIGENOUS REMEDIES

The pervasive role of analogy in Bass's thinking serves as an appropriate bridge to comment on North American indigenous plants—