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BOOK REVIEW

Traditional Herbal Medicine in Northern Thailand. Viggo Brun & Trond Schumacher. Berkeley: University of California Press. 1987. Pp. xx, 349. \$48.00.

The medical ethnobotanist's task in interpreting traditional herbal practices is complex and challenging. First, the herbalist's diseases may or may not have Western counterparts. Second, the success of a treatment is often a matter of subjective evaluation, influenced largely by the cultural context. Third, just as there are many species of organisms in a biota, there also is diversity in potential preparations and applications: prescriptions are often a composite of many different plant species, and individual plants may be part of several prescriptions against different indications. Putative properties of combinations of ingredients in a prescription may not be a simple linear sum of the ingredients. They may instead be due to the interaction of chemicals from several different ingredients, prepared in a prescribed way, even perhaps administered in a particular ceremony, to which the effects can be attributed. Thus, to efficiently obtain leads on pharmacologically active botanicals-at a time when both herbal traditions and their pharmacopoeias are endangered-requires an interdisciplinary team effort. Skills needed are those of a linguist, anthropologist, botanist, and physician or other specialist who can observe, describe, and verify the interpretation of herbalists' diagnoses.

Traditional Herbal Medicine in Northern Thailand represents such an interdisciplinary approach to the translation of one very different culture into terms understandable by ours. The authors and contributors include a lecturer in Thai (Brun), a medical doctor and botanist (Schumacher), and a chemist and botanist (Terje Bjornland). Three herbalists were interviewed intensively and five (others?) donated written manuscripts of prescriptions for analysis. The authors supplemented their data collection with clinical observations—a time-consuming endeavor, but the only way to document the relationship between stated and actual practice. This first publication of their work is devoted to the ethnomedical results, with future volumes planned for botanical and chemical results. Here they explicate the local disease classification system, draw analogies between local and cosmopolitan disease concepts, compile information on the ethnomedical uses of over 300 individual plant species, and suggest remedies most promising for pharmacologic research.

One chapter is devoted to examination of the urban variant of Thai traditional medicine, the Royal Tradition of Wat Pho, whose texts were written about 1900. The authors extract "basic theories" (the four elements, the tridosa, and the taste theory) and "connective statements" in order to deduce the theoretical framework of this tradition, but conclude (p. 32) that "the theory of the royal medical school . . . is not integrated with practice, and functions only as a frame of reference or an explanatory model." General characteristics of rural Thai herbalism in practice, its position in relationship to other traditional methods, and personal histories of the main informants are then presented. A "cognitive map" of disease concepts is built by grouping diseases with common characteristics, *viz.*, location on the body or involvement of wind and blood, concepts central to the tradition. While other traditional concepts were not used as criteria in forming the disease map, they are discussed, and it is claimed that they generally reinforce the final map.

The creation of the map from interview data is admittedly subjective to a degree, but it is a creditable attempt to systematically organize the folk medical concepts. In addition, the authors attempt to validate it against an organization of disease concepts that can be extracted from written manuscrips of herbal prescriptions. In doing so, they assume that diseases treated by the same prescription have basic characteristics in common. This is a questionable assumption since, as with cosmopolitan medicine, one cannot rule out the possibility that a particular prescription has more than one effect and therefore acts on unrelated diseases. In any event, based on this assumption that the prescriptions yield valid classificatory criteria, they suggest a statistical approach to correlating diseases that occur together in the prescription headings. A correlation matrix of diseases thus formed would logically lead to cluster analysis, grouping the variables (diseases) according to the relationships of their correlation coefficients.

While thousands of prescriptions can be obtained quickly and they are written in a consistent format, a superior data set would be, of course, definitions of disease concepts from many different informants. The outcome of analysis would then be another "cognitive map" based not on whether diseases share prescriptions but on which characteristics are shared among all the descriptions of a given disease. Nonetheless, the use of prescriptions as a data base to organize disease concepts may be most practicable, and I agree with the authors that looking to statistical analysis is the next logical step in sorting the confusion, be it due to inadequate data or the non-cohesiveness of the tradition itself.

One chapter describes specific Northern Thai disease concepts in depthconcepts which turn out, for the most part, to be "collective diseases" or

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syndromes. The data for this section are apparently based on interviews, supplemented at times with clinical observations. The authors have made an attempt to match traditional disease concepts to cosmopolitan concepts, cautiously pointing out the incongruities of the two systems and the lack of precise translations. Despite this absence of isomorphism, the information provided, e.g., in a table of Northern Thai concepts for sexually transmitted diseases and their probable Western counterparts, would be of great value to Western health care providers in a clinical setting.

Under the title "Drugs and Diseases," the authors explore some logical ways to make sense out of their 1500 prescriptions and 500 medico-botanical single plant specimens (of which, one assumes, proper voucher specimens will be deposited in an herbarium in the future). In their attempt to present groups of the plants most promising for future investigation, the task proves to be formidable. For instance, they found that the rate of recurrence of a single ingredient in multiple prescriptions against the same disease was extremely low. Moreover, of the plants which in isolation were said to cure a specific disease, only a few were actually recorded in independently obtained prescriptions for the disease! They conclude (p. 214) that "information about medical properties of plants in isolation should be regarded with utmost skepticism"—that "prescriptions . . . reflect the complex reality of praxis"—and elsewhere (p. 225) point to the problems of homonymy and synonymy as adding to the confusion.

Since more than one answer may frequently be found to the same question, they conclude that the herbal tradition has "reduced chaos" but maintains only a loose theoretical framework. They recommend that herbalists dispense with secrecy and organize to make their theoretical framework more explicit. They conclude that on a national level the tradition is dying, but that sufficient numbers of students are being trained to keep it alive in the North. While the World Health Organization and others favor some integration of traditional and modern medicine, the authors claim that development agencies, in espousing support for traditional methods, may paradoxically be contributing to its decline. As an example they point to the education of Traditional Birth Attendants as a way to spread Western ideas rather than as a program where traditional and modern partners learn from each other. They also chastise those whose actions would take anthropological findings out of context and offend the sensibilities of those who value cultural understanding as an end in itself: "Traditional medicine is not just an overripe orange to be sucked for valuable pharmaceutical components for the immediate benefit of the Western pharmaceutical industry. It is a system belonging to a cultural tradition, and should be studied, appreciated, and used as such" (p. 239).

Particular strengths of the book include the authors' use of Thai words for medical concepts in their table of herbal medicines and throughout the book, rather than settling for an inadequate English translation. For readers who are unfamiliar with Thai, this slows comprehension, but by using one of several extensive indexes the reader can easily look to the section of the book that describes the disease concept in context. This work is an uncommon contribution because of its interdisciplinary nature, in-depth coverage of historical/cultural context, use of intensive interviews followed up with clinical observations, and attempts to employ a statistical approach to finding patterns in the data. Problems include the need to clarify who provided what data for which analysis, i.e., how much overlap was there among the three herbalists interviewed, those who donated manuscripts of prescriptions, and those who assisted with collecting plant specimens?

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Nutricomp (software). Joseph E. Laferriere. Nutricomp Program, \$35.00; Database CULTIV, \$25.00; Database SW, \$60.00. (Order from the author at the Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721.)

This is new for both of us: writing a software review for publication. Pooling Duke's experience with nutritional data and Perry's experience with computers, we offer our first software review.

The *Nutricomp* software is a series of ten programs and seven databases allowing storage, retrieval, and analysis of nutritional information on plants, animals, and fungi. Our software came with a database that contained a wide array of references, nutrients, and taxa, including more analytical data than Duke and Atchey's *CRC Handbook of Proximate Analyses Tables of Higher Plants* (Boca Raton, FL: CRC Press, 1986). *Nutricomp* can accommodate proximate analyses (including ethanol), 13 vitamins, 17 minerals, 28 lipids, 18 carbohydrates, and 22 amino acids for over 1,000 species (though none of the samples we printed had *all* this analytical material).

Written in interpreted BASIC, the software runs on a computer with an MS-DOS operating system and BASICA or GW-BASIC. Just as each program performs a specific task (such as indexing, deleting, menu operations, reporting, etc.), each database stores certain information, e.g., nutrient compositions, standard nutrient values, names of added nutrients, references, and taxa. We tested the software on a Compaq 386/20 microcomputer, three megabytes (MB) of memory, a 130 MB harddisk, GW-BASIC, and the DOS 3.32 operating system.

General operation of the software was fine. After initial orientation, menus and prompts were easy to follow. Although the 15-page NC.DOC file containing documentation did not easily orient the non-nutritionally-focussed user to the overall arrangement of software operation, it did provide most of the information that was needed for software operation.

After entering the program by using a batch file which loads BASIC and the programs and then runs the initial menu program, the user can add, change, view, delete, report, calculate meal composition, alphabetize (sort the taxa and/or references), link or change databases, and index common names. After either selecting an existing database or creating a new one, information can be added.