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The *Zande* shaman John Akili

INSTITUTE FOR THE HISTORY OF MEDICINE, UNIVERSITY OF VIENNA
quondam ACADEMIA CAESAREO - REGIA IOSEPHINA 1785

department of ethnomedicine

Frontispiece:

John Akili, a *binza* (shaman) of the Azande, during his initiation ritual *avule* in Sangua/Southern Sudan on June 4, 1983. After more than 10 years of apprenticeship he is being transformed from novice to healer through a public seance. This ritual shows the typical characteristics of a shaman initiation: ritual death, ascension, contact to a transcendental entity, change of identiy expressed by a new name, and resurrection. On his head he is wearing the typical feather-hat *kangu* of the Azande and he his dripping with sweat from the dance. Photograph: Armin Prinz

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Content

Submissions, announcements, reports or names to be added to the mailing list, should be sent to:

Editors, Viennese Ethnomedicine Newsletter, Institute for the History of Medicine, Department of Ethnomedicine, Währinger Strasse 25, A-1090 Vienna, Austria
FAX: (++)43-1-42779634, e-mail: armin.prinz@univie.ac.at

Editorial

Ruth Kutalek

From 3-7 September, 2000 the 6th International Congress on Ethnopharmacology – "Ethnopharmacology 2000: Challenges for the New Millennium" was held in Zürich, Switzerland, together with the International Congress of the Society of Plant Research "Natural Products Research in the New Millennium." Unfortunately the emphasis of both congresses, which were partly held together, lay in pharmacology, pharmacy and pharmacognosy. Only very few presentations were in the field of social anthropology or history which was disappointing. More than once during a presentation did I think: "What does this has to do with ethnopharmacology?"

In this issue we wish to present some lectures of the "ethno"-section of the congress. The first one is the plenary address from Nina L. Etkin, President of the International Society for Ethnopharmacology, University of Hawai'i. She explores the question to what extent ethnopharmacologists from diverse disciplines share a vision of what ethnopharmacology is. To judge how closely particular studies represent the intellectual fusion implied by the composite term "ethno-pharmacology" she analyzes the content of the Journal of Ethnopharmacology. She concludes what seems to be symptomatic of ethnopharmacology: ethnographic data are neglected, most of the studies she reviewed are not truly interdisciplinary.

The second article from Armin Prinz was already published in 1990 and not presented at the congress, but it fits perfectly well into the topic. He deals with the misunderstandings between the various disciplines that form ethnopharmacology – esp. ethnology, pharmacology and medicine – and stresses the importance of the ethnological dimension of ethnopharmacology. He concludes that interdisciplinary work not only means cooperation but also integration of sciences.

The last contribution is from Zohara Yaniv from the Volcani Center, Israel and colleagues. (Zohara will incidentally be guestprofessor at our department from March next year.) They collected six native desert plants of Israel that are documented as medicinal plants since ancient times and analyzed their cytotoxic effects.

Finally, from now on we are proud to be able to introduce to you "Contributions to Visual Anthropology". In each number you will find two color pages that document our extensive work in the field. To begin with Armin Prinz presents the initiation of an Azande shaman from Southern Sudan with splendid photographs he took in the year 1983.

Perspectives in Ethnopharmacology: Forging a Closer Link between Bioscience and Traditional Empirical Knowledge

Nina L. Etkin

The conference theme - "Challenges for the New Millennium" – draws attention to the opportunity to advance the content and application of our research findings. Identifying challenges necessarily invites us to reflect on what we have accomplished up to this point. I think we all agree that significant advances have been made in the technical domain. These include the characterization of plant constituents and activities, and better understanding of the interactions among elements of complex botanical preparations, and between plants and pharmaceuticals. In all likelihood, these developments will continue over the next decades. Our ethnographic skills in the field remain solid, although they are sorely underused.

What has not kept pace is development in the

theoretical domain. An area of even slower progress is the application of our research findings, both to advance bioscience and to make our work meaningful for local populations. These are important deficits, as concept and context are what positions our work both intellectually and in practice.

Our relative lack of progress in interdisciplinary and applied domains derives in part from the fact that ethnopharmacologists represent diverse intellectual traditions - most prominently pharmacology, anthropology, and botany. Some are connected as well to commercial enterprises, including the pharmaceutical industry and the rapidly expanding market for "herbals" and medicinal foods. Will it be possible in our future to use our combined voices to forge a more interdisciplinary field of inquiry? In other words, can we develop an ethnopharmacology that yields not only collaboration among different researchers but also the application of that knowledge to practical ends for both the scientific community and indigenous communities?

My point of departure is to consider the extent to which ethnopharmacologists from diverse disciplines share a vision of what ethnopharmacology is. I explored this question preliminarily several years ago through content analysis of the Journal of Ethnopharmacology. The JEP is widely regarded to be a key gauge of topical concern in ethnopharmacology. It is unique among journals that publish research on natural products because its mission statement and scope highlight a commitment to interdisciplinary research, and a breadth of interest in both phytochemical characterization and the cultural context of indigenous drugs. The JEP is the official journal of the International Society for Ethnopharmacology, whose perspective similarly emphasizes interdisciplinary research on the physiological actions of plant, animal, and other substances used in indigenous medicines of past and present cultures.

I reviewed more than 1200 JEP articles from volume 1 in 1979 through volume 50 in 1996 to judge how closely particular studies represent the intellectual fusion implied by the composite term ethno-pharmacology. I found that whereas the field of ethnopharmacology is represented across the breadth of natural and social sciences, most studies are themselves not synthetic or interdisciplinary. Very few combined pharmacologic data with sufficient ethnographic depth to make substantive statements about how specific plants influence the health of a particular population.

My discussion with other members of the JEP Editorial Board confirmed that my findings do not reflect editorial policy. Instead, the topical distribution of articles is a complex artifact of the boundedness of disciplinary training and funding, as well as who actually submits manuscripts to the JEP. The Editors and Editorial Board reaffirmed our commitment to an interdisciplinary ethnopharmacology.

Now, four years later, I retested the intellectual waters by extending JEP content analysis and comparing it to another natural products journal - Pharmaceutical Biology. A cursory review suggested the same thematic foci. I then examined the contents systematically and assigned each article to one of seven mutually exclusive categories, based on a judgement of best fit.

JEP 1996-2000 (N = 634)
Each Article Assigned to 1 of 7 Categories

1.	Ethnography only	4% of total
2.	Pharmacology only	47%
3.	Primarily pharmacology	38%
4.	Interdisciplinary	4%
5.	Ecology, taxonomy	<1%
6.	Safety, regulation, CAM	6%
7.	Miscellany	1%

Category 1 includes medical ethnographies and historical treatments based in literature review. These articles address only the cultural, not the pharmacodynamic, characteristics of plants. This is apparent, for example, in an article that outlined the cultural context of Amazonian rituals and appended a list of plants and their preparation. Similarly, another author discussed traditional healers in Zambia and provided a list of medicinal plants and conditions for which they are indicated. The content is then folkloric and ethnographic, but not ethnopharmacology.

The second, and predominant category, includes pharmacologic and phytochemical

studies that characterize plant constituents and activities without reference to the pharmacopoeia and culture of the people who use the plants. For example, one research group compared the radioprotective effects of different parts of Lycium chinense, without indication of how or whether this plants is used in traditional medicine. Similarly, another research group outlined the pharmacology of two species of Monimiaceae without rationale for selection of either that family or those particular species. Such studies are simply pharmacology, not ethno-pharmacology.

Many studies fall into category 3, which still centers on phytochemistry but includes some ethnographic data. My ascription of articles to this category is generous. In most the ethnographic information is very thin and seems to have been tacked on in a desultory way, as if fulfilling an editorial assignment. These articles tend to be merely pharmacology dressed up front and back with short formulaic statements - at the beginning the identification of some indigenous group or other and a list of plant uses, and at the end a statement about need for further characterization of phytoconstituents.

Typically, the ethnographic information is drawn from published sources, often old; and it is used selectively. Uses that match the researcher's current interests are extracted and transposed to the laboratory. Lately, for example, many laboratories are interested in anti-inflammatory, antioxidant, and antinociceptive actions. Although a wide range of disorders would benefit from such actions, including cancers, cardiovascular disease, and infections, researchers take undue license in testing plants whose indigenous uses do not closely match the actions examined.

Examples of this category include testing for angiotensin converting enzyme in Indian plants used to treat high blood pressure, and for antiplasmodial activity in a wide range of Amazonian plants. The applications tested are only remotely related to those for which indigenous populations use the plants. Further, there is not sufficient ethnographic content to assure that the same plant parts are used or prepared in ways comparable to the form in which they were tested. The reader cannot judge whether traditional therapeutic objectives overlap biomedical ones - for example, these plants may not be intended to reduce hypotension and parasite load, but instead to cause sweating to chase the disease agents from the body. Despite these flaws, however, it is encouraging that more of the studies published in the JEP make reference to some ethnographic reality.

The fourth category represents the heart of an interdisciplinary ethnopharmacology. This synthetic category differs from the preceding one by including ethnographic data of sufficient depth to generate and test hypotheses, and to make substantive statements about medicinal plant use in real human populations. Such papers include systematic information about disease etiology, plant preparation, mode of administration, therapeutic objectives, and other germane details that equip the researcher to anticipate the physiologic outcomes of plant use.

One such study described the cultural presuppositions of Zulu medicine, discussed the social organization of healing, problematized the study to that subsample of the pharmacopoeia used to treat headache and specific inflammations, and tested those plants for prostaglandin-synthesis inhibition. Another study in this category used extensive ethnobotanical and ethnomedical data to examine plants used for dermatologic and gastrointestinal disorders among the Mexican Zapotec. Both studies effectively combine ethnography and pharmacology to formulate meaningful conclusions regarding how local healers effect cure, how chemosensory properties of plants influence their local medicinal uses, and how phytochemical knowledge might be applied in the formulation of new pharmaceuticals.

Another author presented a theoretically sophisticated synthesis that illuminates how human medical cultures mediate the intersection of co-evolutionary processes involving people, medicinal and food plants, herbivores, and all their respective pathogens. This presents biochemical oxidation as the throughline and both offers insight into indigenous patters of plant use, and suggests something of a paradigmatic shift in the way that botanicals can be evaluated for antimalarial potential.

In summary, studies category 4 elevate inquiry above medical ethnographies that treat plants

simply as cultural objects. And they provide more than simple lists of plant constituents and activities detached from their human cultural contexts.

Looking briefly at the remaining topical themes, articles in Categories 5, 6, and 7 address botanical issues; safety and regulation; and miscellany such as lab methods. Only 8% of all articles fall into these 3 categories and are not part of my remaining discussion.

As a point of comparison, also I systematically analyzed the contents of the journal Pharmaceutical Biology for the same time period. This journal was formerly titled (until 1996) International Journal of Pharmacognosy and is expressly devoted to pharmacognosy. In other words it is dedicated to that branch of pharmacology that is concerned with the botanical sources and the chemico-physical characterization of crude drugs. In contrast to the JEP, the scope of Pharmaceutical Biology is not explicitly interdisciplinary. But it does publish papers that overlap the range of topics covered in the JEP.

Content Analysis: Journal of Ethnopharmacology (JEP) & Pharmaceutical Biology (PB)

CATEGORY/TYPE OF ARTICLE	JEP 1979-1996 N = 1276	JEP 1996-2000 N = 634	PB 1996-2000 N = 279
Ethnography only	15%	4%	1%
Pharmacology only	54%	47%	71%
Primarily Pharmacology	16%	38%	17%
Interdisciplinary	6%	4%	4%
Botanical	<1%	<1%	0
Safety, Regulation	5%	6%	4%
Miscellany	3%	1%	2%

Data comparing the contents of the JEP and Pharmaceutical Biology are presented here. Whereas the JEP earlier published as much as 54% of the total as pharmacology-only research, that number has dropped in recent years to 47%. Still, this means that most of the articles represent an uninflected pharmacology rather than the affixed ethnopharmacology. Predictably, given its different mission and scope, the percent of those articles published in Pharmaceutical Biology is significantly higher, 71%. The number of JEP papers that embellish pharmacology with at least a little ethnography has more than doubled, increasing from 16% to 38%. The comparable figure for Pharmaceutical Biology is half of that, 17%. In sum, the JEP publishes fewer pharmacology-only papers and more articles that include at least a token amount of ethnography. We can be encouraged that there seems to be a growing attention to the cultural contexts of plant use.

However, the number of truly interdisciplinary papers remains low, remarkably so I think. There are very few interdisciplinary articles in both phases of analysis for the JEP. In fact, the percentages are the same as for Pharmaceutical Biology, where one does not expect to find interdisciplinary perspectives.

Comparing the journals, I note overall that articles published in the JEP better reflect the interdisciplinary objectives of that journal, but not conspicuously so – i.e., many authors still position their research in western pharmaceutical or clinical contexts without considering the implications for populations from whom plant knowledge originates and who continue to use those plants.

This observation leads me to the next point. I extended the content analysis beyond topical foci, to take into account research objectives. I assigned individual articles to the categories listed here (authors specified one or more of these objectives):

- Bioprospecting - Indigenous Plants as Pharmaceutical Leads

- Conservation and the Preservation of Biodiversity
- Promote Indigenous Use, Including with Biomedicine
- Ethics & Intellectual Property Rights

Bioprospecting refers to advancing pharmaceutical science by seeking leads for the biomedical pharmacopoeia. The other objectives that authors specified are conservation and preservation, promoting indigenous use of local botanicals, including in combination with pharmaceuticals; and ethical issues such as intellectual property rights. The potential was high that any given article would have more than one objective although, sadly, most had none at all.

Content Analysis: JEP & PB)

OBJECTIVES	JEP 1979-1996 N = 1276	JEP 1996-2000 N = 634	PB 1996-2000 N = 279
Bioprospecting	28%	12%	42%
Biodiversity	3%	<1%	<1%
Indigenous Use	NA	3%	7%
Ethics	NA	0	0

In view of its mission and scope, it is not surprising that bioprospecting is the research objective of 42% of articles published in Pharmaceutical Biology. By contrast, in the earlier JEP content analysis, 28% of authors specified pharmaceutical leads as an objective, and in recent years only 12%. A possible, and obvious, interpretation of this downward trend is that research objectives have shifted. But my analysis does not support that conclusion.

When I grappled with these issues earlier, I was troubled that bioprospecting was the predominant objective. After all, as an anthropologist, I want to know what local people will gain, or at least how their circumstances will be better understood from the study of their medicines. I am not so troubled by bioprospecting as I once was. Entrepreneurial ventures are, after all, legitimate - even those that do not qualify as ethnopharmacology. What troubles me now is that most researchers appear to have no objective at all, at least most do not state what the purpose of their research is. I sense that more researchers are interested in bioprospecting than whose intentions are explicitly stated. Perhaps they assume that all ethnopharmacologists are part of the same enterprise and that statements of purpose are then unnecessary. Still, one is left with the sense of discrete bits of research emerging from various laboratories with nowhere to go and no one to pull them together. By all appearances, no one seems to reflect much on what the larger picture might be.

But if indeed these researchers are interested in drug development, with whom will they collaborate? After a spate of energy and significant expenditure in the early 1990s, pharmaceutical companies are rapidly losing interest in natural remedies. This has much to do with the 1992 Convention on Biological Diversity that supports the idea that indigenous peoples are the rightful owners of traditional medicinal plant knowledge and its applications. The extension to indigenous peoples of intellectual property rights and accompanying contractual privileges and profit sharing has made prohibitively expensive what was already a very costly venture. Many pharmaceutical companies see their future in genetic engineering, rather than botanical medicines.

Some of the former interest in natural products may shift to complementary and alternative medicines, but these have proven to be marketable and profitable with little or no scientific validation. If the pharmaceutical companies will not use the information, who will?

At the same time that pharmaceutical companies' interest in natural products wanes, health care providers in the developing world are calling for practical implementation of research results. How can we reconcile that research conducted during the last two decades has yielded an enormous amount of information on plant constituents and activities with virtually no practical application? As disconnected

primary findings continue to accumulate, our knowledge base remains a catalogue rather than a foundation for analysis and application.

And on the issue of application, who will be the primary recipient of whatever benefit this knowledge offers - the West, where much of the pharmacological research is conducted, or the developing world which continues to bear the greater disease burden at the same time that they are the source of many of the botanicals being tested. It may be provident at this juncture to address how the results of sophisticated medical ethnography and rigorous bioassays can be meaningfully integrated, translated, and applied to the traditional populations who use those plants.

In conclusion, I think that every few years it merits taking the pulse of our discipline, to track us intellectually, and gauge our future. I encourage a re-commitment to an integrated ethnopharmacology, both to advance the field, and to assure that the JEP not lose its unique focus. The challenge for ethnopharmacologists is to elevate inquiry above medical ethnographies that treat plants simply as cultural objects, and above lists of plant constituents and activities detached from their human cultural contexts. Specifically, I recommend that ethnopharmacologists of all backgrounds project pharmacologic data against a backdrop of medical ethnography (e.g., by addressing therapeutic objectives, specific contexts of use, preparation, etc.), and enrich cultural interpretations of medical actions by exploring the physiologic potential of plants – consulting literature outside their own professional disciplines, and collaborating where necessary.

Misunderstandings between Ethnologists, Pharmacologists and Physicians in the Field of Ethnopharmacology

Armin Prinz

The wide field extending from "Ethno"-pharmacology, as the "behavioral dimension of indigenous plant utilization" (Etkin 1986) to ethno-"pharmacology", as the "study of traditionally utilized drugs, carried out according to scientific criteria" (Prinz 1988: 134), involves an enormous number of possible misunderstandings between the experts conceded. Ethnologists as representatives of the "ethnological" point of view, often regard our field merely as an "ethnography of human concepts concerning the effects and uses of medicinal plants in a cultural and social context", while on the part of the scientists of the "pharmacological" school, the fact that certain plants are used in ethnic medicines frequently just replaces the random principle in their selection of plants for further chemical analyses.

There is agreement only to the point that the ethnic groups' knowledge of plants must be recorded before it is lost as a consequence of rapidly progressing transculturation. Yet there exists a considerable difference of opinions in this respect as well. While ethnologists regard medicinal plants only as such if they have been thoroughly documented in fieldwork, natural scientists often content themselves with mere interviews and quickly set-up lists of plants. On the other hand, ethnologists in many cases lack even the most elementary knowledge of the possibilities and limits of pharmacognostic examinations. Thus, undefinable parts of plants without any herbal documentation are frequently brought back from fieldwork. Disappointment ensues when analysts decline further examination of this obscure material as presumably fruitless.

Thus, it is our task to eliminate these misunderstandings. All experts concerned must come to understand that they, far from merely applying their own specialized ideas to the term "ethnopharmacology", rather have the duty to con-

front all aspects of our field of study, i. e. the ethnological as well as the scientific and medical ones. They should realize interdisciplinary in the sense that everyone should have at least some basic knowledge of the opportunities, methods and results of all scientists active in this field. Only when this precondition is fulfilled, we will be entitled to call ourselves "ethnopharmacologists".

The Ethnological Dimension of Ethnopharmacology

The greatest difficulty of understanding existing between ethnology and natural science lies in the definition of illness and medicine. In traditional societies, the term "illness" covers a broader spectrum than in our modern medical world; not only physical, psychological and social disturbances are regarded as illnesses, but frequently economic and ecological problems as well. Thus, the Azande in central Africa regard lack of luck in hunting, bad crops, marriage problems, childlessness, deterioration of living conditions, as illnesses, just as well as diseases which require treatment, like a cold or lepra. Plants are used in all these contexts and so have to be defined as medicinal plants from the ethnological point of view.

An Indian ethnologist once explained to me in a conversation. "We don't use medicinal plants, we create relationships with them". The internalized, profound attitude towards plants documented by this expression is a typical characteristic of traditional medicine. Whether the "signature", the sign of God is looked for in the plant, whether it is called upon to help or is kept in the ancestor-shrine for strengthening by the spirits, it is personalized and regarded as a being like the mandrake root of our own medieval medicine. Man lives in harmony with his remedies. In accord with his cultural and religious conception of himself, he creates reciprocal relationships between himself and the plant; relationships, which become stronger during illness and weaker in times of health, but are never completely severed.

Therefore, medicinal plants are not just consumed and thrown away when they seem useless; rather, their use is subject to rules and regulations marked by the typical characteristics of magic: manipulation of certain materials, which can be learned and is backed by the firm conviction to be able to achieve or change something for the benefit of the user. Here it is not important and indeed, does not make any principal difference, whether this manipulation is carried out in a permitted, positive way, as "white" magic, or for evil, destructive purposes, as "black" magic. Occasionally, the same procedure can be alternately "black" or "white".

There are procedures in all societies where one and the same plant can be used both as remedy and poison. Many ethnic groups, e.g. the Azande, designate poison and medicine by the same name. Moreover, the use of a plant as poison need not always be necessarily attributed to "black" magic; the same goes for its use as a remedy in "white" magic. What counts here is simply the fact whether its use is sanctioned by society or not. Thus, the poisoning of a wrongdoer can be a good thing, while healing a person punished with illness by God or the spirits may be a bad one.

This magical element is inherent in each and every use of medicines. Our medicine, too, practically displays some magical character; administration of medicines following a defined ritual, color magic for pills and capsules (e.g. green = acts on respiration, red = activating, brown = good for the liver, blue = calming) and, above all, the physician's and the patient's almost demanding expectation that the correct execution of the procedure will prove effective.

Real effectiveness in the scientific sense can be interpreted for the ethnological angle as a rational attitude towards magic. "Ethno"-pharmacology is, however, not primarily concerned with the study of these effects. Its task is rather to research the various ethnic groups' concepts of the effects and uses of medicinal plants in a cultural and social context.

So if ethnologists enter this profound traditional edifice of concepts, studying these transcendental ideas for months or even years, it is hardly astonishing that their own thoughts become also tinged by these ideas. Ethnologists frequently believe in the existence of a "plant's soul", in supernatural forces residing in drugs etc. If such a scientist discusses the medicinal plants of his/her field of study with a positivist

pharmaceutist or botanist, misunderstandings can easily arise, leading sometimes even to mutual personal aversion.

The lack of knowledge about the methods of plant analysis, which is often displayed by ethnologists, also leads to situations that complicate cooperation. Honestly convinced of having found a "wonder drug" in his/her ethnic group and enthusiastically praising its miraculous properties, the ethnologist confronts the pharmacognostic with some undefinable powder or clod and is subsequently deeply disappointed if the natural scientist shows a marked lack of enthusiasm for this "treasure" and instead declares coolly his/her complete disinterest in this stuff.

Ethnopharmacology in the Positivist-Scientific View

The history of medicine, which is still locked in cultural evolutionism, as far as the early developments of medicine are concerned, often postulates an original instinctive healing (Neuberg 1908); like sick animals, man is supposed to have possessed the ability to identify instinctively the right means to heal an illness or wound. According to this hypothesis, it was only in the further course of history, together with the development of social authority structures, that a separate class of healers emerged. The "natural" means of healing, which were known to everybody were, however, not suited to cement the monopoly of authority of this new class. Therefore supernatural and magical practices were needed, the adroit management of which is supposed to have safeguarded this monopoly. In cultural-historical style, reports of ethnologists about "primitive" medicine were drawn on in support of this thesis – an unjustifiable approach.

Of course, the division of the traditional materia medica into medicinal plants and magic plants, which is often made by natural scientists, fits very well into this concept. lf the effect of a plant seems plausible in the pharmacological sense, it is classed with the former, if the magical aspect is dominant, with the latter. This petty dichotomy of positivist-oriented natural science regarding itself as the highest authority of knowledge has but rarely been so utterly reduced to absurdity as by Himes' statement, commenting on the use of contraceptive plants by South Sea islanders. "These are undoubtedly ineffective since no drug taken by mouth is known to Western science that will prevent conception." (Himes 1936: 25). It should only be added that this sentence was necessarily deleted in the second edition of the book (1956).

In this sense, ethno-"pharmacology" is usually limited to "the interdisciplinary scientific exploration of biologically active agents traditionally employed and observed by man" (Bruns/Holmstedt 1982); its tasks comprise merely "the observation, identification, description and experimental investigation of the ingredients and the effects of indigenous drugs" (Holmstedt/Bruns 1983). Its interdisciplinary basis is formed by botany, pharmacology and chemistry. Although some importance is accorded to the contributions of other sciences, e.g. anthropology, they are regarded merely as ancillary to natural science; following its methods, these other sciences are expected to provide adequately collected and documented material suited for further scientific analysis. By way of self-criticism I want to state that I, too, was until recently an adherent to this narrow natural-scientific view of ethnopharmacology (Prinz 1988).

As a concession to traditional medicine and as justification of the self-styled name "ethnopharmacology", not the examination of the plant drug per se is given priority, but the detection of active ingredients in the traditional preparations. It is hoped to uncover evidence of scientifically duplicable effects by establishing a concomitant control of traditional therapies through trained pharmacologists in the field (Holmstedt/Bruns 1983), which demand all but lacks any practical significance. For this purpose, extensive equipment as well as investigations that might disturb the therapeutic process and endanger the object of research would be needed. An observer trained in the basics of practical medicine and combining ethnomedical experience with a careful methodology of better suited to ascertain first indications of the existence of active substances.

Another point of interest is the evaluation given by the individual sciences concerned, depending on the author's field of specialization. The botanist R. E. Schultes calls ethnopharmacology

"an interdisciplinary field, basically botanical" (Schultes 1984), for the toxicologist B. Holmstedt and the pharmacognostic J.G. Bruhn, it is "based on botany, pharmacology and chemistry" (Holmstedt/Bruns 1983), while the pharmacognostic P. P. Labadie believes that the term should be changed to "ethnopharmacognostics" (personal communication).

Modern Physicians and Traditional Materia Medica

Physicians take an intermediary position between these two stances. Since they are themselves confronted with the "magic" aspects of medicines, sometimes even aware of the ethnomedical origin of the key substances of modern pharmacotherapy and know about the limits of their own therapeutic possibilities, they are often willing enough to believe in the effectiveness of traditional drugs. What they are concerned about, are not so much the possible ingredients of medicines, but their dosage. Every traveler who has ever had a conversation with physicians working in tropical countries knows of such (or similar) statements as, "Yes, the healers know good and very effective drugs, but they don't know anything about dosages". In spite of all this, physicians are only very seldom willing to devote themselves to ethnopharmacology, although they would indeed be very well suited to take the part of mediator between ethnologists and natural scientists.

Conclusion

My very general statement, for which I hope I will be excused, is not meant to imply that there are no representatives of our field of study that display this comprehensive understanding of all aspects of ethnopharmacology. It is, however, of crucial importance to bear in mind that this field of study is indeed a broad one, extending the spectrum of interdisciplinary cooperation from ethnology and cultural geography over botany, pharmacognostics and phytochemistry, to mention just a few sciences involved, to pharmacology. Yet interdisciplinary work means not only cooperation, but integration as well; if an ethnologist reports on the traditional utilization of a drug, while a pharmacognosist describes the drug ingredients in the second part of the same work, we are not faced with any interdisciplinary approach but just with two studies from different fields, united by the same title.

An interdisciplinary approach would be reached if the ethnographical data were analyzed in context concerning their chemistry. This will only become possible, if every person active in the field of ethnopharmacology disposes at least of some basic information regarding the methods, objects and results of all sciences involved. Only when ethnologists do not confuse pharmacology with pharmacognostics any more, when they are able to prepare herbal examples lege artis and provide useful material for analysis, and when pharmacologists accept the fact that their concept of an active substance is not identical with that of another ethnic group, when they are willing to judge drugs not only according to their ingredients but also according to the transcendental role they play in a community, then we will no longer have to distinguish between an "ethno"-pharmacology on the one hand and an ethno-"pharmacology" on the other. Then we will be fully entitled to call our field "ethnopharmacology", and every scientist, from ethnologists to pharmacologists, will have his/her place in it.

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Past and Present Medicinal Uses of Selected Native Plants of Israel

[1]Zohara Yaniv, [2]Li Ailian, [3]Yona Tabib, [4]Ephraim Lev and [1]Dan Schafferman

Abstract

Six native desert plants of Israel were collected from their natural habitat: *Artemisia herba-alba*, *Achillea fragrantissima*, *Peganum harmala*, *Plantago coronopus*, *Retama raetam* and *Anabasis articulata*. All six plants have been known as medicinal plants since ancient times. A review of the literature on unknown regional medicinal records of the medieval period is documented; it confirms the importance of these plants. Extracts of the plants were assayed for their cytotoxic effects on *Petunia* cell lines: four leaf-extracts showed inhibitory activity; *Retama* was the most active, followed by *Peganum*, *Plantago* and *Artemisia*. *Achillea* and *Anabasis* showed no inhibitory effect. However, when *Anabasis* seeds were tested, both ethanol and water extracts were cytotoxic. The inhibitory effect, as demonstrated with *Retama* leaf-extract, was positively correlated with the concentration of the extract and the duration of the experiment.

Keywords: cytotoxicity, ethnobotany, desert plants, medicinal plants

Introduction

Plants have been known as a source of medicines and spices since the beginning of civilisation. This is due to the presence of metabolites with physiological activities. The origin and distribution of the natural products varies among species and families, as well as among plant organs, such as roots, leaves, fruits, seeds, etc. (Kaufman et al. 1999). It is assumed that the plants use these compounds to deter predators and pathogens, to attract and deter pollinators, to prevent competition from other plants for the same resources, and to defend themselves against environmental stress (Kaufman et al. 1999).

Israel is known for vast areas of arid land rich in plant species which are adapted to heat and drought stresses (Zohari 1982). One of the mechanisms of stress resistance is the synthesis and accumulation of unique metabolites in plant tissues (Yaniv et al. 1984, Yaniv & Palevitch 1981).

Mediterranean plants have been used effectively for centuries in traditional medicine. This traditional knowledge is well documented in the European herbal literature (Gunther 1968) and is currently the subject of chemical and biological research aimed at finding new sources of pharmaceutical drugs. However, it seems that the knowledge regarding the medicinal uses of rare desert plants did not reach Europe and much less is known about them.

We selected six desert plants known from the ancient herbal literature and searched for references to them in the regional, mainly Arabic, literature of the Middle Ages. They were then assayed for their cytotoxic effects.

Materials and Methods

Plant material

Plants were collected in the Sede-Boker area (desert region, rainfall: 50-100 mm/year) during the spring and summer of 1997. The following plants were collected: *Artemisia herba-alba; Anabasis articulata; Achillea fragantissima; Peganum harmala; Plantago coronopus; Retama raetam*. The plants were separated into leaves and stems, dried at 30°C for 3 days and ground to powder. In the case of *Anabasis*, the treated seeds were included separately. The

[1]Dept. of Genetic Resources and Seed Research, Inst. of Field and Garden Crops, ARO, the Volcani Center, Bet Dagan, Israel
[2]Inst. of Medicinal Plants, Chinese Academy of Medicinal Sciences, Beijing, China
[3]Dept. of Genetics, Inst. of Field and Garden Crops, ARO, the Volcani Center, Bet Dagan, Israel
[4]Dept. of Land of Israel Studies, Faculty of Jewish Studies, Bar-Ilan University, Ramat Gan. Israel

powder was stored until needed under vacuum at room temperature.

Preparation of plant extracts
1. Cold-water extract: Twenty-five grams of dried plant powder were extracted with 100 ml distilled water using a mechanical shaker overnight (110 rpm). The extract was filtered and the precipitate was extracted twice more: once with 100 ml H_2O and the second time with 50 ml H_2O. The total volume – 250 ml – was sterilised by filtration as described below. Final concentration: 0.1 g/ml.

2. Hot-water extract: twenty-five grams of dried plant material (ground seeds) were boiled in 200 ml distilled water for 2 h. After filtration, the precipitate was extracted twice more: once with 100 ml boiling water for 30 min and the second time with 50 ml boiling water for 30 min. The total volume was adjusted to 250 ml and sterilised as below. Final concentration: 0.1 g/ml.

3. Ethanol extract: Ten grams of ground, dried plant material were dissolved in 100 ml of 95% ethanol. The solution was stirred (100 rpm) overnight and then filtered through miracloth. The final volume was adjusted to 100 ml and sterilised by filtration as below. Final concentration: 0.1 g/ml.

4. Sterilisation: All extracts were sterilised by a two-step filtration through 25 mm diameter glass micro-fiber filters. The process was repeated twice. Dilutions were made with sterilised distilled water. Final concentrations used were: 0, 30, 70 and 100%.

No.	Source of extract	Method of extraction	Part of plant
1	*Retama raetam*	Cold water	Leaves
2	*Peganum harmala*	Cold water	Leaves
3	*Artemisia herba-alba*	Cold water	Leaves
4	*Achillea fragrantissima*	Hot water	Seeds
5	*Plantago coronopus*	Hot water	Fruits & seeds
6	*Anabasis articulata*	Hot water	Leaves
7	*Anabasis articulata*	Hot water	Seeds
8	*Anabasis articulata*	Ethanol	Seeds

Table 1. Extraction methods used during the experiments

Petunia cell suspension
A *Petunia* cell line designated *P. hybrida* Hook line 3704 was used in this study (Izhar et al. 1984). The suspension culture line was produced by growing surface-sterilised stem segments on solid UM medium. (Clark et al. 1985) until friable callus was formed. The callus was placed in liquid UM medium in sterile glass flasks on an orbital shaker at 110 rpm, and the suspension culture was grown at 26°C under continuous light.

Experimental procedures
The cell suspension was diluted with liquid UM medium to a final concentration of 1:1 liquid cell precipitate. Twenty-four ml of the suspension were then placed into glass flasks to which was added 1 ml sterile plant extract at one of the following concentrations: 0 (1 ml sterile water), 30, 70 and 100%. Twelve glass flasks were used for each concentration. The flasks were kept for 10 days on a shaker at 110 rpm at room temperature (26°C) under continuous light. At the start of the experiment (time zero), and on the 3rd, 7th and 10th days, three flasks from each concentration of plant extract were filtered and cells were weighed before and after drying at 70°C overnight.

Documentation of ethnobotanical data as a background for modern research
Ethnobotanical data relating to the selected plants were taken from Palevitch et al. (1986). Historical records from old and medieval medicinal manuscripts were also studied and citations of modern research publications, if any, were added.

Results and Discussion

Collection of ethnobotanical data as a background for modern research
All the selected plants are native desert plants typical to the southern regions of Israel. The selection was based on original ethnobotanical sources describing medicinal properties and uses in the Middle East from biblical times to the Middle Ages. This traditional knowledge has been preserved and passed on by the local herbalists; they are still active in herbal medicine until today.

The following is a summary of the information obtained on each of the selected plants.

Retama raetam: An aromatic shrub, mentioned in the Bible (I Kings) as "juniper", a desert plant whose roots were used for making coals (Psalms 120, 4-5; Job 30, 4). The upper plant parts are used in folk medicine as an external analgesic remedy, particularly for backache, eye pain and joint pain (Palevitch et al., 1986). It was also used externally by Asaf Harofe for the treatment of haemorrhoids, wounds and bites (Muntner 1965). A decoction of Retama raetam is known as a laxative, an abortifacient (in high doses) and as an emetic (Ibn al-Baytar 1875).

Peganum harmala: A small bush, very aromatic with white flowers resembling citrus and known in folklore for religious ritual and medicine since ancient times. The Greeks and the Romans used the seeds to treat blurred eyesight (Gunther 1968). It was used by Arabic physicians in the Middle Ages (10^{th} – 16^{th} centuries) to treat weak eyesight, headaches, joint aches and urinary problems, and to induce menstruation, (Ibn al-Baytar 1875; al-Qazwine 1981; al-Antaki Daud 1935; Ibn Sina 1877).
The Bedouin tribes in Israel use *Peganum harmala* as an abortifacient and for the treatment of amenorrhoea. Other medicinal uses are: steam bath for nerve problems, colds, coughs and respiratory problems. Crushed seeds in oil are used for the external treatment of infections and joint aches and are applied directly to the teeth for toothache. The seeds are also known as a source of a red dye (Turkey red), for carpets and turbans (Palevitch et al. 1986).

Plantago coronopus: An annual herb, found in many habitats all over Israel: fields, roadsides, waste lands and lawns. This species is not very well known in folk medicine, however, many other *Plantago* species have been used in medicine since the early civilisations. In ancient Egypt the plant was used to induce perspiration, to reduce fever and to treat digestive problems. In ancient Babylon *Plantago* was used to treat swollen legs. "Psullion" was prescribed by 1^{st} century Greek herbalist Dioscorides in his "Materia medica" for the treatment of fever, insect and snake-bites, headaches, ulcers, earaches and skin infections, and as a tranquillizer (Gunther 1968). In the Middle Ages some *Plantago* species, such as *P. major*, *P. ovata* and *P. afra* were used in the Middle East to treat coughs, backaches and rheumatic problems, internal inflammations, and as an aphrodisiac (al-Antaki Daud 1935; Ibn al-Baytar 1875; Ibn-Sina 1877). The same traditional uses are practised today in Israel (Palevitch et al. 1986).

Anabasis articulata: This is a dwarf shrub with a leafless stem and branches, found predominantly in the desert. According to Middle-Age sources, a powder named "ashnan" was made by burning the upper part of the plant to ashes. It was used as a soap, to treat haemorrhoids, and as an abortifacient and toxic medicine (al-Antaki Daud 1935; Ibn al-Baytar 1875; Ibn-Sina 1877). It is used in folk medicine in Israel, to treat urinary diseases, joint pains, lung problems, migraines and skin infections (Palevitch et al. 1986).

Artemisia herba-alba: An aromatic dwarf shrub with hairy grey leaves, common in the Negev and the Judaean Desert. The whole plant is very aromatic and rather bitter; in fact its bitterness is mentioned in the Bible (Amos 5,7 and Jeremiah 9,14). All *Artemisia* species are known to survive hard environmental conditions, many are also known as medicinal plants. In the literature of the Middle Ages as well as in folk medicine today, *A. herba-alba* is described as a healing beverage against intestinal worms and as a general stomach and gastro-intestinal remedy. Furthermore, it is mentioned as an antiseptic and anti-inflammatory medicine, for use against colds and coughs (steam bath), against diarrhoea (infusion of leaves and flowers), as well as for protection against bites of poisonous insects (Ibn al Baytar 1875; al Qazwine 1981; Palevitch et al. 1986; Crowfoot & Baldensperger 1932).

Achillea fragrantissima: A fragrant perennial shrub, common in the desert, it is named after the Greek hero Achilles who gave his wounded warriors an infusion of the leaves. Similar therapeutic uses are mentioned through the ages: in the 10th century – by al-Tamini, a Jerusalem physician; in the 13th century – by Ibn al-Baytar (1875); in the 16th century by al-Antaki Daud (1935); and in the present day, where the use of Achillea is well known among the local Bedouin herbalists of the Sinai desert. The main uses of Achillea are: antipyretic (steam bath), analgesic, specifically for joint pains (external use) and heart pain, stimulant and tonic (decoction) and for the treatment of diabetes.

The therapeutic potential of these desert plants has not yet been fully investigated, although research has been done on related species. The purpose of the present, preliminary study was to evaluate the antimitotic potential of these plant extracts.

Biological effect of plant extracts

Fig. 1 presents the effects of six plant extracts on the growth of *Petunia* 3704 cell lines. As can be seen, four of the six plant extracts inhibited the growth of *Petunia* cells in suspension. The effect was concentration-dependent. *Retama* extract was the most effective: it caused 40% inhibition of cell growth at 30% dilution and 60% inhibition when undiluted. Undiluted extracts of *Peganum*, *Plantago* and *Artemis*ia caused 40-50% inhibition of cell growth, while extracts of *Achillea* and *Anabasis* exhibited no inhibition.

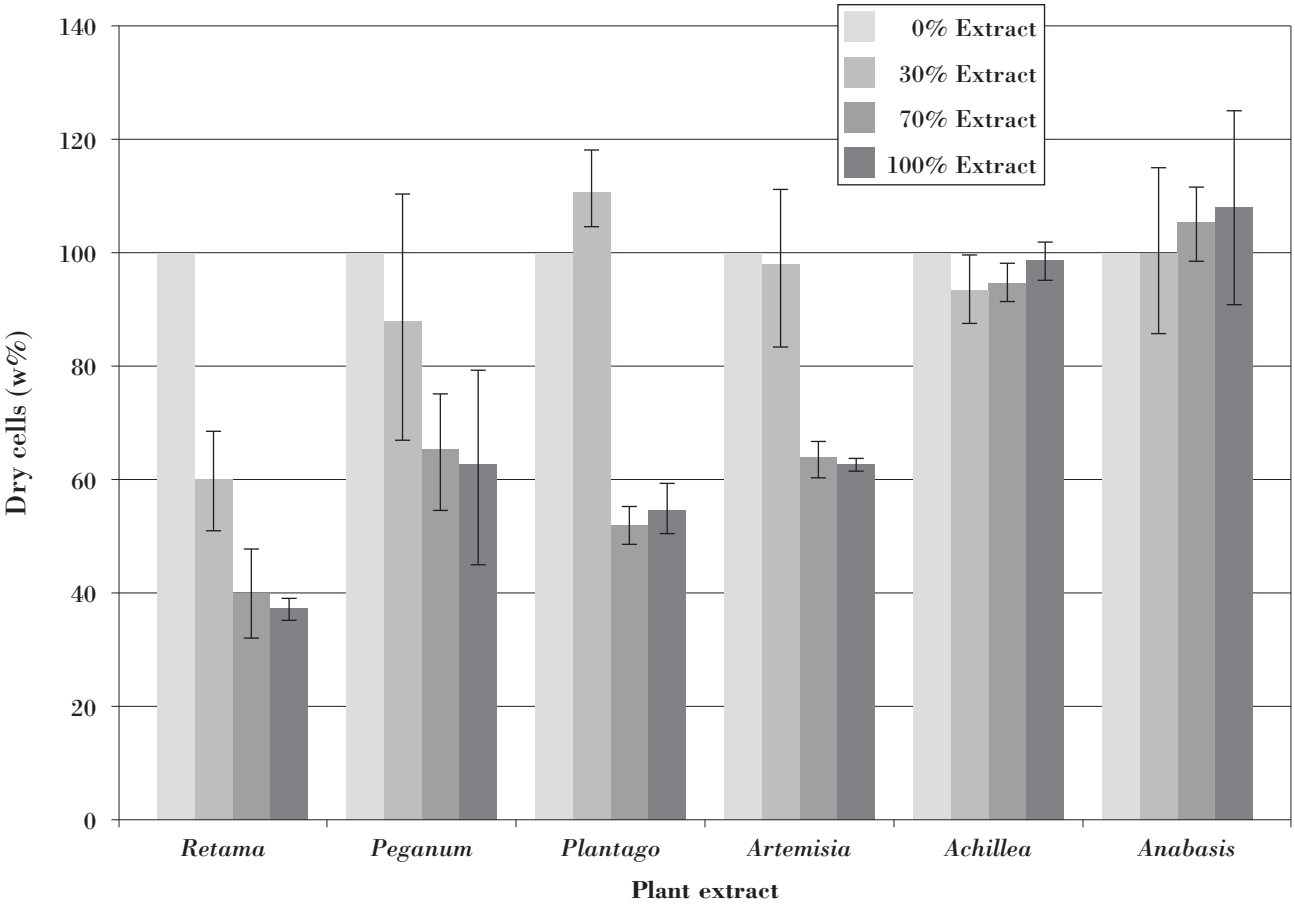

Fig. 1: The effects of six plant extracts on growth of *Petunia* 3704 cell suspension

Fig. 2 presents in detail the activities of aqueous *Retama* leaf extracts on *Petunia* 3704 cell suspension. As can be seen, during 10 days of growth, the *Petunia* cell lines showed maximum growth in suspension within the first 3 days of culture: the cell content more than doubled, from 0.15 mg/flask at the start of the experiment to 0.23 mg/flask after 3 days of cultivation in suspension, and the growth was maintained for the remainder of the experiment.

continue page 22

Contributions to Visual Anthropology

Initiation of Shamans of the Azande

Armin Prinz

Summary

The shamanistic nature of rituals during initiation of African healers are often not noticed and therefore denied by many anthropologists. However, among the Azande healers from Northeast-Zaire and South-Sudan, these shamanistic elements (dreams of vocation, apprenticeship, accompanying transcendental entity, journey to the world beyond, change of personality, death and rebirth) do, as shown in this paper, undoubtedly exist in their classical appearance. Therefore it seems legitimate to call the healers of the Azande shamans.

Introduction

People with healing powers in African and other countries may be justifiably termed shamans, under the conditions, that the way they are called to this position, their initiation, and their role as a mediator between the human and the spirit world, essentially corresponds to the classic shamanism of Siberia.

The *a-binza*, as the healers of the Azande in Central Africa are called, markedly display the characteristics of shamanism. They are called to the position of healers through dreams, illnesses, and experiences of hardship. On their way, they are accompanied by a transcendental entity, which helps and supports them throughout their lives. At the same time, they are taught, for a fee, therapeutic and magic practices by an old healer; a time of apprenticeship that often lasts several years. The peak and end of this period of apprenticeship is marked by the ecstatic dance of initiation, the *avule* seance. During this dance the person to be initiated sets out on a journey to the world beyond to meet his transcendental companion and ask for help in his new activity as a healer. This *avule* seance can be repeated by the new shaman at any occasion, not only to confirm his claim of being a healer, but chiefly to convey his wishes and requests, including those of his clients as well, to his spirit and the spirits of his ancestors, and to return from them with their information and advice.

Preparations for the Initiation

For the novice, the initiation ceremony does not come abruptly. When his apprenticeship is nearing its end, his teacher will slowly begin to prepare him for the initiation by administering medicines. The master cooks magic onion plants in peanut butter until the oil in the pot is separated from the solid matter. He stirs it with a freshly cut twig of the *dama* tree *(Sarcocephalus sambucinus)*, the wood of which is used in many interactions with the supernatural. It is held to be a good omen for the future healer if the separation is an easy and clean one. The oil is used to anoint the body and, above all, the arms and hands of the apprentice. The master then, by means of the stirring stick, scrapes the mixture of peanut butter and his own medicines out of the pot and feeds the novice with his own hands. Slowly, the novice's capability to be a shaman is built up from the medicines in his body.

Apart from taking specific medicines, the novice also has to undergo bloody scarifications. The young healer’s skin is cut superficially, by means of an old razorblade, on both sides equally in geometrically arranged patterns, with cuts of approximately 1 centimetre. A black powder, derived from charred and crushed magic plants, is rubbed into the wounds. Of special importance are the incisions on the back of the hand, in the area between the thumb and the index metacarpal. This aims at a sensitization of the novice’s hand, right at the focal point of the seizing motion, for his future “handiwork”.

Another aspect of essential significance for the future healer lies in the extension of his contacts with not only his “own” spirit, but above all with the spirits of his ancestors. For it is they who will help the young *binza* in later healing seances to master definite tasks, who

will have to do everyday "routine work", as it were. Thus they will, for instance, have to negotiate in the world beyond with the spirits of the ancestors of a witch exposed by their young living descendant, so that these other spirits in their turn will cause the wrongdoer to stop his evil activities. The future healer must build up a close relationship with his ancestors, the deceased members of his family, because otherwise he will not be able to effect cures. Just as in the world of the living, his relatives in the world beyond will be the only people he can rely on absolutely. The "great spirit", i.e., the companion spirit of the healer, will negotiate solely with God, called *mboli* by the Azande, while the routine affairs of everyday life, like witchcraft and magic, are not particularly interesting for this entity, so these cumbersome activities rest with the ancestors of the healer.

The novice still has to learn to maintain a close contact with his ancestors. Inmost strata of the population, ancestor worship has greatly lost in significance, due to colonization and missionization. The deceased are revered as long as they are remembered. Only the healers (and the *avungara*, the members of the chieftains' clan) continue with the old religious duty. Therefore, the *binza* pupils are encouraged by their teachers to erect shrines for their ancestors. In order to conform with the necessities of time, and mainly to avoid trouble with the missionaries and their checks and controls, these shrines for the ancestors are either built totally unobtrusively, unrecognizable as such for an outsider, or hidden in a house or under the roof of a store.

While the "modified" ancestor-shrines in the open today mostly consist of little twigs, pushed perfunctorily into the earth, between which the macerated skulls of small animals are hung, the hidden shrines are still built in the way described in the literature concerned; a thick branch, planted into the earth, ending in a triple fork, in which a piece of pottery is put as a place of sacrifice. Around this post are planted the magic onion plants of the healer, which are thought to maintain their specific power through their closeness to the ancestors.

In the days before their initiation, the novices are busy with the making of their initiation clothes. They tie a rope between two trees and attach to it strips of dried banana leaves of a length of approximately 60 centimetres. This skirt is wound around the waist. Similarly, they prepare two armbands to tie around the wrist. The Most important piece of clothing of a *binza*, the feather-hat called *kangu*, is mostly woven long before from bark-strips of the *batingbalama* tree *(Marantochloa flexosus)*, in a working process that takes some weeks. A tuft of feathers of the guinea fowl *sengu*, with attractive black and white spots, decorates this hat. Most novices already possess the most important paraphernalia of their calling: dance bells, made of iron and fixed on wooden handles; they are presents or heirlooms from the father, or more frequently from an uncle on the maternal side.

Already on the eve of the initiation the novice is obliged to keep some taboos; he must not have sexual intercourse or eat certain foods. In later *avule* seances, such as those aimed at exposing a witch, he will have to follow these same rules.

The novices' job about their initiation is obvious, as they have had to suffer privations

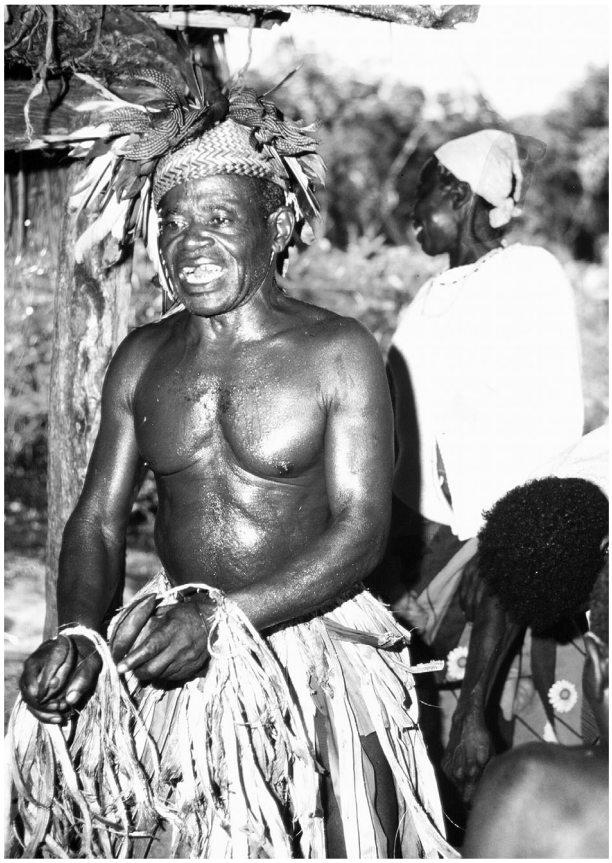

Fig. 1: The *avule* dance starts. The iron handbells symbolize life. As soon as the novice stops ringing it he is regarded as deceased. He will then move to the next world to his transcendental being.

Fig. 2: The novice is accompanied by two drums that "speak" to each other, thus dramatizing the dance.

Fig. 3: During the dance the novice enters more and more into a state of trance. He rolls on the ground, sings and shouts. The spectators accompany his performance with shrill trills.

Fig. 4: The handbells are thrown away, the novice is now dead. On his stomach he has magic "onions" in a pot. They will build up his power centre in the upper stomach which he will need for fighting dangerous witch-power.

Fig. 5: Bent over the onions, he drinks cold water to show that he can control the burning hot (anti)witchpower. Only bad people should be affected, not good ones.

Fig. 6: Finally the "dead" novice is buried. He remains under the earth for about three minutes. During this period he visits his transcendental being in the next world. Then suddenly he jumps out of the pit. His metamorphosis is completed.

during the long years of their apprenticeship and have also been obliged to work for their teacher on his fields; now these troubles have come to an end. They will now also be in a position to marry perhaps even several wives, for healers have a right to expect a secure life of affluence.

Performance of the *Avule*-Seance

The first preparations begin early in the morning. The great slit-drum and the wooden cone-drum are brought. Usually, they must be borrowed from the local chieftains or from the bush-churches of the Christian missions. The drums will speak to each other, one for the novice, the other for the spirit accompanying him.

The weeds growing in the yard are pulled out, but occasionally manioc plants are also weeded out, if they could present an obstacle to the dance. Moreover, there must be enough room for the spectators; the men will be seated under the store roof, according to their rank and dignity, in comfortable deck chairs or on short tree-trunks, while the women sit separately on banana-Ieaves on the ground or in the shadow of the manioc cultures that are growing, tongue-shaped, in the yard.

The slit-drum begins to call the spectators to the *avule* ritual by means of certain signals. Liquor is provided; many women also bring along their self-made drinks which they hope to sell to the spectators. Slowly, people gather in the yard.

The novice himself digs out some of the magic onion plants growing near his ancestors' shrine and places them in a clay pot filled with earth. These are the *alanga avule*, the medicines of the *avule*, which his teacher a long time before has given to him for cultivation. They are to play an important part in the ceremony. Occasionally, a woman is chosen who will join in the dance and enact the part of a helpful maternal spirit.

The drummers slowly change their rhythm from an invitation to the people to come to the place of the ritual to the *avule* rhythm. In this, they are instructed by the *avule*-master, who is not necessarily the novice's teacher but frequently another healer determined by the village chieftain. He also supervises the dance, and thus could almost be called an "official inspector".

The novice appears completely dressed. He wears vines or strings with horns or bone-fragments of various animals around his hips, although sometimes there are even more extravagant objects, like old light bulbs, whose route into the bush can no longer be retraced. On his arms and legs he wears rattles made of pieces of fruit-peels; thus his every step becomes audible.

He has marked his skin in the area above his solar plexus with a black paste. This is an extremely important factor. The Azande believe that the witches' magic power is present in the shape of a visceral organ at this very spot. If a witch died or was executed because of his misdeeds, this organ could be looked for in an autopsy. From information I obtained, possibly rare cases of dermoid cysts, which are filled with hairs, are considered positive proof of witchpower, due to their startlingly extraordinary aspect.

First and foremost, the healers have to prove their usefulness against destructive witch-power. To fight it, they therefore need a "weapon" similar to that of the witches, i.e., another such organ of specific power in the area of the solar plexus. Since, however, they do not possess such an organ by birth, they have to develop something similar during their time of apprenticeship and initiation. The spot where the new organ will be formed is the one designated with the black paste. This black spot, however, is not solely to be regarded as a marker, but is intended

to represent, similar to an augury, an image of this already developing organ.

The novice places the objects he needs for the seance, i.e., the magic pipe *kula* (carved from wood), an antelope horn with the "black paste", and a pot with the magic onion plants, prominently in the middle of the dancing ground. He uses a stick to draw the contours of a grave in which he will be buried later on. Some men then instantly start digging a pit of about 1 metre in length and half a metre in width.

Then he begins his dance. He sings symbolic songs, and the spectators join in the chorus. The drums dramatize the event. Apart from some short interruptions, the dance frequently continues for several hours. During these intervals, the novice drinks liquor and begins a dialogue with his spirit, making ample use of gestures and facial expressions. Again and again he plays on his shaman's pipe, gesticulates towards the sky, and also climbs the store's roof to get closer to the sky. His trance-state can be interrupted at any given moment to drastically rebuke laughing spectators, for which he again is laughed at. It is only when he menacingly rushes at impertinent onlookers that they run away, screaming in terror.

Of special importance is the "recharging" of his "witch-power organ", for it must become strong; this not only to fight evil witches, but also that it will be subject to control so that no innocent people will be hurt in any way.

This charging process or "beating-up" (*ginda we*), as the Azande call it, is done by swallowing the flames of a burning straw and subsequently placing the clay-pot with the magic onion plants on the epigastrium. The charging can equally be effected by means of the wooden cone-drum, the drum of the novice's accompanying spirit. The apprentice lies down, the drum is placed on his belly and is then beaten vigorously, while the young healer, who is lying on his back, singing and striking his dance-bells, asks his spirit to give him strength.

To demonstrate that he also exerts full control over his new "witch-power organ" and that good people have no reason to be afraid of it, he leans over his healing onions and drinks cold water to tame its too impetuous heat. Through this, the novice demonstrates before the community that he can always check the heat of his organ by means of the coolness of the water. In the same way, exposed witches are forced to drink water to cool off the heat emanating from them so that they can no longer cause any harm. lf a high dignitary, e.g., a great chieftain, has fallen ill through a witch's agency, all people in his close proximity (witch-power does not work over greater distances) will drink cold water and then spit it out again to demonstrate publicly that, if one of them, against his better knowledge, should be a witch, he is sorry and retracts his heat.

The high-point of the *avule* seance, however, is the novice's ritual death, with internment and journey to the world beyond, and his subsequent resurrection.

During his dance, the novice suddenly throws down his dance-bells, which is the sign of his death. It is said of the greatest healers that they, in this moment, did in fact dissolve into air. The novice's state of death and his journey beyond can then be symbolized either through his sitting absolutely motionless, turning completely inward, or through his burial.

The novice throws away his dance-bells, places his feather-hat beside them, and jumps into the pit, where he squats down, face downwards, in a fetal position. The pit is then quickly filled with earth. Under the thin layer of earth, an observer recognizes the novice's simulation of the movements of an infant in his mother's womb, while he is perfectly capable of breathing because of the reservoir of air caught under his body. During the time of his burial, he visits his transcendental spirit, but also his ancestors' spirits, in the world beyond; he speaks to them and asks for their help in his future work as a healer. After several minutes, while the spectators continue to sing, accompanied by the drums, the neophyte suddenly rises with the upper part of his body from the loose soil, props himself up on both arms and, simulating a difficult birth by means of abrupt rotating motions, he slowly leaves the grave. Through his death, his journey beyond, and his subsequent resurrection, the novice has become a new healer. This new personality is also evidenced by the fact of being given a new name. Thus, the initiation is completed.

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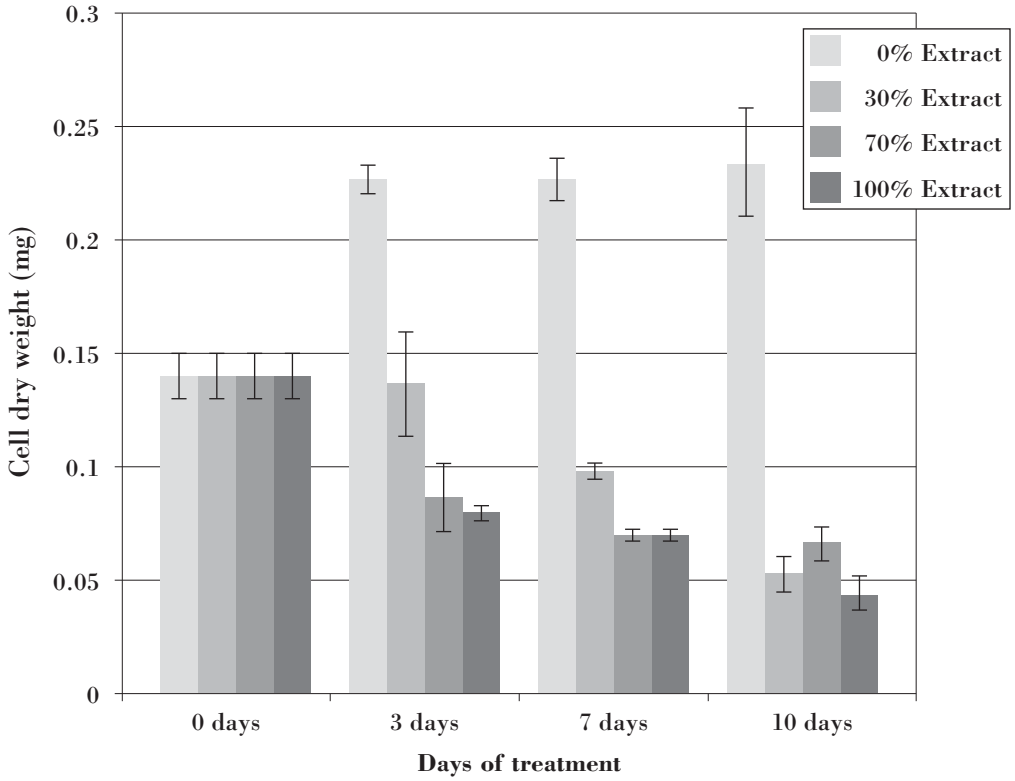

Fig. 2: The effects of aqueous extracts of *Retama raetam* leaves on *Petunia* 3704 cell suspension

The inhibitory effect of *Retama* leaf-extract is visible at the lowest concentration (30%) after 3 days. This effect increased with increasing exposure time and concentration until, after 10 days, only 0.04 mg of *Petunia* cells remained in the flask (Fig. 2). It is interesting to note that a cytotoxic effect was also reported for extracts of *R. sphaerocarpa* from the Iberian peninsula (Martin-Cordero et al. 1995). Since *Anabasis* leaf extract showed no inhibitory activity on the growth of the *Petunia* cell line, seeds rather than leaves, were then extracted, and both water and ethanol extracts were prepared from them. As can be seen in Fig. 3, whereas the leaf extract had shown no activity, the undiluted water extract of the seeds showed 40% inhibition, and the ethanol extract reduced growth to 78% of control.

In conclusion, it is clear that these are only preliminary results. A more detailed second phase of experiments should be performed with these plants that showed cytotoxic activity. Extracts should also be tested for their activity on animal cells.

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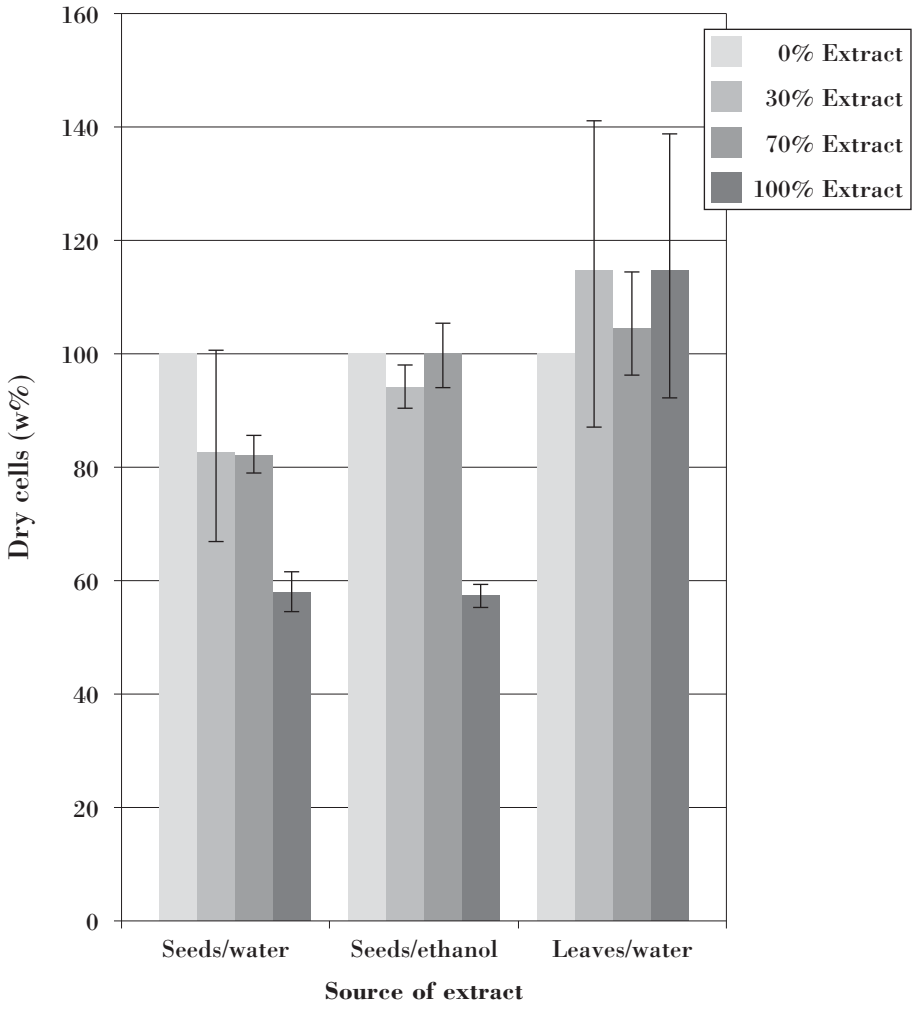

Fig. 3: The effects of extracts from seeds and leaves of *Anabasis articulata* on the growth of *Petunia* 3704 cell suspension

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Interview with Jan-Lodewijk Grootaers

Ruth Kutalek
June, 3rd 2000, Erdberg/Poysdorf

How did you come to anthropology?

After my studies in biology and philosophy, I worked as a biology teacher in Africa, the first year in Gabon and then two years in Zimbabwe, with international aid organisations. Each time, I was teaching in a bush school. During those three years I tried to make contacts with the villages around the school. I became interested in how people lived and I was able to share some of their experiences. In Gabon, for instance, I made some friends who later invited me to a hunting party. It was very exciting; they explained all sorts of things which showed their enormous knowledge of the natural environment. In Zimbabwe, during the night, people would make music and dance, and some would get grasped by spirits. I was very impressed by what I saw, though I had no background information. But it appealed to me. That was at the experiential level.

At the theoretical level, I had a problem with the things I had to teach. I taught sciences, in Zimbabwe only biology, in Gabon also physics, drawing, all kind of things. This was a new school that had been built by Shell. The company had found oil off shore and had started a small town along the coast. Everything was Shell in that town; for the children of the people who worked with the company, they had opened a secondary school with only a few teachers. That is why I had to teach all these classes. I remember the physics book came from France. One of the things I had to teach was the working of central heating, which I thought was completely absurd. I became concerned with the appropriateness of western science education in an African setting. So I read about comparative science and problems of rationality, issues that were also addressed by philosophers. Some of them, like Horton and Winch, referred to the work of Evans Pritchard about Zande rationality. A famous "case" is the fact that the Zande believe in a witchcraft organ, which is inherited in the male line and the female line. So, in theory, if some man has this organ all his male ancestors and all his male children should have it also, should also be witches. The Zande deny this conclusion, and in this way they give food for thought to philosophers all over the world!

I liked to teach biology, but I felt I was not going to be a biology teacher for the rest of my life. I wanted to learn something new, based on my experiences in Africa. For a long time I hesitated between pursuing studies in comparative philosophy or in anthropology. I wrote letters of inquiry to people I knew through the literature and many of them suggested I should do anthropology. One of the places that was considered a good school was Chicago. I did not know any teacher in Chicago but I applied there and was lucky to get a grant for four years. So I decided to go there and become an anthropologist. Now, of course, I am now very happy that I chose that direction.

It was not from the start that I thought of doing my fieldwork among the Azande. I remember asking one of my teachers, John Comaroff, a

Jan-Lodewijk Grootaers is scientific collaborator at the Africa Museum in Berg en Dal (near Nijmegen) in the Netherlands. He was guest lecturer at our department in May 2000 and gave a presentation on "Healing and Prophesying among the Zande of the Central African Republic".

specialist of Southern Africa, if there had been a re-study of the Zande. He didn't know any recent literature. It was only later that I discovered that a Belgian agronomist, Pierre de Schlippe, had studied Zande agriculture in Sudan in the 1950s, and that an Austrian medical doctor and anthropologist was doing research on Zande food consumption and medicine in Congo. (His name, of course, is Armin Prinz!) That was one of the reasons why I chose the Zande in the Central African Republic (CAR), because there it was still a fairly new field. A French scholar, the late Eric de Dampierre, had studied extensively Nzakara culture and history; the Nzakara are the closely related neighbours of the Zande in CAR. Dampierre headed the Centre of Ubanguian Studies at the University of Nanterre (Paris X) – Oubangui being the name of that region before independence. I contacted him and he was extremely helpful in sharing his immense knowledge with me. I later asked him to be the external member of my doctoral committee, as he was the only one who knew the country. So that is how I ended up doing my fieldwork among the Zande.

What were your objectives?

At the beginning when I formulated my topic and wrote my research proposal, my subject was going to be agricultural practices. Precisely because there had been one extensive agronomic-sociological study among the Sudanese Zande and some work on agriculture among the Congolese Zande by Belgian scholars just before 1960. I was interested to look whether I could find in the CAR, where the history of the Zande had been slightly different, any of the systems that had been described elsewhere. As you know, the Zande and Nzakara were organised in kingdoms. And agriculture played an important political role in these kingdoms, as the kings employed young men to cultivate the large royal field. The produce thereof was used by the kings for distribution among the visitors to court and, in case of famine, among the hungry.

I also wanted to know what remained of the moral and political authority of the royal clans in Zande-land, the Vungara and the Bandia. When the first European military arrived there around 1900 – the British from the North, the Belgiums and the French from the West – there were about eight of these kingdoms. And then of course the colonial powers drew national borders which were fairly arbitrary and cut through kingdoms. Some kings had one part in the French territory and one part in the Belgian, for instance. The colonial powers also tried to get rid of the kings because they were too powerful. As soon as one of these big kings died, his kingdom was split up and instead of one important prince taking his place, the Europeans put handpicked chiefs into power. The entire authority of the Vungara and the Bandia was emptied, also because the smaller chiefs were obliged to pay allegiance to the new colonial state, to collect taxes and so on. I have the impression that today, the moral prestige of the Vungara is still very important, or has regained of its vigour, in Congo and Sudan, whereas in CAR, you find very few village chiefs who are Vungara. There may be a few more Bandia chiefs. Although the three colonial powers tried to break the power of the Zande-Nzakara kings, the kingdoms which were called "Sultanats" in the French part, survived longer than in the Belgian Congo or the Anglo-Egyptian Sudan. That is paradoxical, you had "Sultanats" for a longer time but now, you hardly find any royal chiefs with strong prestige.

Anyway, I decided to go to CAR and study agricultural history and practices. When I arrived there it was a bit disappointing, because there was very little variety among the fields, the range of crops was very much reduced. I knew of course that manioc had gained importance, like anywhere else – it is easy to grow, the yields are very high – yet I had expected more field types. The pure agricultural practice-side of Zande life lost its importance for my research but I was still interested in what the Zande thought about their agriculture and in what happened to their production. From the very beginning they told me that they had lost their motivation to do much cultivation work because everything that they produced ended up in their granaries as they were not able to sell it. Very quickly one of the focal points became this extreme isolation of the region and the sense people have of being left out of development. As a Bandia chief put it to me: "Why do people in the rest of CAR live normal lifes, whereas we in Zande-land have to live like animals?".

How did the Zande explain it?

They often refer to the "*padio*". This word comes from *padi*, which means "downstream" or "west", and *yo*, which means "over there". These *padio* are the people over there to the west, the functionaries in Bangui (the capital), the politicians, those in power, the state itself. There is a very strong sense that the *padio* are selfish, that they only think about their own well being, that they promise a lot and care little. Once in a while the government will send researchers to assess the importance of goitre, because this region has very little iodine in the food and in the water. Some time before I arrived in the field, there had been such a quick survey of goitre. The *padio* had promised to send health organisations with medication, and then, the Zande told me, they never heard from them again. They imagine how the international aid stays with the *padio*, who "eat" it themselves instead of giving it to the people who really need it. That's one thing.

Then of course the notion of a magical origin of misfortune is very present among the CAR Zande. For example, the roads are not maintained and traffic with the markets to the west is very difficult. Many Zande believe that this is due to the few Muslim traders with trucks who live among them. They have the idea that these traders, in order to protect their monopoly, bury magic in the roads so that each attempt to improve the road system fails. They have many examples of this, many "proofs". For instance, in the 1970s the son of a Protestant missionary had obtained subsidies and was going to improve a stretch of road between Zemio and Obo, in the heart of CAR Zandeland. He lived in Obo, near the Sudanese border, where he had introduced rice cultivation, and he wanted the people to be able to sell their rice not only in Obo but also in the market of Zemio. On his way back home, with the project in his pocket, his car broke down, he went underneath it to repair it, it crashed on him and he died. To the Zande, his death was certainly not natural, for he was a young man. The reason was that the road had been magically treated so that no initiative to change the situation and to make people more independent from the Muslim traders would succeed. Along the road you can see several skeletons of trucks and equipment to repair the road, from the government, which broke down and were never repaired. In the eyes of the Zande, the traders want to keep the region to themselves. They have the trucks, there they are able to buy the *Rauwolfia* bark or the wild chilli peppers, and they determine the prices.

So, from studying agriculture you came to study prophetic churches.

Yes, this was something which I thought was very dynamic and hopeful. Here was an example of people taking their fate (and faith!) in their own hands and being motivated to achieve things. In most of the larger villages you find a chapel of this prophetic church, a church which probably originated at the end of the 1930. The first archival mentioning of it I was able to find, is an entry in the logbook of the Catholic mission in Zemio. A father writes that he hears about this new religion of the Africans, who try to "ape the religion of the Whites". He wants to know more about it. Later on, also the American Evangelical Protestant missionaries wrote about it. There is a difference in approach between the Catholics and the Protestants: the latter are always much critical towards local culture. One of these missionaries, who had been among the Zande for many years, considered culture to be "the greatest barrier to Gospel penetration", whereas the Catholics are more open and usually try to take some elements from the local culture in order to adapt the message. In the 1950s, the Protestants described the Zande religion as "a master stroke of Satan", which lures people away from the real religion, theirs.

In the beginning, the new movement called itself "God of the Zande", *Mbori Azande* in the Zande language. A decade later it was rechristened *Nzapa Azande*, "God of the Zande" in the Sango language, which is the national language in CAR, a kind of lingua franca. Then still later until today, they call themselves *Mission ti Africa*, which means "Mission of Africa". Opening up their horizon, they want to present themselves as a world mission like the Catholic and Protestant ones. In reality, they are limited to the Zande of CAR. You don't find this church in Sudan or Congo.

There was one founder of this church?

Yes. The official story is that the founder is a woman, who was still alive in 1992 when I was

there: Marie Sibonguirete. She went through the classical experience of prophets which you can find all over Africa and probably in many other cultures. She underwent a crisis, almost died, and had an encounter with a supernatural being, in this case *mbori*, "God", who gave her instructions. He asked her to spread the word, *sangba mbori*, "the word of God", which she could do by singing, preaching, also by prophesying, by healing and by trying suspects (to divine if they are guilty or not). After one week, the story continues, she was dropped back on earth by God, on an iron wire; she woke up from a kind of coma and started to do what she had been instructed to. She was able to heal people and to prophesy. While in heaven, God had written a few things in her hand which she showed to the French authorities and missionaries who were not able to read it. She was put into prison, probably around 1950. A few years later, a French administrator, who was not a Christian himself and therefore more sympathetic to this syncretism, set her free. I have not found in the French archives a reference to this period so I don't know what she was officially charged of. But the story goes that a Catholic priest burned down her house. She suffered because of her calling.

The interesting thing is that when I was in the large village of Ngouyo, at a distance from the main road, I attended a film seance organised by the Protestant mission. A crew went around Zande-land by jeep, with a generator and a film projector. They showed a film, the gospel by Luke, which was dubbed in Zande. The entire village went to see the film. For most people it was the first film they ever saw. People were crying at the end when Christ was nailed to the cross, it was a very strong emotional response. Afterwards everyone commented upon the film. During the *Mission ti Africa* services in the weeks after the show, the film was analysed and people emphasised how similar the lifes of Christ and Marie Sibonguirete were: they both had disciples, they both healed the sick, they both were put to prison because the authorities did not like what they were doing. So the film provided a strong support to the Zande church, it reinforced their belief – which, of course, had not been the intention of the organisers of this tour!

That is the official history. But it may have started with another prophetess than the one who is still alive and has the title of being the founder, someone called Marie Nasungo. Near the village I just mentioned, there is a large stone called *nyenye unga*, meaning "the source of life". Marie Nasungo is said to have led rituals at this stone in order to heal infertility of women, an important problem among the Zande. I have some suspicion that Marie Nasungo may have transformed the *nyenye unga* cult by integrating elements from the world religions she found around her. It is possible that she started something which resembles today's *Mission ti Africa*. Curiously, some old people remember her as the first prophetess. But the "canonical" history today is that Marie Sibonguirete was the first one and that Marie Nasungo very early became her assistant. It would be interesting if there was this link between the syncretic movement and pre-existing indigenous cults, especially one which has to do with fertility. One of the main preoccupations of the Zande church is to address this problem and one of the important positions within this church is that of the *ukaagude*, women who "pour out children" by singing and praying in order to obtain these blessings from *mbori*.

As I mentioned yesterday, other indigenous sources for this syncretic church include two kinds of diviners, namely the *binza* (traditional healers, whom Evans-Pritchard called "witch-doctors") and the *mbe-atoro* ("owners of spirits"). The famous *binza* or shamans were mostly men and they don't longer exist among the Zande of the CAR.

They don't exist any more?

No, there are no *binza* where I did field work. People know exactly when the last one died, in 1964. Since then there have been no new ones, also because of the missionaries who were very much against them.

Were they not in the underground afterwards?

No.

So it seems that this church was taking the functions of the traditional healers because they also have the function to heal people, to do justice, to do divination.

Well, absolutely. In one of the church service I attended, an assistant, it was a woman, said that the Zande are very happy of having the prophetesses since they replace the *binza* of yesterday. She explicitly made this genealogical connection. But people always emphasise two differences: first, that the *binza* used magic (*ngwa*) and second, that they obtained payment, money, spears or gifts, for their services. The prophetesses do neither. The *binza* would move from one village to another and perform incredible feats. People remembered having seen how a *binza* would bury himself in one place and then reappear from another. So it was also very spectacular, but certainly no divine inspiration. It was different from what the prophetesses do.

It is interesting that these shamans were mainly male and the prophets are mainly female.

Absolutely. And that is one of the questions I have not been able to really answer. The gender aspect is very obvious. One of the reasons could be that at the origin of the *Mission ti Africa*, there were fertility cults run by women. The *binza* as you said were more concerned with justice, with finding witches, only accessorily with healing, whereas the emphasis of the prophetesses is on healing and fertility matters. Maybe that is in general a more female role.

Maybe it was also the thing that was needed.

Yes, it was certainly a niche that could be filled, that is true. I also think that, without intending it, the Christian missions played a role in the promotion of women. According to the missionaries, Zande women were unemancipated, they were being "bought" by men through marriage and so on. Especially for the Protestants, the notion of the individual who faces God directly and who bears personal responsibility for his or her acts, is crucial. That is why people have to learn to read, so that they themselves can read the gospel and have this personal link with God and the message. There was a lot of emphasis by the missionaries on liberating women to become good Christians. Well, I suspect that some women might have picked up on that, without necessarily taking the direction wished by the missionaries. Some women took on important roles in the new institution. These prophetesses are consulted for serious problems by men who sometimes don't belong to this prophetic church, who are Catholic or Protestant. All people believe in the genuine powers of these prophetesses. So these women are treated with respect and they play a semi-official role, as when they have to decide about the innocence or culpability of suspects, for instance. Besides, as one of the persons in the audience suggested yesterday, the Christian figure of Maria may also have had an impact on the development of this church and on the image of the woman. A lot of these prophetesses have included Marie or Maria in their name.

You spent one and a half years in Zande-land. How did your day to day life as a researcher look like?

Well. One strong memory I have is that, at times, it could be a very lonely business. Sometimes, especially during the first part, I got frustrated with the language (it is a tonal language and also has tensed and untensed vowels). I had prepared myself by going through grammars written by Belgian missionaries in the 1920s, and in the States I had been able to contact a Zande student with whom I would exchange tapes. I read something and then he corrected me and so on. But that was very different from what I encountered in the field! In the beginning, I worked with French speaking informants. But I also obliged myself to visit older people alone, people who didn't know French. One of the first things I did when I arrived in Iforou, the village where I was going to stay for more than six months, was to take pictures of every household in order to introduce myself and explain why I was there. Later on, these photographs were used as a gift and as a research tool. But then even after six months or so, I would say something and people didn't understand because of the wrong tones!

In this village of Iforou, I was kind of adopted by three brothers who were my neighbours. They lived there with their families, each one was married. They would share their meals with me, the men eating together and the women and smaller children eating together. Often I would spend my day with one of them. He would go to the field or to town, in which case I joined him on my bicycle. Or I would visit other villagers. For instance, there was this very old man,

Joseph Gumenyessi, probably 95 or so, who still remembered a lot of things. (I learned that he has died since.) He had been to Pointe Noire, he had been recruited by the French to build the railroad between Pointe Noire and Brazzaville in the 1920s and early 1930s. A lot of constructors died there, they had to work under terrible conditions. He had seen the ocean, which was a very special thing for a Zande! He also had been a circumciser. The Zande practise male circumcision. In former times a whole group of youngsters, I think the age was higher than it is now, between 12 and 14, would spend three months in the bush in a camp. And when he showed me his old circumcision knife, it was a German knife, which he had obtained from a Sudanese traveller!

It was a bit more difficult to talk to women; they are shyer and less used to talk to strangers. But it was always easy to contact women involved in the prophetic church. So I spent a lot of time walking, sitting, watching, listening, asking questions. Mostly I visited people with a free set of questions, but sometimes I also had preset questions, for instance about crops. I had prepared questionnaires in Zande which were corrected by my principal assistant-informant (and friend), Paul Guinimanguimi. I would, for instance, ask people about similarities of crops. I had a whole list of them. When the interview took, say, an hour or so, I would give a piece of soap to thank for the time and effort. Economically the region is very poor. People don't suffer from hunger because they cultivate enough, but they are hardly able to pay their taxes. Some years, there are no sanctions for those who cannot pay their taxes. Money circulation has almost stopped. People cannot buy salt or soap or cloth and things like that. I had bought a large quantity of soap in Bangui.

Did the people sometimes wonder why you were there?

Yes, indeed. Of course the only white people to go there and stay and try to learn the language, are missionaries. In the beginning they would think I was a missionary, so I had to explain that I was not, especially since I wanted to investigate freely the prophetic church. In smaller villages where they didn't know me they would call me "*mapere*", from "mon Père", "Father". I must say the people were very hospitable and also very happy that someone was interested. They readily told me stories about their difficulties and aspirations, about the past when things apparently were easier, because they knew that I was going to write about it and other people would read about them. At some point, towards the end of my stay, I asked how they felt if I used their names, for example the name of this old man, Gumenyessi. They said: "It is wonderful. That way he will live on in your writings. We will be very proud". American universities are sensitive to problems of ethics and privacy, and rightly so: don't interview children without first asking the parents, don't take pictures without the people's consentment, don't tape secretly, things like that. That is why I wanted to make sure that my Zande friends would agree to have their names on record.

I ate with the people and enjoyed all of their food. There was only one thing I really didn't like, and they made a lot of jokes about it, because it was something they delighted in: *nzeme dupo*, "fat of the hippopotamus". It is one of the best things for them. To kill a hippopotamus is a big feast, there is a lot of meat, a lot of fat, and they put this fat in every sauce. Horrible! I must also tell you that during a certain period, I would once in a while take my bicycle and travel a few villages further, where the Catholics were building a church. During the weekend there was a Brother from the mission and I was happy to talk to a European, to eat cheese, things like that. Sounds silly, but it was necessary! At my return to Belgium, after the fieldwork, I had a general checkup and didn't have any parasites, thanks to the way the Zande women had prepared the food. The thing I would watch carefully, was the drinking water. I had these little micropur tablets in my water and I would never drink during the meals of the water they drank. So they never saw me drink. In the village of Iforou, I soon got a nickname: *tagandu*. This is a lizard that sits in the sun and people never see him drink. They don't know very well where he finds his water. Because I had my water store in my little house, I was called *tagandu*!

People appreciate it when you eat their food, it is one way to show respect and share their identity. In the village of Ngouyo, they still have

some traditional practices which have been lost elsewhere, for instance hunting by fire, which is forbidden by law. The organiser of the hunt goes to a particular place in the savannah to look whether there is enough game and then he invites 15-20 men to join him. They form a large circle, the first one makes a fire and the others follow suit. The fire converges to the middle and kills the game. Or the game tries to escape and gets speared by the hunters. Now, I very much wanted to attend this hunting, since it is fairly unique, it is hardly done any longer. So I asked the village chief if the organiser could also invite me, if I could attend. He told me afterwards that there had been a discussion. Some of the participants had objected that they didn't know me well, that what they were doing was illegal, and that I might inform the authorities. The chief of Ngouyo, a fairly young man who was sympathetic to my research, had answered: "Listen, he eats our food. There is no reason why he should not attend". And that was it! Unfortunately the hunt failed. Because at some point, the fire didn't close, didn't make a circle. But fortunately, I wasn't blamed for it! They said that it was incredible, there was not even one dead rat (laughing).

Do you want to go back?

Yes, definitely. I continued to correspond with some friends in various villages, but I must confess, and it is my mistake, for the last three years I have not maintained these contacts. It has become more and more difficult to send mail. The official mail doesn't exist in this part of the country; the only way was to send it to Nairobi to the Protestant missionaries who would take it to CAR Zande-land. But the missionaries left the region a few years ago, because of political turmoil, and I don't know if they have come back since. When I came back in Belgium, I contacted a study friend who is a doctor and he prepared a package of common medicines which I was able to send through the missionaries to CAR. I divided the medicines into two parts, one for each of the villages where I spent most of my time and had come to know a lot of people. Both of them, Ifouro and Ngouyo, have a kind of medical storehouse, not even a "dispensaire", run by community health agents trained by the Protestant mission. So that's one small thing that I could do in return. But I would certainly go back, also because they expect me to do so! I told them that I would try to find a project or something like that; it is not easy to just make a trip there. You learn to know people, families …

… you have an emotional connection to them.

Exactly. But even without having actually gone back to the Zande, I am still in touch with their culture. For the last two years I have been involved in museological work, first with the collection of Zande objects in the Africa Museum in Berg en Dal in the Netherlands (near Nijmegen). This is a small yet wonderful museum, which began forty years ago as a missionary showroom. There had been quite a number of Dutch Spiritan missionaries among the Zande of the CAR, and some of them had sent objects back home. Later, the museum acquired a fair amount of Zande pieces from a Belgian art dealer. The Zande collection is quite interesting, they have some beautiful pieces. I was asked to describe this collection for a catalogue the museum is going to publish. I also did research and published on Zande art for an American museum and for a large exhibition which took place in Paris. This exhibition was devoted to harps from Central Africa, from Uganda to Gabon, but the finest items came from the Zande. The most beautiful harps from all over the world were in this show. I collaborated on the catalogue. It is a way to sustain my contact with Zande culture. That is, before returning to the Zande themselves!

Thank you for the interview!

Guestprofessors

Prof. Dr. Zohara Yaniv will be guestprofessor at our institute from March to August 2001. She will give the following lectures:

"Medicinal Plants: Science and Tradition". This course will include the history of the use of medicinal plants since ancient times with emphasis on ancient cultures; ethnobotany; biological and chemical aspects of medicinal plants. Time will be devoted to traditional uses of perfume, spice plants and plants of the bible.

The **Seminar** will be devoted to advanced issues in research of traditional uses of medicinal plants.

Lectures of Our Department

Armin Prinz: 510 038 Nutritional Anthropology (VO, 2hrs.)

Start: Wednesday 11 October 2000, 5-6.30 p.m., Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25, 1090 Vienna

Armin Prinz: 510 029 Seminar Ethnomedicine (SE, 2hrs.)

Start: Wednesday 11 October 2000, 3-4.30 p.m., Institute for the History of Medicine (student's room), Währingerstr. 25, 1090 Vienna

Ruth Kutalek: 510 040 Ethnomedical fieldwork (VO, 2hrs.)

Start: Tuesday 10 October 2000, 1.15-2.45 p.m., Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25, 1090 Vienna

Bernhard Hadolt: 510 035 Medical Anthropology (VO, 2hrs.)

Start: Tuesday 10 October 2000, 3 p.m., Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25, 1090 Vienna

Dagmar Eigner: 720 077 Shamanic Therapies (VO, 1hr)

Institute for Tibetology and Buddhism
1090 Wien, Spitalgasse 2 Hof 2

Congresses

Tradition & Transition: Report on the 9th Congress of the European Association of Psychotherapy in Dublin, Ireland.
Christine Binder-Fritz

Céad Mile Fáilte, a hundred thousand welcomes, awaited colleagues from all over Europe who attended a congress that took place in Dublin, Ireland from June 22nd – 25th, 2000 and was hosted by the Irish Council for Psychotherapy in conjunction with the European Association of Psychotherapy (EAP). The opening ceremony with welcome addresses by Ed Mc Hale, President of the EAP, Dr. Alfred Pritz from Vienna, the General Secretary of the EAP, Members of Parliament and other delegates from participating Boards was enriched by the final lively performance of traditional Irish music. All participants found a strong academic and professional program and, last but not least, the lively social events with traditional music and dances, like the Ceili and Fork Supper in the Pearse Museum, ensured that the congress was a truly memorable and enjoyable event.

On the first day one of the keynote speakers, Emmy van Deurzen from the Schiller International University in London, offered an inspired insight into the philosophical foundations and spiritual dimensions of psychotherapy, entitled "Pandora's Box". The range of topics was wide and mainly focused on psychoanalytic & philosophical roots in psychotherapy. It often was hard to make one owns decision, which one of the many presentations held in the parallel sessions, one should attend next. Insights into the present wealth of different "Schools of Psychotherapy" could be gained when representatives of Integrative and Transpersonal Psychotherapy, Family Therapy, Humanistic Therapy, or for instant Narrative Therapy discussed their issues. Colleagues from Italy, who

presented their concept of "Biotransenergetica", offered an approach to individual creativity when they looked into "The Art of Giving Oneself", whereas Martin Howald from Switzerland gave a short introduction to the Psychotherapy of Albert Pesso. A.W. Szafran from Belgium focused on Freud and the B'nai B'rith (Vienna): the modernity of perception of Jewish identity. Colleagues from the Institute of Psychotherapy in Georgia discussed some parallels between the Analytical Psychology of C.G. Jung and the Heidelberg's Phenomenological-Anthropological School. Hamid Peseschkian from the Wiesbaden Academy for Psychotherapy had a vivid presentation on the links between psychotherapy and religion and compared their interrelation with the "two wings of one bird". With this approach and using metaphors like this, he has been following the scientific footsteps of his father, Nossrat Peseschkian, who founded the Positive Family Therapy. A therapy that is strongly rooted in his personal life history and traditional upbringing in Iran. Metaphors and story telling not only have been a part of daily-life communication and oral history, but also have always provided a traditional and culture-based approach to help individuals and families to manage critical moments in life. Dr. Peseschkian's published books are an excellent source of encouragement in the field of Transcultural Psychotherapy.

Other issues of actual significance were the topics of the sessions Psychotherapy and Human Rights, Psychotherapy and Xenophobia, and War & Civil Conflict. Long term therapy with victims of violence or therapy of traumatic symptoms by transforming traumatic patterns are by no means of great social and political significance for the present European nations. Another session dealt with Culture and Colonization, were I had my presentation on Maori mental health problems and integrative therapies (abstract below). Regarding New Zealand's colonial past and the "clash of cultures" there, I discussed some links between the indigenous Maori's experience of oppression by the dominant British conqueror and some present psychic problems.

I suppose at the end of the conference I was not the only participant who felt that crossing the sea from mainland Europe to Ireland brings one to a place where traditions and transitions were and forever are present in the beautiful landscape, in poetry, music, art and stories. But national conflict and the experience of oppression and trauma are – similar to many other countries - the dark side of the Irish history and culture.

So I would like to close this report in summarizing Johan Galtung's keynote speech on "Nation, Conflict and Construction of Reality" that indeed was very impressing and a real masterpiece of rhetoric skills. Johan Galtung is Professor of Peace Studies and founder of the "Transcend Method" with the aim to transform conflicts by peaceful approaches. He states that nations like other groups across the fault-lines in the human construction such as gender, generation, race, class and state, are partly steered by their collective subconscious, which he defines as "deep culture". This plays a mayor role in conflict, defining to a large extent whether an adversarial course to prevail over the other, withdrawal from the conflict, a negotiated compromise or transcendence through dialogue will be the outcome. In his excellent presentation Johan Galtung covered the deep conflict cultures of the USA, Iraq and Serbia and the West in general. He even invited the audience to offer some hypotheses about elements in English and Irish deep culture for a perspective on diagnosis, prognosis and therapy for Northern Ireland.

Abstract: Maori Mental Health Problems and Traditional Therapies in New Zealand.
Christine Binder-Fritz

Maori mental health status has become one of the major health focuses now. According to the report of the Public Health Commission 1995, mental health statistics show an alarming increase in admissions to psychiatric hospitals since 1976. Especially high levels of schizophrenia, affective psychosis and the pattern of re-admission to psychiatric clinics are a matter of concern. A high percentage of these psychic problems arise in connection with drug and alcohol abuse and addiction.

Without doubt there is a variety and complexity of factors that influence the health status of the Maori population. But Maori health problems can definitely not be discussed without the historical perspectives and the "clash of cultures" between the tribal society and the Western world. Mental health problems can not be seen apart from the social and cultural changes, the displacement of religious beliefs and loss of cultural values and the experience of oppression that went alongside the process of colonization during the last 150 years. The average Maori population still belongs to low social income groups and there are links between unemployment and low income, substance dependence and low self-esteem. "Our psychiatric units are full of young Maori people. They do not know who they are and where they do belong to", that's how one of my informants put it in an interview during my previous field research in New Zealand which was conducted over a period of 10 months between 1996 and 1997.

Maori have different perceptions in regard to health and illness. There are various differences between Maori healing and the Western bio-medical health system. Firstly, Maori have a holistic approach to health and healing. Physical, psychical, social and spiritual dimensions of life can not be seen separated from each other. Secondly, the assumptions of cause and effect of illness are based on a strong pre-European cultural concept, a concept with social and religious relevance which is commonly known as the unwritten "*system of mana and tapu*" widely known in the Pacific Region.

There is still the strong belief that a balance in life is important for good health, wellness and well being. Stable social relationships within the extended family (*whanau*), the local Maori group (*hapu*) and their tribal group (*iwi*) are considered to help maintain good health. Interpersonal problems, tensions within the family or within the relationship of the members of *hapu* or *iwi* therefore may lead to health problems. Therefore health demands an integrated approach to cultural, social and economic development. The attempt to promote health for Maori people and at the same time to deny their cultural background would be contradictory. Against this background new initiatives in health care and teaching programs on cultural values and tribal history have been developed by Maori for Maori. Integrative and Group Therapy for substance abusers has been offered, for instance, in some psychiatric units. To strengthen social ties with the Maori community, such as to take part in social activities, like sport competitions and cultural performances, often held at the traditional meeting place, the *marae* on one hand, and empowerment strategies on the other hand are the main stakes of these health initiatives.

Maori concepts, even though they can not be rationalized in medical terms, are gradually introduced into New Zealand's Primary Health Care. Maori views on health, though not always understood by western medical staff, are taken on board. Such an approach of "cultural-awareness" also recognizes that to address mental health issues successfully behavioral aspects and cultural practices of an ethnic minority group must also be addressed.

Report on the 25 th International Congress on Law and Mental Health in Siena, Italy
Christine Binder-Fritz

This year's anniversary congress of the International Academy of Law and Mental Health (IALMH) founded in Montreal Quebec, Canada, was held in Siena, Italy, from July 10th – 14th, 2000 and had over 450 speakers. The meeting was a significant achievement and milestone for the Academy. This year more than ninety sessions were hosted by the Academy in English, French and Italian, on a wide range of topics addressing psychiatry, the law, and the new millennium. The IALMH is founded on the belief that the issues arising from the interaction of law and mental health can best be addressed through multidisciplinary and cross-national approaches, drawing on law, the health professions, the social sciences and the humanities. Without doubt the meeting highlighted the intellectual, spiritual and cultural richness reflected in discourse on law and mental health.

The conference was hosted by the Chair/President and Co-Chairs/Co-Presidents of the IALMH, David N. Weisstub (University of Montreal), George B. Palermo (Medical College of Wisconsin), Paolo Tranchina and Giovanni Traverso (University of Siena). The International Scientific Committee is formed by members like Michele Cammers Goodwin (University of Wisconsin/Madison), Leonard V. Kaplan (University of Wisconsin/Madison), Gilbert Sharpe (Mc Master University), David Thomasma (Loyola University of Chicago), Hjalmar van Marle (University of Nijmegen), Thomas Wenzel (University of Vienna), just to name some of them.

To give the readers at least a glimpse of the wide range of topics that were discussed in the parallel sessions I just would like to mention a few of them: Global perspectives on international human rights, mental health, law, natural law and ethics for the new millennium being the main focus of interest; the topics of the sessions ranged from the doctor-patient-relationship, international perspectives on forensic psychiatry, quality improvement in mental health, substance abusers in mental health and welfare law, domestic violence, the current challenges regarding the rights of children, disadvantaged groups and discrimination of ethnic minorities, law and mental health issues in regard to ethnic minorities, psychosocial trauma and human rights or cultural perspectives on homicide. Historical, transcultural and social aspects of torture and prosecution were presented by Thomas Wenzel, from the "Transcultural Outpatient Department" of the General Hospital in Vienna. Looking back to European history and the "Dark Side of Medicine and Healing» he also drew attention to the perversion of medicine when so-called "torture-physicians" supervised state torture. The question of health care resource allocation is of significance too. The real complexity of health and aging also was revealed in sessions dealing with "The Aging Society" and the unjust discrimination of the Elderly. Having in mind that the necessity of costs reduction in the health sector is part of the contemporary discussions in the context of policy making of Western health departments, many speakers stated that fairness or equity in medical treatment has to be guaranteed for all members of the society.

In regard to our Department of Ethnomedicine I was very much attracted by the session "Construction & Deconstruction of Alternative Healing" including presentations such as "Wounded Healers: The Hidden Trauma" by Aleen Grabow, Mental Health Resources, Wisconsin, or "Critical Moments: Creating a Diversity Leadership Learning Community" by Diane Gillespie, University of Washington. Due to my current research project on transcultural aspects of women's health care I very much appreciated sessions like: "African American Women and American Health Care" or "Healing among Women of the Black Atlantic" or "Women and Mental Illness". In the session "Globalization and Post Modernism, Ethnography, Economics and Culture" issues such as sexual assaults against women, mental health of indigenous peoples or universal classification in Psychiatry and the challenge of Ethnopsychiatry, were discussed.

Last but not least I was quite surprised but very pleased of having the chance to meet two delegates from New Zealand participating the congress. Alexander Simpson, from the University of Auckland, presented a national study on "Point Prevalence and Acute Treatment Needs of Serious Mental Illness Amongst New Zealand Prisoners. His wife Lorna Dyall, also University of Auckland, discussed the issue of gambling among Maori and identified this phenomenon to be increasingly a "Globalization Problem". Her interesting contribution came from a real "emic" approach, as her ethnic roots belong to the indigenous Maori of New Zealand.

A Pre-Congress was held from July 10th – 11th at the splendid and beautifully renovated Certosa of Pontignano, a medieval monastery outside of the city center and I felt very honored that I was invited to speak there from a Medical Anthropologist's point of view on the issue of "Women & Health" (abstract below). Drawing the attention to transcultural aspects of women's mental health issues and specific health care services for ethnic minority groups in Western societies, the audience agreed with my emphasis on the necessity to develop curricula to improve "cultural awareness" for health professionals and at the same time to promote anti-racism education in the health sector.

Abstract: Transcultural Aspects of Women's Health Care
Christine Binder-Fritz

Western health services, being essentially monocultural, often fail to respond to the need of minority women in multi-ethnic societies. With this in mind, there are two major aspects to be discussed. First, in regard to sexual and reproductive health issues; and second, with regard to specific mental health problems that are often linked to rapid social change and acculturation stress. Sexual and Reproductive health issues are of particular concern for health care providers since social and cultural barriers often hinder the acceptance of gynecological examinations, pre-natal classes, and cervical- or breast cancer screening programs. Religious rules and culture linked behavior codes may also impede access to public health services, where cultural sensitivity is quite often ignored and the factor of ethnicity seldom considered.

This discussion will include some aspects of a current ethnographic field research in New Zealand, which could serve as a framework for ideas. Based on their participation in health policy making, the minority there has started new initiatives to integrate traditional Maori healing as complementary services in community based health centers.

Due to the growing number of female immigrants and refugees from non-Western societies, specific services for ethnic minority women have to be developed in Western European countries. It has to be recognized that to address reproductive and mental health issues successfully behavioral and cultural practices, including traditional therapies and illness concepts must be taken into consideration.

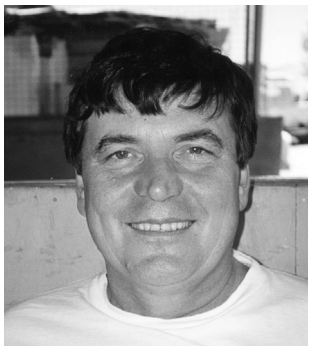
Food Security of Urban and Peri-Urban Systems in Developing Countries from November 15-18 2000 in Vienna, Austria. The conference will discuss the results of scientific and technological research on food security of urban and peri-urban systems in developing countries, defining the state of the art, existing gaps and constraints, as well as future strategies for scientific research and development.
University of Agriculture Sciences, Institute for Soil Research, Conference Secretariat, Gregor Mendel Strasse 33, A-1180 Vienna, Austria.
Tel.: ++43-1/476 54-3103, Fax: ++43-1/478 91 10
e-mail: foodsec@edv1.boku.ac.at
Please visit the congress webpage: www.boku.ac.at/foodsec

Psychiatrische Erkrankungen bei Frauen (Psychiatric Disorders among Women) from November 16 –18 2000 in Bonn, Germany
Info: Prof. Dr. Anke Rohde
Gynäkologische Psychosomatik
Sigmund-Freud-Straße 25
Fax: 0228/287-4738

IX Panarab Congress of Psychiatry - Women and Mental Health organised by the Tunisian Society of Psychiatry and the Federation of Arab Psychiatrists in collaboration with the World Psychiatric in Gammarth-Tunis, Tunisia from May 31 – June 2, 2001
For further information contact Dr. S. Douki, Hopital Razi 2010 La Manouba Tunisie, Tel.: (216-1) 600 154, Fax: (216-1) 750 103, e-mail saida.douki@gnet.tn, www.psy-tunisia.com

Contributing Authors

Nina Etkin, Ph.D., professor at the Department of Anthropology, University of Hawaii, spezialized on ethnobotany, research in East-Africa



Armin Prinz, M.D., Ph.D. (social anthropology), head of the Department of Ethnomedicine (University of Vienna), since 1972 research among the Azande in Zaire

Zohara Yaniv, Ph.D. (plant biochemistry) professor at the Department of Genetic Resources and Seed Research, Volcani Center, Israel; research topics: medicinal and spice plants

Photograph last page

Christmas 1988 among the Azande in Doruma, Northeast Zaire (now R.D. Congo). The Azande girl *Mbolifulani* (lit. God has given her to us) is standing wide eyed in front of the white infant Jesus. It is still usual in Catholic churches in Africa to use white statues in Christmas cribs. With this photograph, which we call symbolically „White“ Christmas, we would like to wish our friends a Merry Christmas 2000.

Photograph: Armin Prinz

„White“ Christmas

A-1090 WIEN · WÄHRINGERSTRASSE 25 · AUSTRIA · TEL ++43(0)1/427763412 · FAX ++43(0)1/42779634