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Sonia, traditional healer from the Dominican Republic

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unit ethnomedicine and international health

Frontispiece

Sonia is a traditional healer from the Dominican Republic who intervenes in the faith of her clients with the help of Saint Michael and other spiritual beings. The photograph shows her being possessed by the spirit of Saint Michael, wearing the ritual clothes that represent the spirit. Keeping Saint Michael "in her head" helps her to give advice to her client, letting Saint Michael speak and act through her mouth and body.

(photograph: Yvonne Schaffler, see article this issue)

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Ethical Implications of the Human Resource Crisis in Health Care in Africa – A Research in the Framework of the HURAPRIM EU-Project (FP7-Africa-2010)

Elena Jirovsky, Ruth Kutalek, Kathryn Hoffmann, Manfred Maier, and the HURAPRIM Team[1]

Abstract

The problematic situation in African primary health care already has long been known. One particular problem in many countries is that there are not enough health workers to provide sufficient health care for the population. From 2011 – 2015 the Department of General Practice and Family Medicine and the Unit Ethnomedicine and International Health, Medical University of Vienna, cooperate in an EU-project with European and African partner universities in the development of strategies to address this human resource crisis in health care in Africa. The particular focus of the research are thereby the ethical aspects and issues arising in the context of the missing personnel, recruitment practices and the implementations projected in the HURAPRIM (Human Resources for Primary Health Care in Africa) project.

Introduction

In recent years, many reports have documented the important deficit in human resources in health care in Africa. The causes of this deficit are multiple and relate to a combination of several issues like underproduction, internal mal-distribution and inappropriate task allocation, bad working conditions and brain drain to Europe, to other African countries as well as Arab countries and North America etc., only to mention some.
The major objectives of the HURAPRIM project are to analyze the current situation of human resources in health care in Africa, to understand the complexity of the causes for the actual shortages in primary health care and to test interventions, strategies and policies that may improve the situation. In the project three European partner organizations, the Medical University of Vienna, Oxford University and University of Ghent, and five African partner organizations, Mbarara University, Ahfad University for Women, University of Botswana, Université de Bamako and AIDEMET (Association d'aide au développement de la médicine traditionnelle), are committedly cooperating and combining their expertise.

An interdisciplinary research team is analyzing the current situation by applying qualitative and quantitative methods in a participatory research design and through confidential inquiries. Thereby the focus lies on primary health care as the most accessible and holistic level of health care and all types of health workers involved therein (doctors, nurses, clinical officers/associates, community health workers, traditional health practitioners).
On base of this research, subsequently a range of interventions to respond to the broad diversity of situations in the African countries will be designed, implemented and later evaluated. There cannot be a "one size fits all" approach as the respective problems are too complex, but a toolkit of interventions which could be selectively adapted and applied can be developed.

In order to achieve these goals, the project assesses the scope of the deficit in human resources in the African partner countries. For a variety of primary health care workers the process of recruitment as well as undergraduate and postgraduate training, professional retention and unemployment is analyzed. Notably the frame of reference for the analysis will look at relevance, equity, quality, efficiency, acceptability, sustainability, participation and feasibility. Acceptance by policy makers, in close cooperation with stakeholders and of the local communities will be a main focus. The interventions are projected to target different aspects at the micro-, meso and macro-level. There will be programs focusing on capacity building, recruitment and retention as well as others which focus on task differentiation or cooperation with informal

[1] www.huraprim.ugent.be

sector and traditional healers. In order to facilitate an actual participation they will all be designed with involvement of all stakeholders, political authorities, NGOs and especially the local population.

A Brief Overview on the Human Resource Crisis

The issue of human resources for health came into the international scene, when people recognized that, after the formulation of the Millennium Development Goals, some health related goals would not be achievable due to the lack of the human resources for health, especially in Africa. The World Health Report 2006 "Working together for health" has documented that there is a worldwide shortfall of 4.3 million health care workers, 1.8 million of which is in Africa. The health workforce is the heart of each and every health system, ensuring advances in health. There is ample evidence that the number and quality of healthcare workers are positively associated with immunization coverage, outreach of primary care, and infant, child and maternal survival. The exodus of skilled professionals places Africa at the epicentre of the Global Health Workforce crisis.

The human resources crisis has the potential to deepen in the coming years. A demand for service providers escalates in all countries. Technological advances will require a more specialised workforce. Without massively increasing training of health workers in wealthy countries, the growing gaps will exert even greater pressure on their outflow from poorer regions. Many of the African countries are still struggling with infectious diseases complicated by the HIV/AIDS epidemic. These together with the rapid emergence of non-communicable chronic diseases will exacerbate the human resources for health crisis in developing countries.

In many African countries there are only limited investments in health workforce education, thus leading to inadequate supply of young graduates. Expanding labour markets have intensified professional concentration in urban areas and accelerated international migration from the poorest to the wealthiest countries. Training-programs are often not fit for purpose, as they fail to be orientated towards the health needs of the local communities. Medical faculties and institutes for higher education have difficulties to scaling up their capacity. An example is the fact that, although many efforts are made, actually, there are less than 500 physicians in training for family medicine/primary health care in the whole of Sub-Saharan Africa.

An International Problem: Brain Drain

Workers in health systems around the world are experiencing increasing stress and insecurity. Demographical and epidemiological transitions drive changes in population-based health threats to which the workforce must respond. Both internal (within the country) brain-drain e.g. from general primary health care practices towards vertical disease oriented programs (focusing e.g. on HIV/AIDS, malaria, tuberculosis and sponsored by external donors) and external brain-drain (in Africa from Central Africa to e.g. South-Africa, intercontinental from Africa towards UK, Australia, USA, Canada) affect the availability of human resources in Africa, especially at the level of primary health care.

Apart from problems with recruitment and retention, the brain drain has severely affected the availability of health workers, especially in African countries. In part, this migration of work is caused by the freely made choices of people living in the developing world, and few would blame them for trying to find a better life for themselves and their families. But, a major cause of the so-called health care brain drain results from the behaviour of western governments which systematically poach health care professionals from the developing countries: the health care brain drain has added insult to injury.

Today 25% of doctors and 5% of nurses trained in Africa are working in wealthy countries of the Organisation for Economic Cooperation and Development (OECD). One out of six to one out of five physicians of Sub-Saharan Africa practise in the United States, United Kingdom, Canada and Australia. There are two main factors that explain the international brain drain: the "push" factors are internal factors that put pressure on those who can leave the country to

do so. These include lack of basic services, poor working conditions, high unemployment, bad housing, low wages, low career prospects, violence in the work place and the threat of political instability and war. The "pull" factors, meanwhile, are those factors that make the "recipient" countries seem attractive. These include good services, low unemployment, better remuneration, good career prospects, better working conditions and more job satisfaction (https://www.oecd.org/dataoecd/20/61/2717683.pdf).

The Ethical Implications of the Human Resource Crisis in Health Care in Africa

The main task of the research team of the Unit Ethnomedicine and International Health is the assessment of the ethical consequences of the human resource crisis in health care for the needs of patients, caregivers and health care workers, in relation to the overall project. Particularly the integration of ethical dimensions in the final recommendations and the formulation of ethical responsibilities of receiving Western countries in relation to brain drain are hereby the major endeavors. The research includes a reflection on socio-cultural, economic, political and historic influences on the principles for allocating available resources in order to address the ethical consequences of the human resources crisis in health care and to propose approaches for improving current conditions. The issues for human resources for health and brain drain in Africa have important ethical dimensions at the micro-, meso-, as well as the macro-level. When exploring the HRH-problem it becomes evident that a continuous ethical reflection is needed.

The research regarding ethical issues first of all is an interactive process. Over the time during the research process of the overall project, a precise design of the different tasks will be developed. However, the projected outcome is an ethical frame of reference for the formulation of the final project recommendations. A broad communication strategy will be developed in order to increase the awareness of the consequences of the brain-drain for Africa and to strengthen the awareness on the need for health systems to train sufficient health care workers locally in Western countries (USA, Europe, Australia, Canada…).

As already mentioned, brain drain and the shortage of human resources can be a consequence of limited resources (e.g. by the incapacity of the local government to employ trained health workers), but may also aggravate the existing limited resources – usually mainly financial – in health care. This shortage corresponds to and promotes a process of rationing in health care which has serious consequences at both the individual level for patients and health care workers and at the societal level. Furthermore, it has an impact on health equity and the social, economic, and political development of a region or country.

Ethically relevant consequences for patients relate to their needs such as their expectation of safety and high quality in the provision of health care, availability and easy access to health care, equity in health care with regard to gender, age, ethnicity as well as political and religious background, socio-economic status or with regard to data security. Medical doctors and all health professionals – for executing their professional values and duties – expect recognition of their profession and their work, adequate reimbursement for their service, regular opportunities to update their medical knowledge and specific training, opportunities to develop a professional career, the provision of basic requirements to live a decent life with their families, etc.

At the societal level issues which influence the allocation of available resources or which lead to a mal-distribution of available resources in health care include competing interests from other political areas such as the economy, education policy or the military. Therefore, systematic and fair allocation of resources needs defined principles based on societal values. Furthermore, it is of relevance how they are developed and who has been involved in their development. In addition, cultural or historical aspects may be of influence. Other issues of relevance at the societal level include affordability of health care services and of respective infrastructures, development of a strategy for setting priorities for health care in the respective country and the distribution of responsibilities.

In order to include all the different voices of stakeholders concerned, a participatory research with all African and European partners will be carried out, using quantitative and qualitative methods to identify specific influences on the principles for allocation of resources. In a survey among all stakeholders, socio-cultural, historical (colonial time) or cultural aspects which may influence these principles will be assessed. Thus, the research on ethical issues conducted under the leadership of the Medical University of Vienna will provide an overview on the current situation in Africa and will be a base for strategies for the fair allocation of available resources in the future.

Brain Drain from Africa to Austria?

In the framework of the overall HURAPRIM project, the Unit Ethnomedicine and International Health also conducts a survey among migrant health workers from Africa in Austria. Doctors and nurses who have migrated from African countries (North Africa and Sub-Saharan Africa) are interviewed to find out their reasons for migration (push and pull factors) and possible motivations to return to their country to work in the health sector. The study aims to explore the personal experience and reasons for migration of healthcare workers (doctors/ nurses/ midwives) trained in African countries. In course of that it is identified what changes African trained healthcare workers feel are needed in the primary care system in their home country to improve retention, explored what future migration plans emigrated African healthcare workers living in Austria have as well as the continued links with their country of training.

The situation particularly of African migrant health workers in Austria has never been researched until now. In context of the international health care crisis, the lack of health workers in primary care especially in Africa as well as the issues of brain drain and brain gain, a survey on the Austrian situation is called for; thus to be able to reflect on the Austrian role in international health policies.

Questionnaires and surveys among health workers in Africa have been frequently used to explore reasons for migration. However, many studies have focused on the intention to migrate, rather than reasons for actual migration, and subsequently only very few have included African healthcare workers who are living abroad. Furthermore, few qualitative studies have explored the future plans of already emigrated healthcare workers, what healthcare workers think should be changed in the health systems in their home country to attract greater retention and the ongoing links of emigrated healthcare professionals with their country of training.

The migration decision is known to be complex, involving personal and public factors, and push and pull factors including: remuneration, working environment, professional development, culture, and society. Remuneration is important, particularly when salary is insufficient to support cost of living. Other factors such as not being paid on time, or at all, contribute to worker dissatisfaction, as does lack of incremental salary scales. Posts are underfilled, although nurses in one study were unable to find jobs in the public sector. Many express frustration, upset and dissatisfaction when they are unable to provide a quality service to their patients due to poor resources and overwhelming workload, and give distressing accounts of watching patients suffer, unable to provide treatment due to lack of resources. Inter-professional relationships contribute to intention to migrate, with inadequate supervision, unsupportive senior colleagues, poor recognition by managers, and a lack of career structure. Many healthcare workers travel abroad for extra training, qualifications and experience. Many want to escape from a system of unfair allocation of training by seniors, poor relevance of courses to clinical setting, and lack of structure to continued professional development and career progression. In addition, many health workers feel an expectation to migrate as a marker of success. Provision for the family is frequently reported as an influencing factor. Future plans of emigrated healthcare professionals are important to policy. If emigrated healthcare workers intend to return to their country of training in the future, it may be that migration is beneficial overall (though international statistics do not support return to country of training by the majority). There may be obstacles to an individual returning to country of training, perhaps attributable to

the recipient country, and these would be valuable to identify.

Conclusion

The improvement of the situation of primary health care is not an easy task and easily appears like a forlorn undertaking. The HURAPRIM project however has a strategy particularly focusing on the human resources in health care and on feasible interventions. The education, working conditions and prospects of health workers have to be improved to allow an amelioration of the situation in primary health care in Africa. The Medical University of Vienna thereby plays an important role by considering the ethical dimensions of these issues, raising awareness and develop an ethically way to deal with this ample international issue of health and health care.

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Spirit Possession: Modes and Function

Yvonne Schaffler

In October 2011 I started the project "Spirit Possession: Modes and Function", a Hertha-Firnberg Grant funded by the Austrian Science Fund (FWF) (T525-G17). The project will last three years and will involve two periods of field research, each with a duration of four months. The last ten months of the project are to be spent in Heidelberg under the supervision of William Sax, an ethnologist specialised in ritual healing practice and possession rituals (see VEN Vol. 13, 2-3).

Introduction

The research project focuses on practitioners of ritual possession in the South West Dominican Republic, that is, the detailed structure (image, sound and language, especially taking into account interaction) of possession, the inner feelings of the actors during possession and the functionality of possession. In this vein the project aims at a micro analytic study of interactions related to spirit possession. Conclusions regarding possible functions of spirit possession shall be drawn through typing as well as comparing and contrasting cases and are to be evaluated quantitatively by the means of a subsequent standardized questionnaire survey.

Based on material collected during preceding research periods the project springs from the following hypotheses: Depending on the practitioner's level of experience and his/her rank there are relevant differences concerning the performance and the inner experience of possession. Intensity, duration and script of possession are greatly influenced by the expectation and resonance of ritual partakers and assistants. Music, dance, touch, scents and bell tolling act upon the possessed person in a stimulating or calming way. In the course of a month- to year-long process of ritual initiation the primarily uncontrolled and unspecific possession behaviour is socialized and moulded into the concepts and needs of the community. This training of cultural content is mainly carried out bodily and only in the second place through language and cognition. Since pilot studies suggest that conduct changes during possession and thus may contain different states of performative expression, empathic care or organisational tasks, the term "trance", usually applied to describe states of possession, is not exact enough. Interpreting possession as epileptic strokes or psychoses as proposed in part of the older research findings meets the phenomenon even less as it ignores, on the one hand, the embodied cultural knowledge possession is based upon, and on the other hand, its functionality concerning the satisfaction of psychosocial needs.

The methodological approach is based on the Grounded Theory according to Glaser and Strauss (2005). Based on data (video recordings and problem centred interviews) collected during a field stay at the beginning of the project and on the concepts and hypotheses emerging from them, the first project stage focuses on building up a theory inductively. During a later phase further qualitative as well as quantitative field research emphasizes on the actual individual practice. Whereas the qualitative assessment is to be carried out by means of narrative interviews, the quantitative investigation consists of standardized questionnaires based on refined hypotheses resulting from the outset research period and presented to the actors

immediately before and after experiencing possession. In order to crosscheck the hypotheses, behaviour will also be encoded in the video recordings.

Ethnographic Context

Dominicans who keep close contact with the misterios (spirits, literally: mysteries) call themselves caballos (horses) or servidores (servants). Many experienced caballos run their own altars and offer services including counselling sessions usually carried out in a state of "spirit possession". According to the emic perspective this state of mind transforms the possessed into "horses" ridden by the misterios who take over their bodies. From the moment of possession onwards it is not the human any more who acts and talks, but the spiritual being. (Therapeutic) instruction and advice given this way is deemed to be of great importance and in order to carry out what was recommended it is again the caballos who assist their customers by setting up offerings, manipulating ritual objects on an altar, organizing pilgrimages and ritual celebrations. During these activities the caballos – even without being possessed – contact the misterio spirits and try to influence positively in the fate of their clients.

Fig. 1: A caballo or "servant of the 21 divisions" lights a candle on her abundant altar.

Context of the Brujería Practice

The general term for the mentioned creole practices applied by its practitioners is brujería – "witchcraft" – or, more recently, las 21 divisiones, referring to the numerous spirits involved. However, in a country which defines itself as a modern isle with European roots this is of little interest to the public sector. Especially its structural closeness to the "satanic practice" of Haitian vodou every now and then leads to animosities towards the practitioners of brujería. Unsurprisingly it is mostly the members of the privileged classes whose "rational vision of the world" or Christian faith collides with the magical practices of brujería. Even the practitioners themselves sometimes suffer from a clash of faith and due to the pressure of the numerous Pentecostal churches often convert to Christianity. Yet, symptoms of illness frequently arising after the conversion tend to be considered as a punishment by the misterios and lead to a remorseful, advice- and help-seeking return to the community of the caballos.

Transcendental Actors

Although the basic characteristics of the misterios may be compared with the spirits (lwas) of the Haitian vodou, they contain more European and less African features than the latter. However, just like the lwas most of the misterios are represented by Catholic Saints. As soon as a saint manifests himself through possession he is addressed by his second name, i.e. San Miguel by Belié Belcán or Santa Ana by Anaísa. Spirits of the already died-out Dominican indigenous peoples, national and international heroes of the historic past as well as deceased relatives make up for another part of the invisible world. In spite of their different origins all misterios are invoked by rhythmic drumming, tolling of small bells, aromatic scents, prayers and offerings.

Initiation and Spiritual Power

The amount of a caballo's spiritual power (fuerza) is essential to working with the spirits. If a person lacks power his/her "reason" (cerebro) is not ready (preparado) for being possessed which leads to unwanted and "wild" possessions where the "horse" is transformed into a caballo lobo (wolf horse) (Schaffler 2009). A wolf horse suffers from motor deficiencies, breaks down and tosses to and fro, loses conscience, is panic-stricken, or shows other socially "non-acceptable behaviour". In order to control such behaviour an initiation is recommended to the affected person. An initiation process may last for a few years and aims at "taming" the misterios and strengthening the spiritual power of the

affected human insofar that he/she is able to "bear" them. While the movements of a caballo lobo only rudimentarily follow a (ritual) script and the person at most screams or moans, but is not able to speak, a fully trained spirit horse disposes of a wide range of nuanced gestural, mimic and linguistic means of expression. The first misterio which possesses someone is intrinsically connected to this person and considered to be his/her "misterio of the head"; a nexus which may only be dissolved after a ritually agreed space of time. Usually after some time other misterios whose impersonation the novice also trains are added.

Fig. 2 Rose petals and perfumed liquids shall guarantee a healthy and prosper life to the participants of this ritual, which is part of a larger initiation ceremony.

The socialization of possession (in the sense that possession behaviour becomes socially accepted) is based on mimetic processes on the one hand and tuition by experienced practitioners on the other. This tuition consists of conversations and the reiterated practice of rituals and aim at strengthening the spiritual power of the future caballo and provoke further possessions.

In order to reassure the support of the misterios even experienced caballos need to brush up their spiritual power from time to time by going on pilgrimages, visiting churches and, above all, organizing abundant celebrations where the spirits are invited to take over the bodies of their followers. The core element of these celebrations in honour of the misterios is the state of possession often corresponding to the rhythmical drum music (salve, palo) and induced voluntarily and involuntarily not only by its organizers, but also by initiated and non-initiated guests. While the music intensifies the misterio frequently "rises" together with the music. However, music is not an indispensable prerequisite for inducing possession. On the contrary, the main tool for triggering this state of mind seems to be a small bell rung intensively by the ritual assistants as soon as the first signs of possessions are shown.

Fig. 3 A caballo ridden by Santa Marta has received a cigar and dark beer, which are typical offerings to this demanding female spirit.

Geographic Field of Research

Geographically the field of research is located in the South West of the Dominican Republic and, more specifically, in the small town of San Cristóbal and its suburbs. San Cristobal's population amounts to approximately 140.000 inhabitants and, as well as the whole South Western region, accounts for a high percentage of habitants practising brujería.

Scientific Terms and Categories Relevant to the Project

Most of the essential readings about possession were written in the 1960ies and 70ies, led by

Bourguignon's research about the isle of Hispañola. Due to the multidisciplinary interest in the subject, i.e. social anthropology (compare the numerous ethnographic studies mentioned below), psychology (Van Der Walde 1968; Azaunce 1995; Bogaert 2000; Klass 2003), (neuro-)psychiatry (Zaglul 1980; Winkelman 1986; Redko 2003), theatre and media studies (Balme 1999; Goldingay 2010), linguistics (Irvine 1982), gender studies (Schröter 1997), music (Rouget 1985), religion/theology and interdisciplinary areas like ritual and cognitive science, there is a lot of publications tackling the subject from different perspectives (Bourguignon 1973; Crapanzano and Garrison 1977; Schmidt and Huskinson 2010).
As states of possession appear in different locations and contexts a great number of ethnographic studies is deemed to be necessary. In reference to the Afro-American region and apart from the Haitian vodou (Métraux 1998 [1958]; Deren 1953; Bourguignon 1973, 1976; Sommerfeld 1994) and the Dominican brujería (Davis 1987) at least the religious systems of umbanda (Figge 1973; Pressel 1973, 1987), candomblé (Bastide 1958; Leacock and Leacock 1972; Becker 1995; Scharf da Silva 2004), santería (Palmié 1991; Barnet 2001), espiritismo (Pollak-Eltz 1994: 153ff.), marialionza (Pollak-Eltz 1994: 157f., 1996) and kardecismo (Pollak-Eltz 1994: 153ff.; Scharf da Silva 2004), to list only the most important ones, have to be mentioned.

Spirit Possession and "Trance"

As Bourguignon (1973: 4f.) points out the terms "trance" and "possession trance" are "used widely, inconsistently, and often interchangeably." However, there is little consent among social scientists as to what constitutes a state of trance and how this term should exactly be applied. Following Rouget (1985: 4ff.) another term mentioned synonymously to "trance" is "ecstasy". Some psychologically grounded definitions of trance define it as "a class of ego mechanisms designed to allow for the discharge of basic drives in a goal-oriented manner" (Van der Walde 1968: 57f.), whereas (neuro-)biological definitions regard trance as significantly different from normal states of experience (Ludwig 1968; Prince 1968; Winkelman 1986).

Modes of Spirit Possession

As the research project aims at providing a detailed study of the structure of possession, it seems necessary to denominate its phases. Taking into account the existence of different modes of possession, Rouget (1985: 38ff.) proposes a useful distinction between "pre-possession crisis" or "non ritualized possession crisis" and "wild possessions". While the first two terms synonymously refer to spontaneous possessions occurring in everyday life outside ritual context and affecting non-initiates, the latter one is related to possessions observable during initiation processes belonging to rituals. Rouget also draws especial attention to the general beginning of possessions. Terms like "ritual crisis", "crisis" or "fit" make allusion to the "very temporary, often painful and more or less convulsive state marking the transition from a normal to a trance state (...)" (1985: 44).

Possession ("Trance") and Control

Many authors base their categorisations on the distinction between voluntary and involuntary states of trance, respectively possession. Lewis (2003 [1971]: 48) distinguishes between shamanic trance and possession trance. While a shaman is able to control his spirits and thus can enter and leave possession according to his will, a possession priest is subdued to the spirit who takes him over. Similarly Rouget (1985: 23) differentiates between voluntary shamanic trance and involuntary possession trance. Talking about the Haitian vodou Bourguignon suggests that trance is marked by the fact that the person seeks contact with the spirit. The person then remembers this experience, often is taken "to a trip" by the spirits and treats the experience as something private and secret. The author contrasts this state with possession trance, where the person is passive and controlled by spirits. Possession trance is followed by amnesia, involves a spirit dealing with an audience, and is typically induced through suggestion, dance, drumming, and a group environment (1973: 12, 1976: 35).
In summary it can be said that "shamanic trance" is regarded as a voluntary state while spirit possession results from a spirit choosing someone's body in order to manifest himself. The spirit is active, the human passive, which leads to a limited controllability of the spirit.

After riding the human for a certain amount of time he then usually leaves him without any memory of the succeeded. Relating the amnesia postulated by his informants to epileptic strokes (temporal lobe discharge) Winkelman (1986) takes the mentioned subjugation quite literally – a point that should be reflected upon critically, since possession at its most is out of control at an initial stage, but then, due to the social interchange, develops into a clearly defined cultural expression (Prinz 1993).

Interpreting Spirit Possessions

As criticised by Jilek (1971), especially early publications consider possessions – particularly at an initial state – as a symptom of psychiatric illness. To give an example: Métraux detects a "clearly psychopathic character" in initial states of possession (1998 [1958]: 106). Referring himself to the Dominican Republic Zaglul (1980: 48) suggests that the majority of the Dominican healers are psychologically ill or at least from time to time suffer from psychotic diseases. Analysing the behaviour of Dominican servidores Jiménez Lambertus (1980: 178ff.) claims having detected temporary motor deficiencies, a fading of conscience without obvious reasons, neurosis, psychogenic pseudo-hallucinations and self-directed aggression.

Parting from neurology but trying to differentiate possession states from mental illness, some authors started to apply the term "altered state of consciousness" (ASC). Following Ludwig (1968) ASCs are characterized by alterations in thinking, change in sense of time and body image, loss of control, change in emotional expression, perceptual distortion, change in meaning and significance, a sense of ineffability, feelings of rejuvenation, hyper-suggestibility and changes of the brain wave form (see also Tart 1969, Bourguignon 1973, Crapanzano and Garrison 1977, Lambek 1981). Unfortunately it cannot be definitively determined if possessed persons show ASC unless instruments for measuring neuro-physiological changes are applied. However, since possessed people neither will sit still, as required for such procedures, nor is the application of the needed apparatus compatible with ritual settings such a proof seems impossible to obtain.

Alternative approaches point towards a functional direction, considering spirit possession as states that serve the needs of those who experience them. Lewis for example (2003 [1971]) considers what he calls "ecstatic behaviour" as a tool for achieving political, economic, or social advantage, especially when there are few other opportunities to gain power. Individuals or groups at the bottom of the social or economic hierarchy will use them to obtain prestige or power over others, to earn money, or even to diminish the power of the hierarchically supreme. Referring herself to Haiti Bourguignon (1973: 12, 1976: 35) considers that possession is performed in favour of public distribution of power and public appreciation. Talking about Brazil Pressel (1973) regards umbanda as a means of integrating different ethnic groups into one Brazilian Nation where white cult members may embody black or indigenous spirits. With regards to the Sudanese context Boddy (2010) describes possession as a cultural performance that alleviates personal distress not only by challenging culturally constructed gender roles but also by experiencing temporary alienation from oneself.

Other functional approaches work less on a societal but more on an individual level, considering possession as a form of therapy. Bourguignon (1973: 23) concludes that possession allows a person to act out parts of his/her personality otherwise jeopardized by narrow social roles. During possession, men may embody female spirits, the powerless may be powerful and the young may convert the old and respected. Thus " (…) It appears clear that the possessions of the Haitians may express the, wishes of the soul" (ibid.: 50). Similarly, pointing into a psychological functional direction, Pfeiffer (1994: 159) suggests that possession might trigger an abreaction in the person being possessed. Comparing possession rites with Western therapy Messing (1958) relates the first with forms of group therapy, whereas Bastide (1958) draws them near to the concept of psychodrama. Following Klass (2003) possession not only provides a background for the interpretation of possible dissociative episodes, but also a method for inducing possession-phenomena as structured and controllable form of dissociation.

Theoretical Background and its Influence on the Chosen Methodology Using the Example of Videography

"It is true that the 'symbolic function' or the 'representative function' underlies our movements, but it is not a final term for analysis." (Merleau-Ponty 1962: 124)

Possession rites are first and foremost lived practice. There is little theological consensus accompanying possession, a fact easily revealed by the contradictions emerging from ritual actors' attempts to verbalize its cosmological background as well as by the frequent inexplicability of ritual actions. That is why methods pointing at communicatively generalized knowledge are of limited use for the object of study. As Przyborsky and Wohlrab-Sahr (2009: 275f.) put it: "The investigated do not even know what they know, not least because the terminological explication of their knowledge would impede their practical handling". Therefore analysis does not focus so much on terminologically explicit information, but on processes and interactions, which reveal the individual and collective habitus. Merleau-Ponty (1962) and Bourdieu (1979) are very important proponents of a concept emphasizing on practice, transferred to the study of ritual by Jackson (1983), Csordas (2002 [1990]: 58ff.) and Bell (1992). Present day reflections and applications of this focus can be found with Sax et al. (2010). The critiques of concepts which heavily draw on human action as a symbolic expression primarily refers itself to the propensity of taking bodily action for linguistic action and thus reduce the body to the status of a means of expression. Since bodily expression precedes language and may also exist notwithstanding language and conscience the frequently postulated subjugation of bodily practice under semantics is not sustainable.

The chosen methodical steps, especially qualitative video interpretation, attempt to provide an insight into social practise and allow for the generation of hypothesis later to be tested quantitatively. In comparison to other ethnographic methods videography allows for a more detailed description, the observation of simultaneous activities and it overcomes the problem of limited attention spans. Moreover video recordings may draw the attention to processes that do not catch one's eye at first sight, that is, during the event to be studied. Video recording is especially recommendable when dealing with performative aspects, respectively for documenting elements and processes of action not represented or impossible to represent linguistically (Bohnsack 2008: 155ff., 2009; Wagner-Willi 2005: 254ff.; Knoblauch et al. 2006: 10). Besides, videography allows for repeated observation of the recorded data, which facilitates a micro analytic study of action sequences (Knoblauch 2000: 169) and thus a new access to the field of research.

Project Novelty and Relevance

"For the European and North American people, spirit possession represents an alien and 'exotic' practise. But in the context of the world's cultures it is one of the most common techniques of ritual healing, and is moreover of great interest for scientific disciplines both within and without ritual studies" (Sax and Weinhold 2010: 234).

The survey aims at being a unique contribution to the study of phenomenology and function of possession yet inexistent especially with regards to the Dominican Republic. Its innovative potential mainly lies in the methodological proceedings based on the analysis of video recorded data according to the documentary method and thus allowing for a micro analytic study of possession. Observing each situation individually and separating the analysis of form from the analysis of what possession means to the local actors facilitates a "new" perspective detached from the practical research proceedings (Wagner-Willi 2005: 278f.) on a phenomenon that mainly has been investigated with the help of classical qualitative methods like participant observation and qualitative interviews. Another difference with regard to classical approaches is that researching the functionality of possession including a quantitative survey allows for the participation of a great number of actors and taking into account correlations in terms of age, gender, level of experience, frequency of possession, health (problems), principles preferably embodied etc.

In "foreign" cultural contexts quantitative analysis mostly fails on the generation of hypotheses. However, the proposed project is based on years-lasting preparatory work and aims at a circular way of proceeding whose strong point

is the diligent reconsideration and adjustment of hypotheses. Involving project partners from the fields of epidemiology and medical psychology facilitates interdisciplinary research as demanded by Prinz (1984) when talking about the generation of ethnomedical knowledge. Given the large amount of preparatory work already done progress is expected to be fast.

Apart from research and providing evidence concerning the functionality of possession, further insight is to be gained with regards to the immediate effect of ritual action, that is regarding the resonance induced by the manipulation of the body, stimulation of the senses and linguistic utterances. It is in this vein that the project aims at shedding light on the interaction processes between body and mind. Since these processes are linked to perception, classification and the control of bodily sensations possible results can be located in the area of cognitive science (Andresen 2001, Röttger-Rössler 2009). Anthropology subsumes this kind of research under the terms of embodiment (Scheper-Hughes 1994, Strathern 1996: 177ff.) or anthropology of the senses (Classen 1997, Geurts 2002). Possible results may also be processed further in the area of psychosomatics (Uexküll 2003, Albers 2002).

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The Medical College at Labrang Monastery in Eastern Tibet: A Historical and Ethnomedical Study and Documentation of 19 Murals Illustrating the *bshad rgyud*

Katharina Anna Sabernig

Introduction

My current research project on illustrations in Tibetan Medicine began in November 2010 (1). It is supported by the Austrian Science Fund (FWF 22965G21). I am now half way through the allotted time for the project and so it is time for a short resume. In the following the objectives, methods and development of the project will be described. This project is meant to close a gap in the history of Tibetan medicine and will give insight into the didactic value of Tibetan medical paintings.

The results of this project will be presented in three forms of media: articles, tables and a book. The articles (Sabernig forthcoming I+II) will be published in different journals and it is planned that the tables used for comparison will be available on the Internet. The final manuscript will include photographs of the murals and their facsimile, the examination of their depicted contents including their leaves, results of their comparison with the illustrations to the "Blue Beryl" and the history of the Medical Faculty at Labrang including the most important proponents.

19 Murals in the Medical Faculty at Labrang

In the inner courtyard of the Medical Faculty at Labrang Monastery (Bla brang bkra shis vkhyil) (2) in Amdo, north-eastern Tibet, in modern Gansu Province, the visitor finds 19 murals none of which had been analysed and described until now. They depict the contents of the first two parts of the rgyud bzhi using the vivid visual metaphor of an unfolded tree (sdong vgrems). The rgyud bzhi is the most important classical text in Tibetan Medicine. The murals mainly relate to the second part, the bshad rgyud. With the help of a branching metaphor, involving roots (rtsa ba), trunks (stong po), branches (yal ga), leaves (lo vdab), blossoms (me tog) and fruits (vbras bu), the contents of the treatise has been given a visual structure, which might otherwise be difficult to memorise. The paintings are designed to help the reader to remember information. Some of these unfolded trees are magnificent, especially those illustrating the chapters on: No. 4: Tibetan anatomy (lus gyi gnas lugs); No. 12: nosology (nad kyi dbye ba); No. 16: knowledge on nutrition (kha zas kyi tshul shes par bya ba); and No. 31: the healing physician (bya ba byed pa sman pavi gnas). Each of these trees consists of different trunks, more than forty branches, and hundreds of leaves to illustrate the content of a single chapter. In 2004 and 2005 the murals were photo-documented and all inscriptions were transliterated on-site, systematised, enumerated, and translated. At that time two of the murals were in poor condition, others showed a little destruction and patina as well as corrections. Nonetheless they were mostly in good condition with depth of colour and elaborate design. In approximately 2007 the murals were repainted. To my great surprise a photo was printed in a small, anonymous tourist booklet with the title "Bla brang bkra shis vkhyil" (A brief history of Labrang Monastery) in around 2007. The murals appeared to be similar but not identical, some of them had been placed in a different sequence and were less elaborate in style. It became necessary to document the new murals and make a comparison with the old versions including an analysis of the differences. This has been an important focus of this project and for this purpose I went to Labrang in summer 2011. I did more research into the origin of this beautiful didactic material and a-side from documenting the new version I was able to speak to the painter and discuss some interesting details.

At the time of formulating my application for this project, an examination of the formerly documented material and the branches' inscriptions had revealed that some of the contents of the rgyud bzhi had been depicted in an exact and detailed way (around two thirds) and that other passages were depicted in a cursory way. In some cases the paintings even showed divergences from the bshad rgyud. The bshad rgyud, commonly translated as "explanatory tantra", forms the preclinical foundation of Tibetan medical theory and describes useful clinical skills. So, at the beginning, the major question was the depicted content itself.

Comparison with other Tibetan Medical Paintings

Another aspect of this project is a detailed comparison of the Labrang murals with the illustrations of the Vaidurya sngon po ("Blue Beryl"), the 17th century commentary on the rgyud bzhi compiled by the famous regent of the fifth Dalai Lama, Sangye Gyamtso (Sde srid Sangs rgyas Rgya mtsho). These illustrations, a set of almost eighty thangkas, are well described and exist in at least three similar editions although their origin and age remains unclear (Bolsokhoyeva 2007a, Bolsokhoyeva, Gerasimova, 1998; Byams pa Phrin las 2000b: 846ff.; Byams pa Phrin las, Wang Lei 1994; Cai Jingfeng 2000: 866ff.; Emmerick 1993: 56ff.; Meyer 1992: 2-13, 1998: 21-31. After the turbulent years of the "Stalin purges" (which began in the twenties of the last century and reached their height with the "great purge" in 1936-1938) one of these sets – in the Western world it may be the most famous version – arrived safely at the Museum of the History of Buryatia in Ulan Ude, Buryatia, Russia.

The illustrations to the Vaidurya sngon po were created by order of a famous politician who was also well educated in medicine. Although he did not have much practical clinical experience he wanted to show recent medical achievements to the public and provide some didactic material for medical students and physicians (Meyer 1992: 7, Kilty 2010: 338). The Labrang murals, on the contrary, were designed by a professional physician for the medical education of monk-physicians; their content and didactic value is not obvious for medical laity. This has an influence in terms of design and the selection of the contents of the depictions. A whole string of significant and often complementary differences are revealed (3). In a nutshell it can be summarised that the thangkas show naturalistic details of the Four Tantras but, with the exception of the illustrations of the large spectrum of pharmacological substances, they focus much more on philosophical and religious questions of medical theory. On the other hand the murals show their full value when depicting core medical subjects such as anatomy, pathology including detailed nosology, therapeutic skills and pharmaceutical aspects but do not give any further visual information (see Sabernig forthcoming I). A complete analysis with regard to the contents of every leaf will be carried out during this research project.

What Forms the Basis of the Labrang Murals?

Although the murals and thangkas both neglect large parts of the bshad rgyud, if both materials are used in combination they cover the breadth of the text almost completely. This obvious complementary connection between the thangkas and the murals led to another important question: Is this connection in some way a remarkable regional feature of the Medical Faculty at Labrang Monastery or do the murals apply to yet another textual-tradition? Who had the idea to design unfolded trees, which are in themselves elaborate but also complete the missing content of the thangkas? To find an answer to these questions it became necessary to search for texts which described the bshad rgyud in the form of unfolded trees. An interesting publication by the eminent scholar and physician Mkhyen rab Nor bu (Mkhyen rab Norbu, Byams pa Phrin las 1987) as well as Blo gsal Dbang po Padma Dkar po (2007 [16th cent.]), edited and published by the ARURA group in Xining/Qinghai Province, contain descriptions which differ in many ways from the structure of the Labrang murals. They cannot, therefore, be regarded as their foundation. However, at the time of preparing the proposal for this project a cursory analysis of the classical text bshad rgyud kyi sdong vgrems legs bshad gser gyi thur ma by Blo bzang Chos grags (2003) indicated that this text may form the basis of the Labrang depictions. Thanks to the activities of the ARURA group this manuscript has been republished and is now available to the public. After a comparison of the murals' inscriptions as well

as the amount of leaves on the branches and an interview with the painter it can be seen as proven that this text makes the basis of the murals (for details: Sabernig forthcoming I).

Investigations

The method of this interdisciplinary project is divided into four categories and includes photo-documentation, a survey and comparison of literature, interviews and participant observation:
1.) Documentation and evaluation of the murals including a comparison with their current facsimile;
2.) Comparison of the inscriptions and arboreal structures with the text that they are based on;
3.) Identification and translation of the leaves and the systematic analysis of their depicted contents in comparison with the bshad rgyud and the illustrations to the Vaidurya sngon po and, if necessary, with further classical texts;
4.) The scope of the work will include a survey of the socio-historical circumstances of the foundation and development of the medical college at Labrang up to the present day including portraits of the main actors.

1.) The murals were photo-documented and their inscriptions transliterated on site in 2004. They were rechecked during another research trip in 2005. About 500 inscriptions have been translated and systematically enumerated. In summer 2011 the new murals were documented photographically at Labrang. It is now possible to analyse differences in the sequence of the murals, their inscriptions, orthography and painting style. A preliminary investigation has revealed that the medical faculty and the painter tried to follow their own tradition on the basis of Blo bzang Chos grags' text. On the southern side of the Medical Faculty at Labrang the sequence of the trees had been changed but no tree was omitted or added. My sister Maria Sabernig, who is an architect, prepared a sketched map portraying the position of the trees in the older murals in the inner courtyard some time ago. Using the new photographic material she will add the current position of the trees. The major differences can be found in terms of the less elaborate style of the new paintings and the materials with which they have been painted. However, although the botanical embellishment of the old murals was very beautiful, the newly depicted ornamental plants surrounding the trees are even more elaborately naturalistic. Unfortunately, although these murals are just over four years old the substratum of the walls shows severe damage in at least five murals and in many other cases the colours exfoliate.

2.) After returning home I was able to compare the inscriptions of the facsimiles with the older versions and the classical Tibetan text bshad rgyud kyi sdong vgrems legs bshad gser gyi thur ma by Blo bzang Chos grags (2003) in tabular form. This includes the citation of the position of the branches within this text as well as in the bshad rgyud and the evaluation of variations. Corrections of the inscriptions or retouched leaves in the old murals have been noted in the table and examined carefully because these modifications might be a documentation of the transculturation of the doctrine. With the renovation of the courtyard in the Medical Faculty most of these tracks are not visible any more. Some of these visual examples showed interesting divergences (see Sabernig forthcoming II). With the exception of a few linguistically interesting orthographic or grammatical variations or oversights, the written content of the new paintings remains the same.

3.) A modern Tibetan version of the bshad rgyud (G.yu thog Yon tan Mgon po 1992) has been surveyed and a transliteration of each line has been listed in another tabular format. Additionally, the numbering of Dash's translations (1995-1997) was kept, which will make comparisons for future researchers much more straight-forward. The table will contain: systematised enumeration of the murals' inscriptions, specifications of Blo bzang Chos grags for every leaf as well as the corresponding number of illustrations to the Vaidurya sngon po. References to the illustrations to the Vaidurya sngon po were kept wholly to the thangka-set in Ulan-Ude (Parfionovitch et al. 1992) because of the quality of its examination as well as the historical connection between Buryatia to Amdo. This systematic analysis is necessary in order to evaluate the missing or diverging contents of both the thangkas and murals on the basis of the text of Blo bzang Chos grags. As a result it will be possible to see, in a tabular format, the kinds of medical knowledge the murals tend to present and which contents Sangs rgyas Rgya mtsho wanted to see illustrated. Finally,

the tabular format shows whether both media complement each other and which content has been ignored or added by each media, making it easy to detect the differences (Sabernig forthcoming I).

Once the contents of the leaves defined by Blo bzang Chos grags are identified, the next step is to translate these Tibetan expressions into German. The different translations of the bshad rgyud which are currently available give interesting insights but after an evaluation of a modern Tibetan edition of the bshad rgyud (G.yu thog Yon tan Mgon po 1992) and the available translations (Clark 1997 Dash 1995-1997, Dawa et al. 2008, in parts: Jampal Kunzang 1973) it was clear, that these publications may be helpful for practitioners but unfortunately these works make quite uncritical use of medicinal terminology or even give a rather skewed picture of the original text. The difficulties of translating Tibetan medical-terminology into western languages have been well discussed (Adams 2000; Adams et al. 2011; Gerke 2011). Therefore one aspect of this project is the critical use of the terminology in order to identify the depicted contents.

In many cases Blo bzang Chos grags' specifications for the leaves conform with the bshad rgyud. In other cases he just refers to the amount of the corresponding lines without any commentary, or he uses explanations in greater detail, which are often sort of copies from the vaidurya sngon po (Sangs rgyas Rgya mtsho 1973a [reprint]) as well as the older commentary mes povi zhal lung by Blo gros Rgyal po (1985). This is not really surprising because Blo bzang Chos grags reversed and completed missing chapters of this famous commentary from the zur lugs medical school and was a "medical mentor" of Sangs rgyas Rgya mtsho (Taube 1981: 73). One very special contribution from this extraordinary scholar and physician was his naturalistic and detailed examination of Tibetan anatomy and nosology, which is reflected in both his text as well as in the murals. For example, instead of just assuming that there were 360 bones in the human body – a contemporaneous view that was mentioned in the rgyud bzhi (G.yu thog Yon tan Mgon po 1992: 21/16-22/1) – he attended the dissection of four human male and female bodies (Meyer 2003: 110) and counted 622 small bones, each of which he listed by name (Blo bzang Chos grags 2003: 12/23-16/2).

Fig. 4+5 Branches illustrating the categories of human bones which have been described in details by Blo bzang Chos grags. The left picture shows the old depictions and the right their current facsimile: still representing the same information, the new ones are less elaborate in style.

4.) The history of the medical faculty at Labrang, and specifically the political, religious and medical forces at work during its development up until the present day make up the scope of this project. This includes a short general portrayal of the monastery and in particular the relevant history of Tibetan medicine. Generally it can be concluded that although interesting field-reports, travelogues and photo-documentation of the Labrang region exist, the Medical Faculty at Labrang is not usually or potentially only tangentially referenced (e.g. Baradin 2002; Buchwald-Ernst von 2005; Fürholzer 1942; Gruschke 2001; Makley 2007; Nietupski 1999, 2002, 2009, 2011; Rock 1956; Tsyrempilov 2003, 2006, 2008; Wallenböck 2006). A short article by Yontan Rgyatso and Buffetrille (1987) and a publication written by Li An-Che (1994) are the only written material available in a western language, which describe life in the Medical Faculty at Labrang. Unfortunately the murals or the concept of the "unfolded tree" are not mentioned in these texts at all. Tibetan historical literature on Labrang is available but difficult to understand and will be consulted for this project (e.g.: Bstan pa Rab rgyas 1987 [1801], a biography of the first Vjam dbyangs bzhad pa, which has even been translated into Russian by Tsyrempilov (2008) and a collection of works by Dkon mchog Vjigs med Dbang po 1971 [18th century], the second Vjam dbyangs Bzhad pa).

The relevant medical history relates to three periods. First: the period of the life of Blo bzang Chos grags, second: the life of Gtsang sman Ye shes Bzang po, and third: the period of modernity and revitalisation in Tibetan Medicine after the Cultural Revolution. The first and the second periods focus on the careers of men who were prominent physicians and teachers at the famous lcags po ri Medical University in Lhasa (Gerl and Aschoff 2005: 105) and they both taught in Amdo and Mongolia (Byams pa Phrin las 2000: 319/6, 363f.). Their biography is closely related to the murals: Blo bzang Chos grags as the creator of the text and Gtsang sman Ye shes Bzang po as the first medical instructor in Labrang Monastery who is known for his explanations of the bshad rgyud with the help of unfolded trees (Byams pa Phrin las 2000: 363f.). However, the first period is described much more thoroughly than the second (e.g.: Bolsokhoyeva 2007b, 1999; Czaja 2007; Gerl and Aschoff 2005; Hofer 2006, 2007; Meyer 2003; Taube 1981; Thupten Tsering 2005, Zhabon 2003)

The third period is the period of modernity and revitalisation of Tibetan Medicine in general. During my trip to Labrang in summer 2011, I discovered that both documented versions of the murals had been painted by the educated physician and painter Sman pa Snying lcags Byams zer. The older of the two had been reconstructed in the mid-1980ies. According to some monks and the painter, the original murals were either destroyed during the Cultural Revolution (1966-1976), or at the time of the military takeover in 1958. The painter remembered that at the time of reconstruction in the 1980s they still existed but were extensively damaged. With the help of the supervision of the painter's late medical teacher Xa khu Bstan pa Rgya mtsho tshang (Bstan pa Rgya mtsho) it was possible to restore the previous design. A portrayal of their life at the time of revitalisation of the medical faculty and the recent socio-historical influences is documented (some aspects will be described in: Sabernig forthcoming II).

Notes

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[2] The Transliteration in this paper is a slightly modified version of the Wylie system which makes use of "v" instead of the apostrophe for va chung and "x" for xa chen (cf. Balk 2005).

[3] Material on these differences have already been presented at the International Conference of Traditional Asian Medicine (ICTAM VII) run by the International Association for the Study of Traditional Asian Medicine (IASTAM) in 2009 in Bhutan. More details on content and the origin of the murals followed at the 12th Seminar of the International Association of Tibetan Studies (IATS) in 2010.

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Medical Substances Produced from *Scincus scincus* According to Jewish Writings in the 12th-19th Centuries

Abraham Ofir Shemesh

Abstract

One of the prominent medical usages of the sandfish in medieval times was for sexual problems. According to Jewish sources the medical ingredients produced from the sandfish were its dried flesh, navel, salt of the lizard, or the milk of its kidney. According to Arabic medical literature the capacity to heighten sexual arousal is probably related to the special structure of its sex organs. In pre-modern myths, heightened sexual arousal was attributed in particular to sandfish which had absorbed the virginal blood of virgin girls. Sandfish is mentioned in Jewish sources in discussions of its kosher status when used for preparing oral medicines. Most Jewish sages had never encountered it due to its scarcity and thus were uncertain whether it was a fish or other animal. Among Jews, as in general medicine, sandfish were used to cure infertile women, and the ambiguity concerning their identification as fish is probably related to the fertility qualities attributed to fish.

Introduction

Ancient medicine utilized various types of skink belonging to the skink family (Scincidae), which is part of the class of reptiles (Reptilia). One of the most prominent of this family is the sandfish (Scincus scincus). The scientific name of the type stems from the Greek name Skinkos, and its Latin form Scincus (Gunther 1959: II, 71, 108; Plinius 1968: VIII, 38). Originally, these were the ancient names of a type of lizard, and the assumption is that it may be identified with the sandfish (Dor 1987: I, 237; Alon 1995: V, 95f.).

In many medieval Jewish sources sandfish was mentioned by its Arab name sakankur, which is the Arabic translation of the Latin name Scincus (Amar and Serri 2001: 70) Arabic writings also mentioned the dwarf skink (Abelepharus kitaibelii), which was used as a medical substance as well (Bodenheimer 1957: II, 155, 159), but the name sakankur was used specifically for sandfish (Alon 1995: V, 94f.). Early and late medieval Jewish physicians and pharmacists who referred to the scincus or sakankur undoubtedly meant the sandfish, and knew that it was a reptile. In contrast, some rabbis and religious scholars encountered the term in theological debates. Although they described its usages and even mentioned its Arabic name sakankur they were not personally familiar with it and some thought that it was a type of fish or amphibian animal, as will be elaborated further below.

Sandfish were formerly called "pharmacist's skink" (Scincus officinalis), attesting to their medicinal value. In zoological literature the sandfish is mentioned by another synonym – the Egyptian sand fish skink (Barash and Hoofien 1956: 122).This name stems from the fact that sandfish exist in the deserts of North Africa, Sinai, and Israel. This is a relatively uncommon species which is located in Israel in the sands and sandy lands of the western Negev desert. Sandfish are adapted to life in the sands: their color is yellowish and sandy, serving as camouflage. The nose is stake-like, helping them to burrow into the sand. Each of their four legs has five toes. The scales covering the toes protrude from the sides of their feet, giving them a broader fin-shaped base and helping them move in the sand (Dor 1987: I, 237).

This article discusses fertility curatives produced from the body of the sandfish and used in medieval and modern times (1). For the first time, its medical uses will be thoroughly examined in light of Jewish sources – both medical literature and rabbinical texts.

Sandfish (*Scincus scincus*) – Medical Usages

A prominent medical usage of sandfish in ancient times was for problems related to the sexual system – for female fertility and to enhance male potency. These usages were mentioned in classical literature as well as medieval medical sources (Gunther 1959: II, 71, 108; Plinius 1968: VIII, 38; Amar and Serri 2001: 70-71). In fact, Jewish scientists did not agree on which specific part of the Scincus scincus is usable as a medical ingredient, "the dried flesh", "the navel", "the salt of the lizard", or "the milk of its kidney", and it seems that there were different medical conceptions on this issue. The Jewish physician Yunus Ibn Yitzchak Ibn Biklarish, who served Beni Hud in Spain (11th-12th centuries) (2), recommends the kidneys of the sakankur as a medicament which "produces semen and arouses sexual passion", and claims that the organic substance located adjacent to the kidneys is best harvested when the animal is in heat (Ibn Biklarish: no. 5009, 83).

The Rambam as well mentions that the sakankur's internal organs are considered the best remedy for sexual problems. In his "Treatise on strengthening potency", written for the Ayoubi ruler al-Fadhil, the Rambam brings the following information about the sandfish: "And it is said that the flesh of al-Sakankur is reputed and famed and its navel is a remedy. Thus also the salt produced from its stomach. Dip food in that salt and cook with it and you shall grow stronger" (Maimonides 1965: 59). The treatise was written in answer to the medical problems afflicting the ruler, who sought the advice of his court physician in sexual matters as well. The Rambam advised al-Fadhil to partake of a medicine based on the skink's navel, or salt which had been placed on its stomach and absorbed its blood. This is apparently related to the belief that the active element is internal and located in the vicinity of the stomach.

The physician R. Natan Ben Yoel Falaquera (Spain, second half of the 13th century) recommended the navel of the sandfish as an aphrodisiac. He writes: "Its best organ [of the skink] is the navel, it is helpful for the cold illnesses of the nerves, and its salt arouses sexual desire, all the more so its flesh. And the flesh of its navel and the milk of its kidneys are even more arousing. Fox testicles are used as a substitute" (Amar and Buchman 2004: 160).

Based on medieval Arabic medical literature (such as Ibn al-Bitar 1197-1248), scholars Zohar Amar and Yaron Serri have shown that the ancients attributed effects of increased sexual desire to the sandfish, probably due to its special sexual form. At the base of its tale the skink has a double sex organ (hemipenis) which becomes thicker during the reproductive season, similar to other members of the order Squamata, i.e. lizards and snakes (Amar and Serri 2001: 71). The kidneys, located near the tail, may have been in demand as well, as they were perceived to be related to the sex organs of the sandfish.

Legends and Myths Concerning the Value of the Sakankur as an Aphrodisiac

As stated, the sandfish was recognized as the source of a most efficient animal-based medicament for sexual and reproductive problems. Imaginary legends and myths disseminated throughout history vividly describe its capture for curative purposes. Such a legend is related by the 19th century North-African sage, R. Rafael Ohana, who deals with unfertile sexual relations and proposed solutions to the problem. He says: "This sakankur is a small fish resembling a lizard and it has feet. It is brought from the cities of India and it is effective for male potency and I have heard that these sakankur are caught by bringing virgin girls aboard boats and they adhere to the virgins' legs and suck the blood of their virginity and those virgins catch hold of them at that place until the blood of their virginity has been exhausted, and then they stop coming, and those who suck the blood of virginity are employed to induce erections. Grasping the fish produces an erection, and kings pay dearly to buy it because they have many women and mistresses. However this sakankur sold now in pharmacies does not induce erections by mere grasping, rather only together with other medicaments." (Ohana 1990: 98)

Ohana claims that the original sandfish increases male potency and serves as an aphrodisiac. This medicament cures in a unique manner – the skink absorbs into its body the virgin blood of virgin girls. It must be emphasized that Ohana does not mean menstrual blood, rather he is referring to the blood at the first sexual intercourse. In other medical prescriptions Ohana refers to menstrual blood as well for treating problems of infertility, and as discussed below this blood too symbolizes fertility (Ohana 1990: 82). The desired medicine is gained when virgin girls enter the water and the skinks "suck" all the blood of their "virginity". The skinks, full of the vital blood, are caught and sold for a hefty price to those of financial means who need them to satisfy the many women in their harems. Ohana adds that according to tradition the medical effect of the sandfish is so strong that it produces an erection by merely holding it. However skinks with no virgin blood have less capacity to arouse sexual desire and therefore must be complemented with additives in order to become stronger and have an arousing effect.

The rationale of the myth of "the sandfish and virgins" is clear. Producing a sexually arousing potion for men requires the virgin blood of young girls which has both connotations of sexual desire and is a symbol of fertility. The power of virgin blood to ensure fertility was also based on the general symbolism of blood in ancient medicine and magic. The view prevalent among ancient peoples, particularly the Semites, including the Hebrews, equates blood with the human soul and with vitality (see for example: Genesis 9:4; Leviticus 17:11-14; Deuteronomy 12:23), and for this reason its medical properties included fertility and the producing of life. Many societies have popular myths and beliefs attributing a range of metaphysical-mystical powers to blood, such as the defeating of demons and spirits curing illnesses and fertilizing the earth (Caspi 1985: 510ff.; Noy 1983: 156). The belief in the medical efficacy of human blood sometimes led to horrendous massacres, in which children were the most desired victims, and these are frequently attested throughout history (Strack: 1892: 36ff.).

The legend incorporates some exaggerated and unfounded details. The sandfish is traditionally defined ambiguously as a "lizard-fish" but, as stated, the sandfish is not a fish at all and does not develop in a marine environment. Ohana was probably not well acquainted with the skink and he indeed admits that it originates in India and that he heard of it from other sources. We assume that such legends have to do with the fact that the sandfish is relatively rare but considered in the pre-modern era to have great medical benefits. On the other hand, it is also possible that merchants attempted to overstate its fame intentionally. They glorified its miraculous medical capabilities and magnified its scarcity in order to raise its price.

Use of Sandfish as Reflected in Writings of Jewish Law

As stated above, Jewish physicians and pharmacists were acquainted with the sandfish by virtue of their medical and pharmacological work. In contrast, Rabbis and popular healers who discussed the sandfish in a religious or traditional medical framework were not familiar with this animal. Since they based their opinions on hearsay and unfounded information, they described the sandfish as a "fish", a "poisonous animal", and even thought that it was an "amphibian creature". The differences between these two groups undoubtedly reflect the rift between the contemporary scientific medical community and popular-traditional religious medical practices.

Yom Tov Lipman-Heller (Ashkenaz 1579-Cracow 1654), a prominent commentator on the Mishna, claimed that the sandfish (which he terms *shtinkus marinus*) is a "strange fish", as it has scales but no fins. He described the unusual features of the sandfish when he was presented with the animal in order to determine whether it may be eaten as a medical remedy. He describes it as follows: "And when I was head of the court and Rabbi of the holy community of Vienna, the sage Aharon Rofeh brought me a fish which they call *shtinkus marinos* and which is located in the Spanish Sea and it can be poisonous and the pharmacists know how to remove its poison and then they use its flesh to prepare remedies and it has a spine and a wide head and its body is covered with scales and it has no fins, only four legs like those of a beast or animal." (Lipman-Heller 1981: Hulin, Chapter C, 63:5) According to this testimony the skink is located in the "Spanish Sea" (3). The skink is described as a poisonous animal, however this is incorrect. Heller reports that medicines are produced from the flesh of the skink but does not list the illnesses and maladies so treated.

One of the important prominent *halakhic* authorities to discuss medications produced from the sandfish is R. Yaakov Hagiz (1620-1674), one of the Jewish spiritual leaders of 17th century Palestine (on his biography see: Shavit (1981-1985): VII, 267-269; Gaon 1938: II, 243). In the two parts of his book "Halachot Ktanot", Hagiz discusses various *halakhic* issues related to medicine, such as the *halakhic* status of Siamese twins (Hagiz 1704: I, 245), treating illnesses on the Sabbath (ibid: II, 10), use of conventional and magic-based medicines and curative methods (Shemesh 2001: 35f.). The issue that concerns Hagiz is the kosher status of the sandfish, which was apparently related to his uncertainty whether it is a fish or some other animal. He devoted to this topic a discussion occupying three responsa, indicating his weighty deliberations. Hagiz had never seen sandfish. He lived in Jerusalem, and the creature's habitat was mostly desert sand; moreover, it is a relatively uncommon and unknown species of skink (Dor 1987: I, 237).

The first response presents the sandfish and its various Arabic names and medical usages: "Question: A medicine for the childless is produced from a small dried ritually impure fish called Shakanshur, Sikankur, Sakankur" (Hagiz 1704: I, 253). The sandfish is at most 22 cm. long. According to the question asked, it served as a medicine in its dried form. Although all reptiles have dry skin in the absence of secretion glands, this probably means that the substance was dried in order to preserve it over time. In ancient times the flesh of the sandfish was usually used in a dried form, ground to powder (Alon 1990: V, 96). Thus, it may have been difficult to clarify the source of the powder. Rabbi Hagiz may have received his initial information on the skink from the description of strangers. However since he felt that he lacked clear and sufficient information on the sandfish, he asked to see and closely examine it. According to the information in the question,

the sandfish was used to cure infertile women, as customary in general medieval medicine. Its resemblance to a fish was probably significant, as fertility qualities are attributed to fish (Nun 1964: 142ff.). In his second response, Hagiz relates his request to see the sandfish in order to determine its nature and reach a definition: "I sent for the fish called *sakankur*. I said: How great are your creatures O God! It is as long as a lizard with the tail and head of the fish called *Gifalu*. And it has a spine and scales, hands and feet like humans in three joints and five fingers with their joints, ending in nails" (Hagiz 1704: I, 255). This description is definitely applicable to sandfish, particularly the emphasis on their resemblance to lizards, as well as the fact that their five fingers are somewhat reminiscent of human hands. The comparison of the sandfish to a fish is also appropriate, as the resemblance between the two is an element that appears in other medieval writings as well. At the end of the discussion R. Hagiz concludes that the sandfish is an amphibious creature and therefore is not kosher and should not be used to cure infertile women. He ended by forbidding use of the skink, while recommending a medical alternative for treating both men and women: "And for that illness [of infertility] it is said that men and women may benefit from מי שאלוי"א called מיר"ייאמיי and they should drink a bowl of it in the moist form and it is good to extract it with a distiller". Thus, Hagiz recommends a distillate produced from sage leaves (Salvia fruticosa), called Mariamiya مريميّة in Arabic, which is found in the Mediterranean forests, woodlands, and shrubs of the Land of Israel (on sage in Jewish sources and its use in traditional medicine in Israel see Löw 1924-1934: II, 102; Avitsur 1972: 157; Palevitch, Yaniv 1991: II, 216–219).

Conclusion

Discussions on the medical usage of sandfish between the 12th and 19th centuries reflect the mature discipline of zootherapy within the Jewish scientific sphere as early as the 12th century. This period also marks the end of the "Islamic Golden Age". At this point in time Islamic regions were witnessing the decline of science and of their scientific communities, replaced by a revival of traditional knowledge, with no emergence of objective methods to prove the validity of this knowledge. The article reflects the discrepancies between the two cultures and their boundaries: On the one hand a culture of physicians or pharmacists in which transmission of knowledge took place orally or by texts, indicating the curative properties of sandfish traditionally known as sakankur in Arab folklore; and on the other hand Jewish rabbinical efforts to prove the medicinal utility of the species and trace it to its proper genus (Scincus scincus) through traditional knowledge.

Notes

[1] Skinks were used for various medical goals. On the use of burnt skink to staunch the blood of circumcision or nosebleeds see Ohana 1990: 67. On the use of sandfish in ancient pharmacology see Verman 1956: 47; Amar and Serri 2001: 70f.

[2] Ibn Biklarish called his book on the distinct medicines "al- Mustaʿini" after Abu Jaʿfar Ahmad II al- Mustaʿin (1085-1109). See Amar and Serri 2001-2002: 88-89.

[3] The relationship between the sandfish and the Spanish Sea is unclear, as its distribution is limited to North Africa, Sinai and Israel. The term Spanish Sea may also include the land mass south of Spain and adjacent to North Africa (Morocco). Interestingly, various sources state that the sandfish originates from different locations, for example Egypt, India, and some even claimed that it exists in the Red Sea (Ohana 1990: 98; Amar and Serri 2001: 71). It seems that since it came from afar no one was certain of its origins. The scholar Arieh Shore, referring to this source, stated that this is the sandfish, but mentioned another possibility, that Shtinkus Marinus is the Bufo marinus, a poisonous toad that lives in the Carribeans and which was used in the 18th century to produce amedicinecalled Bufones exsiccate for treating edema. However, this possibility is improbable as toads do not have scales, moreover toads hold no similarity to fish and any doubts that existed regarding this animal stemmed from its resemblance to fish. (see Shore 1996-1997: 13ff.). In contrast, Ari Zivotofsky (2008: 5-53) claimed that maybe this refers to the swordfish (Ziphias gladius).

[4] For example the name "sailing fish" (=sandfish) is mentioned by the Rambam in connection to enhancing male potency. (see Maimonides 1965: 59, note 188).

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Photograph last page

A biomedical model of a human torso with labels giving biomedical and Āyurvedic disease names. (photograph: Chopra at the National Institute of Ayurveda, Jaipur; see article this issue)

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