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SHAMANS, PRIESTS AND WITCHES:
A CROSS-CULTURAL STUDY OF MAGICO-RELIGIOUS PRACTITIONERS

1992

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**SHAMANS, PRIESTS AND WITCHES:
A CROSS-CULTURAL STUDY OF MAGICO-
RELIGIOUS PRACTITIONERS**

BY

MICHAEL JAMES WINKELMAN



1992

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ANTHROPOLOGICAL RESEARCH PAPERS NO. 44

About the Author . . .

Michael James Winkelman received BA degrees in behavioral science and in psychology from Rice University (both in 1976) and a Ph.D in social sciences (anthropology) from the University of California, Irvine (1984). He is currently a Lecturer in the Department of Anthropology, Arizona State University. In addition to the cross-cultural study of magico-religious healing practices, he is interested in herbal medicine traditions, particularly those of the U.S. Southwest and northwestern Mexico. The emphasis is on plants with potential usefulness in the treatment of diabetes. Winkelman is also actively involved in research, teaching and training in cross-cultural communication, management, negotiation and interrelations, and is currently Director of ASU's Ethnographic Field School, located in Ensenada, Baja California, Mexico, and sponsored by the Department of Anthropology and the Summer Sessions International Program.

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PREFACE

This book integrates the findings of a cross-cultural study on types of magico-religious practitioners within the context of anthropological and sociological studies of magico-religious phenomena. This study of magico-religious phenomena distinguishes itself from other theoretical efforts to provide a general framework for explaining magico-religious phenomena by using a formal cross-cultural sample and statistical analysis of data to reveal an empirical structure related to the institutional bases of magico-religious practices. This approach has determined a typology of magico-religious practitioners with universal applicability. The correlation of this typology with existing data on the socioeconomic conditions has provided a basis for developing a general theory of magico-religious phenomena, their origins, and their emergence and transformation under socioeconomic change. These findings are integrated with other studies on magico-religious phenomena to provide a general organizational framework for integrating a diverse set of magico-religious phenomena.

This book is based upon a Ph.D dissertation, and owes much to those who helped formulate these earlier findings and subsequent developments. I was very fortunate to have Duane Metzger, Doug White and Robert Morris as my committee. Their ability to wisely guide without trying to determine the course or form of these investigations has allowed for the development of a research project which was not envisioned in advance. I wish to thank them for their contributions to this work, as well as a number of other individuals who commented on various phases and portions of this work, in particular Patrick Geisler, David Jacobs, Carmella Moore, Stephan Schwartz, Erika Bourguignon, Joseph Long and Peggy Wright. I am also indebted to a number of people who provided support and assistance in the early phases of this research. I wish to thank Roger Blashfield, Michael Burton and Mike Slagley for computer programs essential to the analyses presented here. I also thank the research assistants and translators who have worked on this project, including Glenn McAlpine, Linda Ward, Steve Smith, Lori Hanna, Peter King, Lori Tomchak, and Toshio Wantanabe. I especially thank Glenn for his long dedication to the coding reliability checks. Thanks are

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Thanks are also due to those who assisted in the preparation and publication of the final manuscript. Kris Butler, Marsha Schweitzer, Lynette Heller, Peggy Lietz and Dawn Frost provided assistance in editing and formatting the manuscript. Special thanks are due to Cindy Winkelman for editorial advice, assistance, and enduring patience while I finished this book. I also want to thank Geoff Clark for making this work available and Chris Carr for his encouragement to persist in addressing these very important issues of human consciousness.

The reader will find a variety of grammatical tenses in the material presented below. The following standard conventions have been employed. The past tense is used in: reference to others' work and findings; the methods and analysis procedures employed in this study; and discussion in the text of the practitioners in the societies in the sample. The past perfect has been used to refer to continuing social processes discussed in the study. The present tense has been used to refer to: the characteristics of the sample; the findings of the study; ongoing social processes; and biological conditions. The present tense has also been used in Appendix 1 to refer to the ethnographic present in presentation of information about sample societies at the pinpointed date.

CHAPTER 1

INTRODUCTION

The nature, origin, and functions of magic and religion have been topics of concern among anthropologists since the earliest works (e.g., Tylor 1924 [1871], Lang 1898, Frazer 1929 [1911-1915], Mauss 1972 [1906/1950], Marett 1909, Durkheim 1915). The data available from studies of magico-religious practitioners in other cultures have been used as the primary basis for theories and generalizations about magical and religious phenomena¹. Most cross-cultural studies have suffered methodologically because they lacked a broad assessment of the cultures' magico-religious practices and were not based upon a representative sample of world societies. Theoretical generalizations about magic have generally been based upon samples of convenience; only a few studies have used formal analysis to establish that the patterns represent a systematic worldwide pattern rather than just a particular instance which conforms to the author's own particular theory. Furthermore, most studies have used a single dimension or only a few variables to characterize a society's magico-religious practices, rather than broadly assessing the characteristics of the magico-religious institutions present in a cross-cultural sample of societies.

This chapter opens with a brief overview of the traditional anthropological approaches to explanation of magico-religious phenomena and the conceptual frameworks they have employed. Their shortcomings are critiqued and the anthropological developments leading to a reassessment of these phenomena are briefly considered. The formal cross-cultural approach employed here to determine the institutional basis of supernatural and magico-religious phenomena is outlined. The approach provides a cross-cultural examination of culturally recognized and institutionalized magico-religious practitioners based upon analysis of coded data for a wide range of variables characterizing magico-religious practitioners found in a subsample of the Standard Cross-Cultural Sample (Murdock and White 1969).

The findings of this study are integrated within the context of anthropological investigations of magical and religious phenomena. There were several general intents in this research. One of the major goals was to determine the different types of magico-religious practitioners found cross-culturally, and to describe the characteristics and functions of these different practitioner types. A related

interest was to determine the distribution of these practitioner types found cross-culturally and their relationship to sociopolitical and economic social conditions of the societies in which they were present. Determination of the different practitioner types, their characteristics and functions, and their distributions with respect to social conditions provided the basis for a general model of the origin, nature and social development of magico-religious practitioners and practices and their institutional bases.

The general findings of this study show three bases for magico-religious practice: (1) psychobiologically based altered states of consciousness and their functions in healing, divination and human development (Shamanistic Healers and 'magic'); (2) sociopolitical organizations uniting secular and sacred power in complex societies (Priests and 'religion'); and (3) individuals persecuted in the conflict between magico-religious power bases and traditions (Sorcerer/Witch and 'black magic' or 'witchcraft').

1.1 HISTORICAL ANTHROPOLOGY OF MAGIC AND RELIGION

The theoretical anthropological material on magic and religion is so extensive that even a superficial review is beyond the scope of this introduction. However, the overall trends and approaches in anthropological explanations of magico-religious practice will be reviewed to explain the context of the research reported here. Skorupski (1976) reviewed the anthropological theorizing on magic and religion and suggested that two approaches have dominated anthropological thought. He labeled these as "intellectualist" and "symbolist" approaches. The intellectualist tradition represented by Tylor, Frazer and other anthropologists viewed magic as a faulty science, a product of a weak and primitive mind. The approaches were psychological, concerned with the function of these cosmological beliefs, the underlying cognition and related emotional processes. The symbolic approach, represented by Durkheim, Radcliffe-Brown and other social functionalist approaches, considered magic to be a symbolic system of belief and ritual which described and reinforced the patterns of relationships in society. While not all traditional theories fall neatly into

these categories, they do represent two dominant perspectives in anthropological studies of magico-religious phenomena which are still widely cited and used as organizational perspectives within anthropology.

The early anthropological approach of Tylor explained magical phenomena from an "intellectualist" perspective (Skorupski 1976), seeing its origin in mistaken human psychological and cognitive processes. According to Tylor, primary and universal aspects of magico-religious phenomena lie in animism, a belief in individual souls and spiritual beings which were able to affect the material world and human life. Tylor saw in animism and other aspects of magical thought a system of fallacious reasoning, a pseudoscience based upon mistaken assumptions about cause and effect relations. The belief in spirit beings was derived from a need to explain phenomena such as death, dreams and sleep, and to reinforce a belief in personal survival through the vehicle of one's own soul. Tylor suggested an evolutionary perspective in which beliefs about spirit beings became increasingly organized into a hierarchy in the development of monotheism from animism.

The rationalistic perspective of Tylor discounted the validity of the animistic assumption— spirit beliefs, which were seen as giving origin to religion. However, Tylor did not empirically address this assumption, or investigate the relationship which he recognized existed between the beliefs and practices of scientific spiritualism in his own society and the animistic beliefs of simpler societies. Rather he directly demeaned the thought processes he saw underlying magico-religious practice. "Our comprehension of the lower stages of mental culture depends much on the thoroughness with which we can appreciate this childlike conception, and in this our best guide may be the memory of our own childish days" (Tylor 1871: Chapter 11).

Frazer further developed the seminal ideas of Tylor in differentiating magic and religion. Magic was seen as a false science in which cognitively deficient primitives attempted to control the universe through mistaken assumptions about cause and effect relations (sympathetic magic). The magician attempted "to bend nature to his wishes by the sheer force of spells and enchantments" (Frazer 1929: 234). Frazer hypothesized that early human's growing recognition that magic failed to achieve desired ends led to religion. As humans recognized the fallacy of magic, the original animistic belief in supernatural beings developed into religion. Religion involved the belief that humans should accepted a subjugation to the supernatural world, and develop techniques,

rituals and sacrifice to worship and propitiate the gods to act in the petitioner's interest and benefit.

Frazer's conceptions of sympathetic magic were based upon a perspective which considered the magician to be mentally feeble. "[T]he primitive magician... never analyzes the mental processes on which his practice is based... he reasons just as he digests food in complete ignorance of the intellectual and physiological processes... In short... the very idea of science is lacking in his undeveloped mind... the magician's logic... turn[s] out to be merely two different misapplications of the association of ideas... the mistake of assuming that things which resemble each other are the same... [and] of assuming that things which have been in contact with each other are always in contact.... Both trains of thought are in fact extremely simple and elementary... familiar... to the crude intelligence not only of the savage, but of ignorant and dull witted people everywhere" (Frazer 1929: 11-12).

Several generations of anthropologists critiqued and refuted many of the ideas of these intellectualist traditions (Wax and Wax 1963). The intellectual perspectives failed to capture the emotional and experiential nature of magical practice and belief. Frazer's division of supernatural practices into the categories of magic and religion drew deserved criticism in that magic and religion as defined by Frazer were often combined in the same practitioner or even the same ritual activity. Yet the distinction between manipulation (magic) and supplication (religion) was maintained for its analytical value (Wax and Wax 1963), and there was little if any opposition to the notion that belief in and use of magic involved a primitive mentality. Rather the approaches were psychological and functional in that they explained why people maintained false and deluded beliefs, and the psychological and emotional functions served by the beliefs.

Other psychological explanations suggested magico-religious beliefs and practices derived from experience. The naturalistic explanations (e.g., Marett 1909; see Norbeck 1961 for review) argued that religion derived from spontaneous emotional reactions to natural phenomena and from the natural reactions and experiences that humans have— "surprise, terror, marvel, and miracles." Psychological reactions to the unknown, particularly emotions of respect, fear, and anxiety, extended to fear of ghost of the deceased, were hypothesized as providing the bass for religion. The idea that magico-religious beliefs and practices were derived from actual experiences was also developed by Lang (1894, 1897), although his perspectives and work had little

impact upon mainstream anthropology. Lang reviewed ethnographic and anecdotal evidence and argued that the findings of European psychical research were relevant for the interpretation and explanation of magico-religious phenomena. Presenting a view in direct conflict with the dominant evolutionist and intellectualist perspectives, he suggested that magico-religious phenomena might have their origin in authentic psychical phenomena. The phenomena of clairvoyance and psychokinetic action were suggested as possible bases for magical phenomena (cf. de Vesme 1931, Long 1977, Winkelman 1982).

Malinowski's (1948) work also emphasized an intellectualist or psychological theme. He suggested that the origins of magic lie in spontaneous emotional experiences which arose in individuals as a response to stressful situations which could not be resolved by natural means. Dramatic emotional expression, and imitation and enactment of desired ends provided by magical ritual met needs for emotional security and explanation. Rituals provided an assurance of confidence of success in those areas where natural technical knowledge and control did not suffice. Magic was not a false science, but emotional resources utilized after science was exhausted. Magic derived from passionate experiences, instinctive life, emotional tensions, and spontaneous ideas and reactions. Sympathetic magic was used to elicit "physiological and emotional reactions," and traditionally prescribed rites permitted the production and use of supernatural power—mana.

Malinowski suggested that magical rituals had functional explanations in terms of individual psychology and social integration. Magic helped to overcome the feeling of impotence induced by the lack of effective technology, and provided a means of wish fulfillment; magical actions substituted for unattainable goals provides subjective relief. These spontaneous emotional bases were later transformed into standardized mythological forms, which provided the basis for public enactments. These ceremonies based upon such experiences reintegrated the individual into society and provided social support for belief in the efficacy of ritual. Norbeck (1961) captured a similar distinction between emotional origins and the transformed social forms of magic: "The foundations of magical practice are thus due to experiences actually lived through, from which man received the revelation of power, or magical rules, to attain desired ends. Passed on to other members of society, these formulas become stripped of emotions which surrounded them at their birth and are transformed into the prosaic and essentially emotionless acts which characterize most

of magic (Norbeck 1961: 47).

Both the intellectualist and symbolist perspectives suggested that the actor's magico-religious behavior was actually directed towards goals other than those expressedly intended by the actors, that manifest and latent functions of magico-religious ritual were distinct. The notion that religious (including magical) behavior has social implications beyond the conscious intentions of the actors was developed and elaborated by anthropologists representing what Skorupski (1976) called the symbolist traditions.

Durkheim saw religion as a social phenomena in its origin, nature and functions. Religion and magic were viewed as involving symbolic representations of society. Communal totemic rituals linked spirit entities with clan structure and organization, and provided the basis for both religion and society. His perspective stressed the symbolic nature of religious phenomena, arguing that religion symbolized society and united communities into moral communities with common values, sentiments and symbol systems. The truth of religion lie not in a mistaken scientific enterprise, but in a metaphorical and symbolic statement about society and it's collective forces. Religion was the basis of the individual's relationship to society. The large ceremonial gatherings created a sense of consciousness of one's membership in society and one's dependence upon society for survival. Through the concrete manifestation in the totem, society was unconsciously worshiped as something sacred. Religious activities also served to socialize the individual into a symbolic system which expressed social feelings and values, and provided disciplinary, integrating, vitalizing and euphoric forces.

Durkheim also made a distinction between magic versus religion, but with a different distinction between the two than that emphasized by Frazer. The practices of religion were based upon a unified set of sacred beliefs and practices associated with a "Church", a society or group of individuals were united into one single moral community. Magic had no "Church;" no moral community bound the magician and clientele. Rather Durkheim borrowed the Christian orientation which saw magic as involving witchcraft and sorcery, an evil, immoral and blasphemous perversion of religion (Wax and Wax 1963). This distinction, however, proved no more tenable than Frazer's when confronted with the ethnographic data which showed practitioners combining the community and religious roles with those involving negative magic.

Durkheim's insights and findings were developed in the functionalist perspectives which analyzed the role of religion in relation to other aspects of society and culture,

and in the linkages of the individual and collectivity (society). The studies with these perspectives have emphasized religion as a system of beliefs and practices which served to symbolically represent and support the institutions of a society. Symbolic representation of social organization in the context of supernatural power reinforced the legitimacy of the social institutions and fostered group integration and cohesion. The usefulness of this perspective was exemplified in Swanson's (1960) work illustrating that dominant religious practices and beliefs corresponded in a direct way to the nature of social organization.

Along with the social functionalist approaches arose the development of conflict perspectives, which emphasized the notion that religion tended to support the status quo and was a symbol system used by those in power to manipulate the masses. The negative and social (dys)functional aspects of magical beliefs was exemplified in the work of Evans-Pritchard (1965) and others on witchcraft beliefs and practices and the related social processes. Subsequent work emphasized the role of these negative beliefs in terms of social control mechanisms and manifestations of social conflict. However, why such beliefs should be selected, and the source of their cross-cultural uniformity remained unaddressed.

The approaches of the intellectualist and symbolist perspective emphasized the individual psychological and collective social aspects of magico-religious practice, respectively. Rather than contend that one or the other alone is at the basis of magico-religious practice, an integrated approach would span both sets of concerns. Pervasive evidence of common principles examined by the "intellectualist" (psychological) perspectives must be integrated with the "symbolist" (social level) perspectives. In fact, much of the understanding of traditional healing derived from these integrated perspective which examine the psychological effects of social practices of religion, for example the recognition that social relations of religion provide the social matrix which gives a feeling of comfort, belonging and personal identity.

Our conceptions and assumptions about the nature of magico-religious phenomena must be reassessed. As anthropology has moved from the arm chair theorizing typical of the 19th century anthropology, to the participative and descriptive studies characteristic of 20th century anthropology, the evidence for the nature of magical and religious practices and our understanding of the nature of magico-religious phenomena has changed. The development of medical anthropology has investigated in the context of cultural healing traditions many of the activities previously labeled as magic and religion. Rather than

mere products of deluded minds or misguided efforts to relieve anxiety, magico-religious healing practices have been increasingly recognized as effective. And in contrast to the perspective that magical practices were based on childish, ignorant or dull witted mistakes, we find modern psychological perspectives on shamanism indicating that it has represented an advanced level of transpersonal development and human evolution (Walsh 1990).

The traditional shortcomings of anthropological theories of magico-religious practices and the new perspectives derived from medical anthropology demand the application of a systematic methodology to resolve many persistent questions. Identification of the institutional bases of magico-religious practice is central to explaining the role of magico-religious practices in social life. While such institutions have been studied, a formal cross-cultural examination of their similarities is lacking. Identifications of universals or common themes in different religions as resulting from institutional arrangements in society suggests that religion may reflect social institutions and their needs, met through magico-religious institutions. However, the exact nature of these social organizational needs, and how they are reflected cross-culturally in the institutional structures of society has not been previously established.

1.2 THE PROBLEM OF MAGIC AND RELIGION

The focus of the Waxes' (Wax and Wax 1963) critique of the contrast and categories of magic versus religion was that these dichotomies and distinctions were based upon deep historical tendencies of Western intellectual culture, and not derived from other cultures' conceptions of their practices and experiences. Magic has involved a world view which is at odds with that of the science which is trying to explain it. "The rational world view of the West is not merely distinct from the magical world view, it is inimical to it, as demonstrated by the long history of religious and moral crusades... [which] have regarded magical rites and magical mentality as immoral and blasphemous" (Wax and Wax 1963: 502).

Previous theorists have projected their pet conceptual frameworks and selectively presented a series of isolated magico-religious materials from different cultures, which they have interpreted as being in support of their theories and conceptualizations. The theoretical perspectives used to explain magic and religion have not been based upon non-Western cultural conceptions of magico-religious domain. They have not used a system-

atic cross-cultural study of the cultural institutions which constitute the cultural focus of activities which anthropologists label as magic and religion.

In spite of the severe critiques of the dichotomies of magic versus religion, and magic versus science employed by early anthropologists, anthropologists have continued to employ the differentiations and perspectives. The Waxes' critique (Wax and Wax 1963) suggested that this reflects the fact that the distinctions of magic and religion are not based on emic conceptions and practices, but upon the distinctions of a rationalistically oriented Western civilization and science.

However, other anthropologists (e.g., Norbeck 1961, Spiro 1967) have argued that the two extremes represented by the ideal and analytical concepts of magic and religion share a common underlying dimension, the supernatural. The common concept of the supernatural bridged the conceptual frameworks of magic and religion; through this common concept they share the notion of being apart from natural and mundane phenomena, and in being unexplainable in ordinary terms. Supernatural power both transcended the mundane world, as well as operates within it, and encompassed both personified (animistic, spirit) and impersonal (mana) concepts of power. A similar perspective was presented in Durkheim's distinction of the sacred and profane, with both magic and religion sharing a sacred dimension of life, in contrast to the profane or natural dimensions. Hammond (1970) argued that magic was an element of religion, one type of religious practice which may affect the distinct sources of supernatural power—spirits, mana, and self/personal power. However, such incorporation does not relieve the need to determine the particular referent of the term "magic" and the nature of the social institutions to which it has been applied.

In order to address these persistent questions as well as new perspectives, a cross-cultural data base which engages such data is essential. Although early approaches by anthropologists and sociologists used a comparative method, it was not a systematic one. Rather, cases were deliberately selected from societies to illustrate the theoretical perspective projected. And instead of understanding the institutions of magico-religious practice, theorists such as Tylor and Frazer provided piecemeal examples to illustrate the theoretical principles they presented. Even the symbolic and social functionalist perspectives, while no longer directly demeaning the mentality of magico-religious practice, nonetheless persisted in suggesting that the participant's ideas of their actions (manifest functions) were erroneous, that they did not know what they were actually doing (latent

functions).

Anthropologists have been concerned with the nature of these ideal/polar types which, when compared with ethnographic data, seldom prove to be useful or illuminating. It is apparent that the labels magic and religion refer to an overlapping domain of phenomena which are not clearly specified or differentiated. Given this uncertainty with respect to the nature of magic and religion and their differences and relationships, this work has referred to the phenomena which are the subject of inquiry as "magico-religious." The use of the term magico-religious is not to assert a fundamental identity of magic, religion and the varied phenomena subsumed under the label. Rather, it reflects a cultural and disciplinary bias which tends to see magical and religious phenomena as substantially, if not fundamentally similar. Anthropologists have considered magic and religion to be similar in their assumption of an order of the universe which is glossed as the "supernatural" (Norbeck 1961). The term "supernatural" is a gloss which refers to the domain of ontological beliefs. These beliefs assume the functioning of non-human beings (spirits), and/or the ability to use special powers occurring outside of the normal experience, knowledge and access of humans; interaction with either allows humans to influence the course of nature in ways not accessible to ordinary human functioning and abilities. The considerations here do not address the appropriateness of the concept of the supernatural in unifying the phenomena referred to as magic and religion, but uses the term supernatural and its general connotations as a point of departure which encompasses the domains of interest which are conventionally understood by the term supernatural.

The need to jointly encompass magic and religion with respect to the supernatural partially reflects a lack of a clear understanding as to what phenomena these different labels might ideally apply. While in the abstract, the distinctions between magic and religion offered by Frazer and Durkheim are rather simple and clear, in the context of actual practices, magical and religious acts are frequently intermingled (see Wax and Wax 1963, Rosengren 1976, and subsequent comments). This suggests that the distinction between magic and religion is of limited use in classifying activities, perhaps reflecting Western conceptual categories rather than the nature of the phenomena under investigation (Wax and Wax 1963). However, the persistence use of these terms may also reflect a persistent perception of some systematic differences underlying supernatural practices. The investigations proposed here of the social statuses or positions which are involved in magico-religious activities can be used to

shed light upon the relationships of the labels “magic” and “religion” to actual practices and the institutional structures of society.

Based on the research reported here, it is argued that the classic distinctions of magic and religion do substantially correspond to the nature of the data collected here. The major divisions in magico-religious practitioner types and their training experiences contrast (1) altered state of consciousness (ASC)-based training, associated with healing and divination, and corresponding to the shaman, and (2) sociopolitical selection and power, associated with propitiation and agricultural rites, and corresponding to the priest. It is suggested that the ASC-based aspects of magico-religious activity, which have an universal distribution, correspond to the aspects of magico-religious activity generally glossed as magic. The sociopolitical magico-religious systems directed towards propitiation and agricultural activities correspond more directly to those activities conventionally understood as religion. These points are discussed more fully in the conclusions.

1.3 THEORETICAL PERSPECTIVES AND HYPOTHESES

The following section further elaborates the problems which motivated this research and the general research plan which provided the basis for this study. This is followed by a review of the general theoretical perspectives derived from anthropology which guided this research and the hypotheses thereby generated. The subsequent sections of the introduction serve to orient the reader to an overview of the major findings reported here. Finally the advantages and limitations of this approach are considered.

A primary goal of this research was to determine an etic² typology of the different types of magico-religious practitioners encountered cross-culturally. The notion of an etic system employed here refers to one which integrates various emics under consideration into a common system of explanation. This approach is based upon the assumption that some magico-religious practitioners in different cultures are fundamentally the same, involved in functionally equivalent activities. In order to develop an etic framework for magico-religious phenomena, it was decided to determine the possibility of categorizing magico-religious practitioners into distinct types based upon empirically shared characteristics, rather than upon the previous *a priori* models or assumptions. It is later argued that some of the different types of magico-religious

practitioners found here are best understood as the transformation of some practitioner types into others as a consequence of social changes.

The determination of a cross-cultural typology of magico-religious practitioners is an essential step in trying to determine universals of magico-religious practice and in providing a basis for cross-cultural comparisons of similarities and differences in these activities. The lack of formal cross-cultural approaches in assessing magico-religious practices has resulted in the lack of generalizable terminology, and inconsistencies and disagreements in the applications of presumed universal terminology. Eliade (1964) argued that the shaman was characterized by specific activities and practices, but pointed out that the term shaman was used to refer to very different types of practitioners and activities. This dispute over the appropriate extension of terminology persists. For instance, some writers (e.g., Siikala 1978) have argued that the term “shaman” should be restricted to Siberian and sub-arctic practitioners, while others (e.g., Lewis 1971, Peters and Price-Williams 1980) have used it more broadly to refer to any magico-religious practitioner entering altered states of consciousness. Hultkrantz (1978) provided a detailed set of definitions and considerations as to what constituted shamanism, apparently including modern spiritualists within the shamanic traditions.

A similar problem is encountered with respect to magical practitioners called sorcerers and witches. Evans-Pritchard (1937) introduced anthropologists to the Azande distinction between sorcerers and witches. Simply, sorcerers were thought to engage in conscious, deliberate manipulative acts causing harm, while witches were thought to engage in unconscious psychic acts causing harm. The applicability of Evans-Pritchard’s distinctions have not been widely investigated, but such differences have been shown to vary with social conditions; Murdock’s (1980), Roberts’ (1976), and Whiting’s (1950) research suggested that witchcraft and sorcery like practices and beliefs were associated with societies varying along a number of different variables. However, thus far the appropriateness of these distinctions for other societies practitioners, and the relationships of these different types of beliefs to social variables has not been systematically researched. This study addresses the issue of differences in magical practitioners engaged primarily in malevolent acts in order to determine the validity of the sorcerer/witch distinction, the origins of such beliefs, and their relationship to social complexity variables.

This investigation in general addresses the issues of

the universality, distribution and characteristics of shamans and other types of magico-religious practitioners by empirically identifying the practitioners which are classified together on the basis of empirical similarities (Chapter 3). The development of an empirical and cross-culturally valid typology of magico-religious practitioners with universal application, and the determination of the appropriate extension of this terminology was accomplished by this research because it was based in a detailed assessment of a wide range of descriptive characteristics of the practitioners. The characteristics of magico-religious practitioners were assessed across the major areas which characterized their roles, and included nearly 300 individual variables which were combined and reduced to 98 variables for the purpose of the analyses used to determine the typology. The variable areas assessed include: magico-religious activities; sociopolitical powers; social and professional characteristics; selection and training procedures; motives for and contexts of performances; sources and characteristics of supernatural power; special abilities; magical techniques employed; and ASC induction procedures and characteristics associated with training (see Chapter 2). This approach overcomes the problem of comparability of practitioners types from different cultures by basing analysis and determination of shared similarities on a wide range of observed characteristics rather than upon the labels used to refer to the practitioners.

The research questions about types and characteristics of magico-religious practitioners, their origins, their relationships to social conditions, and the role of ASC in magico-religious practices were shaped by a broader perspective on magico-religious practices. The following material reviews both traditional theories and recent developments which have guided this research; these are integrated with or have contributed to the general understanding about magico-religious phenomena which is presented here. These previous approaches to the relationship between magico-religious practices and social conditions, combine with the data of this study, were used to develop a general theory about the institutional structure of magico-religious phenomena.

Magico-Religious Practice and Social Complexity.

The general perspective developed here from previous research is that there are both cross-cultural similarities in magico-religious practices, as well as systematic differences in the magico-religious practices of different societies as a function of factors related to social complexity. The least complex societies are typified by the hunting and gathering economies without hierarchical

political integration; the more complex societies are typified by agriculture, social stratification and hierarchical political integration. Although this study was directed towards discovering unknown patterns in magico-religious practitioners, previous research suggested systematic patterns which were expected.

Norbeck (1961) noted a distinction among magico-religious practitioners, contrasting shamans and priests, associated with simpler and more complex societies respectively. The shaman was considered to be in direct personal contact with the spiritual world, grappling with spiritual entities, while the priest was seen as removed from direct contact with spiritual beings, dealing with them through offerings and propitiations but generally lacking experiential (altered state) contact. D'Andrade (1961) and Textor (1967) examined the relationship of social variables to the use of dreams to seek supernatural power. They found relationships which Bourguignon (1972) pointed out indicate that the presence of vision quests and dreams as sources of power are negatively related to social complexity. Similarly, Jorgensen's (1980) analysis of Western North American Indian societies indicated that sedentary societies with centralized political authority and sodalities indicative of priest-hoods had no vision quests on the part of lay people. There was limited involvement on the part of shamans, while less centralized societies showed a greater incidence of shamans and widespread access to vision quests for both lay individuals and shamans.

Bourguignon's (1968, 1976b) findings on the relationship of trance (or altered states of consciousness—ASC) and possession ASC to indices of social complexity suggested a related pattern. ASC, defined as an ego oriented altered state of consciousness without loss of memory or displacement of personality was significantly associated with indices of simpler societies. Possession trance, an ASC in which it was believed that the practitioner's normal personality was displaced by a spirit entity, was significantly associated with indices of greater social complexity. Greenbaum (1973a, 1973b) extended Bourguignon's findings in a regional study of Sub-Sahara Africa. Her findings suggested that possession ASC were associated with rigid societies characterized as being non-egalitarian, with ascriptive status, autocratic hierarchical political systems, centrally controlled with fixed residence, fixed religious rites and fixed group membership. Lewis's (1971) discussion of ecstatic religious forms suggested similar relationships; possession cults and religions arose from oppression, pressure or constraints to which subordinate members of

the society or subjected communities were exposed. Thus, to the extent that ASC are associated with magico-religious practitioners in more complex societies it was expected that they should be characterized by possession beliefs in which the practitioner was not thought to be directly responsible for his or her own behavior.

Murdock (1980), Whiting (1950) and Roberts (1976) suggested differential relationships between supernatural theories of illness and indices of social complexity which followed similar systematic differences between magico-religious practices and beliefs in simple and complex societies, respectively. In general, beliefs and practices in simple societies tended to involve more direct control over supernatural power, while beliefs in more complex societies indicated a greater repression or lack of control. Murdock (1980) contrasted sorcery with witchcraft. Sorcery was defined as involving conscious techniques and manipulation of materials which could generally be employed by anyone. Witchcraft was defined as innate, and generally operating unconsciously. Beliefs in sorcery and witchcraft as causes of illness were negatively and positively associated respectively with several indices related to social complexity. Similar patterns were revealed by Whiting (1950), who found the presence of sorcery negatively associated with jurisdictional hierarchies. Similarly, Roberts (1976) found a strong positive relationship between indices of social complexity and the presence of beliefs in the evil eye, in which an individual was believed to exercise a harmful psychic (mental) influence upon others, although generally inadvertently.

A general perspective extracted from this previous research is that systematic differences in magico-religious practices can be organized around the principle that beliefs and practices in more complex societies indicate a displacement of responsibility, repression of awareness, and reduction of direct ego control over information revealed or actions taken; practices and beliefs in simpler societies indicate a more direct ego contact with supernatural power and experiences. This general perspective was explored by testing a number of specific hypotheses about the relationship of magico-religious variables and the social variables: (1) The use of ASC in magico-religious practices is strongest in simplest societies; more complex societies have a reduction of ASC experiences and their importance; (2) The presence of ASC labeled as possession are more prevalent in more complex societies; (3) Malevolent magico-religious practitioner roles characterized by repression or projection of responsibility

(as in the unconscious use of power like witchcraft), are associated with more complex societal conditions than those practices characterized by direct responsibility for actions (e.g., the sorcerer, who is thought to carry out consciously directed manipulative techniques).

Institutional Universals of Magico-religious Practices. Cross-cultural similarities in magico-religious practices have led anthropologists to hypothesize the universality of particular beliefs, practices and principles. These apparently include but are not limited to the following: animism—the presence and action of spirits as fundamental aspects of magico-religious practices (Tylor 1871); sympathetic magic—the presence of the principles of similarity and contagion as basic characteristics of magical action and belief (Frazer 1929); a concept of supernatural power (mana) (Maret 1909); the enactment and visualization of desired ends (Malinowski 1954); the use of ASC as an integral aspect of magical practice (Mauss 1950, Norbeck 1961); and the presence of divination procedures (Wallace 1966); the use of supernatural power to heal and to cause illness and death; the ability to influence natural systems, crops, animals and humans; and abilities such as clairvoyance, telepathy and precognition.

However, there has been no systematic effort to verify that these presumed universals are in fact present in all cultural groups or in a representative sample of cultures. In fact, Bourguignon (1982) has suggested that the supposed universals of magic are not found in all societies. This study cannot conclusively address the issue of the universality of these traits, since it focuses upon the practitioner role and does not include assessment of the magico-religious beliefs and practices present among the general population and not associated with a professional magico-religious role. The primary concern with the issue of universals of magico-religious activity in this study is at the level of the institutional structure of magic and religion and their origins, such as the theoretical positions proposed by Frazer (1929), Mauss (1954), Durkheim (1915), Malinowski (1954) and O'Keefe (1982). The conclusions directly address the issue of the universal origins of magico-religious practices, suggesting the bases for the various types of magico-religious practitioners found in this study and the social forces which lead to their development and transformation.

1.4 CHAPTER OUTLINE OF THE PRINCIPAL FINDINGS

Three major types of magico-religious practitioners are suggested by the analyses (Chapter 3); they have been labeled as follows: (1) Shamanistic Healers, including the Healer Complex (Shaman, Shaman/Healer and Healer) and Medium; (2) Priest; (3) Sorcerer/Witch. Shamanistic Healers, practitioners using ASC for healing and divination, are universal; Priest and Witches only occur in more complex societies.

The typology of magico-religious practitioners was assessed on a societal basis to determine the types of configurations of practitioner types (which types of practitioners occur together) (Chapter 4). Social complexity data from Murdock and Provost (1973) was used to investigate the relation of social conditions to the incidence of different types of practitioners and their configurations. The practitioner type configurations are compared and assessed in terms of the role selection procedures and role responsibilities and functions. This indicates three institutionalized bases of magico-religious practice: ASC, sociopolitical sacred power, and religious persecution/conflict.

The distribution of the Shaman and similar practitioners in conjunction with socioeconomic and political conditions suggest universal features of human personal and social experience give rise to these phenomena. ASC are shown to be one of these universal and fundamental psychobiological features of magico-religious practice, providing its original basis.

Shamans represent the original institutionalization of this ASC base (Chapter 5). Shamans are generally found in hunting and gathering societies, without agriculture or political integration beyond the local level. It is shown that the shamanic practitioners' are universal because they are institutionalizations based upon a common set of psychophysiological changes underlying a variety of altered states of consciousness induction techniques. It is this common physiologically-based ASC which provides the basis for common characteristics and functions of shamans.

It is hypothesized that as a result of the changes concomitant with the development of agriculture, sedentary lifestyles, and political integration, the shaman's status and role undergo changes to the practitioner types labeled a Shaman/Healer, Medium and Healer (Chapter 6). The Healer shares some similarities with the Shaman role, but lacks major ASC, and occurs predomi-

nantly in societies with political integration beyond the local level. This suggests that these social conditions contribute to a further transformation of the original shamanic role. The finding that Shamans, Shaman/Healers and Healers do not occur together in the same society, being strongly differentiated on sociocultural evolutionary characteristics, while sharing common functions, supports the model of a transformation from Shaman into the Shaman/Healer and Healer subtypes. This is a consequence of the impact of social transformation from hunting and gathering to agricultural and then to politically integrated of societies.

Some of the concomitant changes in magico-religious activities include a decrease in the use of ASC, an increase in the formal organization of the practitioner group, an increase in involvement with activities such as propitiation, sacrifice, agriculture rituals, and the development of elaborated material systems for divination (e.g., like the *I Ching* and Tarot). More complex societies have ASC practitioners labeled here as Mediums, who have "possession" ASC as the basis of their interaction with the supernatural and their involvement in healing and divination. Mediums are similar to the Shaman in their use of obvious and vigorous ASC, but Mediums occur almost exclusively in societies with political integration beyond the local level. This suggests that social changes concomitant with the development of politically stratified societies transforms the manifestation of this biologically based ASC. Analysis of the physiological basis of ASC, the variation in their induction and characteristics, and the relation of these differences to social conditions shows that Shamans and Mediums are different social manifestations of a universal stratum of magico-religious practice—ASC based practitioners who perform healing and divination.

The second major group of magic-religious practitioners are labeled as Priests (Chapter 7). Priests are found only in societies with an agricultural (or pastoral) economy and are always present in societies with political integration beyond the local community (and/or classes). Although the Priests are magico-religious practitioners, they are also political leaders of their societies. Selection for the position is generally on the basis of inheritance of the position, seniority within certain kinship groups, membership in privileged classes, and/or the exercise of political power. Priests engage in magico-religious agricultural rites, propitiation of gods, and socioeconomic protection, largely through the medium of sacrifice. The role of the Priest appears to have

originated in both shamanic practices, and in the leadership roles of kinship-based groups which practice ancestor worship. This latter base is represented in Durkheim's notion of clan-based totemism providing a basis for communal religious activities.

The Sorcerer/Witch practitioners are generally those which engage largely or exclusively in activities which their culture labels as malevolent (Chapter 8). These practitioners are found almost exclusively in societies with political integration beyond the local level, and most (but not all) such societies have practitioners classified as a Sorcerer/Witch present. People to whom these statuses are attributed normally receive them through a process of persecution and social labeling which they generally deny. The usefulness of the distinction between sorcerer and witch offered by Evans-Pritchard is substantiated by the data of this study. Sorcerers—engaging in conscious deliberate acts—are found in politically simpler societies, while witches—thought to act unconsciously and psychically—are found in politically more complex societies.

The differences between the sorcerer-like and witch-like practitioners are not best represented as distinct types of practitioners; rather they are seen here as a set of continuous differences. The degree or extent of political integration beyond the local community is the central social variable differentiating the societies with the presence of sorcerer-like practitioners versus those with witch-like practitioners. This, combined with the fact that Sorcerer/Witch Practitioners generally occur in societies with two or more levels of political integration beyond the local community, suggests that social forces related to the process of political integration are responsible not only for the incidence of the Sorcerer/Witch, but also for what is hypothesized to be the transformation from sorcerer to witch-like practitioners. Further analyses demonstrate that the roles of the Healer Complex (Shamans, Shaman/Healers and Healers) provide the social and magico-religious statuses and roles which are transformed into Sorcerer/Witch. It is suggested that there are two processes in the creation of occupants of the Sorcerer/Witch status. One is a result of the process of integration of local communities into politically stratified systems, in which there is systematic persecution of practitioners of the Healer Complex, transforming them into the Sorcerer/Witch status. The other process is through the persecution of lower status or class individuals within stratified societies through the attributions derived from shamans and sorcerers such as flight, animal transformation, consumption of souls, and night activities.

Altered States of Consciousness and Magico-Religious Practices. Major attention is given in this book to the nature of altered states of consciousness (ASC) or trance, and their relationship to magico-religious practice (Chapters 9 and 10). Trance, possession, and ASC are central aspects of magico-religious practice, as Norbeck (1961), Mauss (1950), and de Vesme (1931) have pointed out. The present analysis of the relationship of ASC training to the types of magico-religious activities confirms the importance of ASC with respect to magico-religious practices. ASC training for magico-religious practitioners is found in all societies and constitutes a universal base of magico-religious practice. The finding that ASC are universally used in magico-religious training, healing and divination suggests that ASC training is functionally related to these procedures and activities. Although some form of ASC induction plays a central part of many magico-religious practices, not all practitioners utilize ASC induction procedures, and those which do show a quite varied set of induction procedures, observable outcomes, and explanations for the altered states (i.e., soul journey or possession). These diverse outcomes of ASC are integrated in a psychophysiological model of ASC. The data analyzed here and psychophysiological literature reviewed show that there is a common underlying physiology involved in ASC, as well as differences in characteristics of ASC which correspond to different social conditions.

When the data were first collected for this study, there were only a few explicitly developed hypotheses with respect to altered states and magico-religious practices. The intention was to determine the distribution of different types of ASC and their relationship to: 1) cultural beliefs about ASC (possession versus non-possession) and 2) the complexity of the society. It was hypothesized that there would be psychophysiological differences between possession and non-possession ASC, and a reduction in the incidence and use of ASC in magico-religious practices in more complex societies. The suggestions of a number of previous researchers investigating ASC (e.g., Ludwig 1965, Bourguignon 1968, Prince 1966, Lex 1976, Kelly and Locke 1981) were followed in developing a range of variables to use in assessing the nature of the ASC in magico-religious rituals (see Appendix 3). The variables assessed a wide range of induction factors and observable conditions, including: sleep conditions, drug use, motor behavior, food intake, auditory driving, physical stimulation, convulsions, collapse, unconsciousness, and cultural interpretation of the ASC.

In the initial stages of data analysis it became apparent that the assessment of ASC could not be based solely on kinds of induction procedures or observable consequences, but had to be based in the psychophysiological effects of these procedures, since a variety of procedures could in fact induce similar if not identical alterations in state of consciousness (e.g., mescaline and psilocybin). This assumption led to a review of research on the psychophysiology of altered states of consciousness and the psychophysiological effects of a wide variety of behaviors and agents. The central idea which emerged from this review on the psychophysiology of altered states of consciousness was that widely varying induction techniques were directed towards establishing a very similar change in brain physiology. Mandell's (1980) ideas have strongly influenced the perspective developed here. He suggested that there is a common underlying mechanism for the physiological and experiential similarities resulting from varied altered state induction techniques. He shows that a number of different techniques frequently associated with ASC induction have common effects in affecting a drive arrest release sequence of the biogenic amine inhibitory system which triggers temporal lobe limbic and hippocampal-septal hypersynchronous discharges, imposing a synchronized slow wave pattern upon the frontal cortex. ASC induced by diverse procedures are physiologically the same in that the brain wave patterns characterized by synchronized and very slow waves (alpha, theta) originating in the lower parts of the brain replace the normal waking pattern of desynchronized fast waves (beta). Mandell's review provided a basis for establishing the necessary psychophysiological effects of a range of induction techniques, and for arguing the essential similarity of a number of ASC arrived at by diverse procedures. Analysis of the inductive procedures and characteristics associated with the training of the magico-religious practitioners indicates that the overlap in the use of different ASC procedures empirically supports the contention that a variety of different procedures produce a common set of psychophysiological changes.

The assumption that a single type of ASC underlies a variety of different manifestations is consistent with several anthropologists' considerations. Peters and Price-Williams (1980) explicitly decided not to distinguish between shamans and spirit mediums in assessment of the experiential characteristics of ASC practitioners, and Heinze (1983) suggested that in both cases there is a functional use of the ASC for similar ends. However the types combined by Peters and Price-Williams correspond closely to the distinction between possession and non-possession trance (ASC) suggested by Bourguignon

(1968; 1976a, b). Since these states are generally associated with significantly different social and psychological conditions (locus of control, amnesia), it was hypothesized that they would be associated with neurophysiologically distinct conditions. The relationship of these different types of ASC (possession versus non-possession) to induction procedures and the characteristics of the ASC remained an open issue until later stages of the data analysis.

Nonetheless, the analyses have permitted definitive conclusions supporting prior findings. The analyses presented in Chapter 9 show that although possession and non-possession ASC share a common set of psychophysiological changes, they differ in some fundamental aspects. Whereas non-possession ASC are generally deliberately sought, possession ASC generally show spontaneous initial onset, and characteristics such as seizures, convulsions, tremors and other behaviors which suggest that the practitioners have evidence of temporal lobe discharges. Mandell (1980) compared the psychophysiology of temporal lobe discharges and conditions with the psychophysiology of ASC induced by a variety of other procedures. The similarities suggest that a variety of psychophysiological conditions frequently associated with pathological states may dispose individuals to experiences which provide the basis for their selection and training as ASC-based magico-religious practitioners in some cultures.

This study also confirms and extends Bourguignon's (1968, 1976a, 1976b, Bourguignon and Evascu 1977) findings of a relationship between possession ASC and measures of social complexity. The presence of possession ASC associated with magico-religious practitioner training was assessed for each society in the sample and compared with a number of measures of cultural complexity. It was found that political integration significantly predicts the incidence of possession, while other social complexity variables such as social stratification and fixity of residence did not provide significant explanation of the variance in the incidence of possession ASC beyond that provided by political integration. However, the variables assessing a psychophysiological basis, the temporal lobe syndromes (tremors, convulsions, amnesia, etc.), also significantly predicted the incidence of possession ASC. An independently significant prediction of variance in possession ASC by both social variables (political integration) and psychophysiological variables (symptoms of temporal lobe discharges) show the interaction of social and psychosocial variables in the development of specific ASC conditions associated with magico-religious practices.

Analysis of the psychophysiological basis of ASC also provides a perspective on the therapeutic basis of these conditions (Chapter 10). The systemic effects of parasympathetic dominance generally found with ASC provide therapeutic relief as a basic relaxation response. Review of clinical and physiological data on a number of specific ASC induction procedures, especially meditation, hallucinogens, endogenous opiate stimulation, and music, indicate widespread evidence for the effectiveness of these shamanistic techniques of therapy.

The Institutional Bases of Magico-religious Practice. The theory of magico-religious practices derived from this research suggests three main bases: (1) physiologically based ASC; (2) sociopolitical power in agricultural and politically stratified societies; and (3) magico-religious and social conflict persecution in politically integrated societies (Chapter 11).

The ASC capacities of humans provide the basis for what can be referred to as magic in the more restricted sense (direct manipulation), and involve healing and divination as functionally related abilities. The Shaman, Shaman/Healers and Mediums derive from this ASC basis, and the Healer type is seen as a specialization and evolution of this capacity and the traditions which it has spawned.

The forces associated with political and social power in agriculture societies provide the basis for what might be seen as religion in the stricter sense of involving worship, propitiation and supplication. This is the basis for the Priest role, with the combined role of sociopolitical leader and magico-religious specialist involved in agricultural ritual and propitiation.

The conflict between political power and charismatic ASC based power provides the basis for the third main aspect of magico-religious practices. The Sorcerer/Witch Practitioner status results from the persecution of the practitioners of the Healer Complex or other non-magical individuals by those holding social and religious power; these processes of attribution and persecution are also used for persecution of individuals not occupying a magico-religious status.

The general structure of this theory was suggested by a series of interrelated findings: a strong commonality in the selection, training and activities of each practitioner type, coupled with a strong relationship between selection procedures and magico-religious activities and distinct socioeconomic and political conditions associated with different types. The relationship of roles election and training for magico-religious practitioners to types of magico-religious activities indicate a functional relationship between training and activities. These analyses have

indicate three main structures of relationships among training and activities, corresponding to the three institutional bases for magico-religious activities. The practitioners engaging in ASC for training have professional roles involving healing and divination; these are the practitioners of the Healer Complex and the Mediums. The practitioners selected through social inheritance or political power have role activities involving a range of social and political powers and magico-religious activities involving agricultural rites of intensification (increase), propitiation and sacrifice; these are the Priest practitioners. The practitioners selected through persecution or negative ascriptive labeling have professional roles based largely or exclusively upon performing acts which are harmful to others; these are the Sorcerer/Witch practitioners.

It appears that all three functions—ASC healing and divination, sociopolitical power, and malevolent activities—are all present in the role of the shaman in the simplest of societies. These three functions become specialized into distinct roles as social complexity increases, specifically as a consequence of the development of an agricultural subsistence base, political integration beyond the level of the local community, and permanent classes.

1.5 ADVANTAGES AND LIMITATIONS OF THIS STUDY

Ethnographic descriptions have provided a basis for theoretical generalization about magico-religious practices and beliefs (e.g., Tylor 1871, Lang 1898, Marett 1909, Frazer 1929, Durkheim 1915, Mauss 1950, Malinowski 1954, Evans-Pritchard 1965, Norbeck 1961, Wallace 1966, O'Keefe 1982). However, this research was not based upon systematic cross-cultural analysis of the actual elements of magico-religious practices or their relationship to social and cultural factors. There have been other studies utilizing cross-cultural samples which have related magico-religious variables to social variables (e.g., Whiting 1950, Whiting and Child 1953, Swanson 1960, D'Andrade 1961, Textor 1967, Davis 1971, Roberts 1976, Murdock 1980 and Peters and Price-Williams 1980). However, many of these studies were based upon samples which are not well representative of world societies, or else have unassessed interdependencies within the population. Furthermore, they generally assessed the presence of traits, rather than assessing the characteristics of cultural institutions. Although there is some overlap in the magico-religious practices and beliefs assessed in these studies, relationships between

social conditions and magico-religious practices cannot be systematically integrated since these studies are based on different samples and different variables. Generalizations offered about magico-religious practices based upon data derived from samples of convenience are not likely representative of the variation in human societies, and are therefore subject to serious uncontrolled biases. The present study overcomes some of these limitations on comparison, integration and generalization of some of these apparently related findings by assessing a wide range of descriptive characteristics of each culturally recognized type of magico-religious practitioner found in a sub-sample of the Standard Cross-Cultural Sample (SCCS) (Murdock and White 1969). The SCCS is a stratified representative sample of the world's societies, providing a basis for a more reliable assessment of the worldwide variability in magico-religious beliefs and practices, and their relations to social conditions. The SCCS was carefully selected on the basis of statistical assessment of the interrelationships among societies in the Ethnographic Atlas, and is therefore representative of the broadest possible sample of the world's societies. Steps were taken to select cultures with minimal extent of historical influences, diffusion, or common derivation. The interdependencies of the societies of the sample with respect to language, economy, political institutions, descent and geographical distance have been assessed (Murdock and White 1969) and analyses have been developed to control for these biases (see Appendix 2.3 on the autocorrelation method). Other investigators have already coded over 1,000 social and cultural variables for the societies in the SCCS (e.g., see Barry and Schlegel 1980 and the *World Cultures* electronic journal). Utilizing a subsample of the SCCS for this study provides the advantage of utilizing existing data for the social and cultural conditions of the societies of this study; in the subsequent analyses the social complexity variables reported by Murdock and Provost (1973) have been utilized.

The sample utilized has its limitations as well. The subsample of the SCCS utilized in this study is not adequate to represent the range and variation in language groups, and the limited regional representation prevents analysis of regional patterns. Another major limitation of the SCCS is that it is a synchronic sample, focusing upon each society at a given point in time, rather than assessing a given social system across time. It would be desirable to employ a diachronic³ sample to substantiate the principal findings of this study which indicate that there is a transformation and development of practitioner types as a function of social changes. A more substantial sample,

as well as more research into ancient cultures is necessary to determine regional patterns and to separate hypotheses of independent invention from those of diffusion.

The focuses of the SCCS have limited the scope of the findings. The SCCS generally focuses upon societies at a particular time in the historic past when some amount of information was present about the societies, but when the societies were minimally influenced by the colonization from foreigners, particularly Western Europeans. This focus upon the historic past precludes a more detailed consideration of the wide variety of magico-religious practitioners found in modern Indo-European and other international cosmopolitan societies. The practitioners in the sample do not include frequent cases of practitioners primarily involved in millenarian, nativistic, messianic or revitalization movements, and other religious changes and phenomena associate with industrialization and modernization of traditional societies (e.g., see Wilson 1973, Linton 1943, Wallace 1956). Although this sample is not based extensively upon contemporary societies, approximately half of the sample is from the twentieth century. The representativeness is not just of modern societies, but encompasses a great temporal era and includes all levels of social complexity. The broad representativeness of the sample enables this study to reveal a cross-cultural sociobiological institutional structure of magico-religious practice still relevant today.

This research has addressed a limited range of questions about magico-religious practices. The data collected on magico-religious beliefs and practices of the societies considered here is limited to that pertaining to institutionalized magico-religious practitioner roles, and for the most part does not assess magico-religious beliefs and practices accessible to the population as a whole, or the wider belief system within which magico-religious practices are explained. While this allows some specific research questions to be addressed, it is a limited focus. It is one of many different approaches which are necessary for an understanding of magico-religious phenomena. This book is based upon the initial analyses of an ongoing project (see Winkelman and White 1987 for data). The findings presented here are offered tentatively, recognizing methodological and other limitations.

This study does offer an integration of various data on magico-religious phenomena. By adopting a systematic cross-cultural approach in the verification of suspected universals and previously recognized patterns, it provides the basis for a universal framework for understanding the biosocial, psychosocial and institutional

bases of magico-religious practice. Although it does not address all aspects of magico-religious practice, it does provide a framework for the analysis of cross-cultural and institutional bases of phenomena central to all cultures—the supernatural domain of magic and religion. While the concept of the supernatural may or may not be

appropriate in bridging the conceptual arenas of magic and religion, certain deeply rooted assumptions about the nature of these phenomena must be reassessed, and contemporary perspectives grounded in emic and institutional facts must be developed to extend our understanding of this domain.

CHAPTER 2 METHODS

In order to illustrate how the data and findings of this project were used to determine the cross-cultural types of magico-religious practitioners, this chapter addresses a number of issues relevant to the development of the research project. These issues include the selection of the sample, the construction and coding of the variables, and formal analyses of the data. The considerations undertaken in determining the units of analysis—the magico-religious statuses or positions, and the process of development of the variables used to assess the roles of these practitioners are presented. The variables used to characterize the magico-religious practitioners are provided. This chapter also briefly presents some of the general conceptual characteristics of the statistical procedures used in the analyses of the data; more complete methodological detail is also available in Appendix 2.

The process by which meaningful patterns are discovered and the process by which those findings are justified are generally quite different. Generally the formal presentation of the data focuses upon the explanation of the operationalizations and the justification of claims; most of the processes taken in the construction of data are frequently overlooked. These considerations are essential because they constitute a generally unconscious foundation for the data. In studies where only a few variables are being considered, such considerations may be less essential. This study, however, analyzes hundreds of variables to arrive at a final presentation of a few sets of variables—the types of magico-religious practitioners. The facts eventually revealed are in a sense formed when the data or variables are created. The variables chosen and the coding categories employed were central to the creation of the data and to the patterns later discovered in the analyses. From this perspective, the process of forming the variables and coding of the data are as important as the analyses which are used to present the structures discovered.

Complete consideration of the process of creating the data of this project is beyond the scope of this report since it involved 13 revisions of the variables and coding format. However, aspects of the discovery procedures are presented to clarify the over all processes involved in arriving at these findings. The culturally recognized magico-religious practitioner types which were coded for this study, along with information about decisions made in arriving at a determination of culturally recognized practitioner types, have been specified in Appendix

1. The overall process of constructing the research project is presented below. This provides the general outlines of the considerations taken in constructing the variables and coding categories, and a general overview of the major aspects of the process of developing and employing the coding schema.

2.1 DETERMINING MAGICO-RELIGIOUS PRACTITIONER STATUSES

The focus of this investigation is upon magico-religious statuses¹ present in the societies in the sample and the roles and characteristics associated with or attributed to those occupying those statuses or positions. A role is understood in the conventional sense as the rights, duties and obligations of an individual performing a specialized function within the social group. Achieved as well as ascribed characteristics have been assessed. Since the intent of the research was to determine a cross-culturally valid (etic) framework for classifying culturally specific (emic) magico-religious phenomena, the focus was upon the statuses and roles as recognized within each cultural group.

A magico-religious status is defined here as one in which the occupant holds a role related to access to supernatural power. Supernatural power is defined as involving spiritual beings or non-ordinary sources of power. This supernatural order refers to the sacred area of experience dominated by beliefs that there are non-human beings (spirits), and/or the ability to use special powers occurring outside of the normal experience, knowledge and access of humans. Supernatural power intersects the mundane and supernatural world and encompasses both personified (animistic, spirit) and impersonal (mana) power concepts.

The role of each culturally recognized magico-religious practitioner status was individually assessed. These statuses included positions deliberately sought as in North American vision quests, statuses achieved sought as a result of culturally defined spirit possession, leaders of communal rituals which were thought to be involve in interaction with supernatural beings, positions acquired on the basis of seniority within the social group as in some ancestor worship, as well as those statuses which were generally attributed to an individual but not admitted to by the individual (e.g., witches and sorcerers).

However, those individuals who function solely in the role of an assistant to other practitioners were not coded separately; their activities were coded as those of the practitioner which they assisted. No speculation is offered as to the overall characteristics of these assistants and how they might relate to the practitioner types arrived at below. Those magico-religious practices not enjoying an association with a distinct professional status, such as the magico-religious abilities accessible to the general populace, were not assessed.² The healing practitioners whose knowledge and techniques were based in what was considered by the culture as unrelated to supernatural power (e.g., the Babylon physicians—*asu* or *ria-zu*, and the Amhara surgeon/herbalist—*woggesha*) were not considered either.

Determination of the culturally recognized magico-religious statuses was generally not problematic. The present investigator's recognition of magico-religious practitioner statuses was generally only (and all) statuses specifically or implicitly recognized by the ethnographers studying the specific cultures. However, on occasion the determination of specific culturally recognized magico-religious statuses and identification of the associated roles, characteristics and activities was problematical. Some sources failed to provide indigenous terms identifying a practitioner, or referred to what was eventually assumed to be a single culturally recognized practitioner status by a variety of English terms (e.g., medicine man, witch doctor, magician, sorcerer, etc.). Some cultures and languages had a variety of names for what was determined to be the same status. The process of deciding what were culturally recognized practitioner statuses and roles occasionally involved deciding which descriptions to group together as pertaining to the same practitioner. In order to allow assessment of whether this investigator's recognition of magico-religious statuses is valid, the statuses recognized in each culture are specified in Appendix 1. Also included in Appendix 1 are the indigenous terms for the magico-religious practitioner status, when available. The appendix also includes brief statements of interest on some of the societies and practitioners, particularly when there were coding problems or other peculiarities in the process.

A number of societies had practitioners with highly specialized roles, where some practitioners engaged in activities not engaged in by other practitioners who were of the same type, and in most other respects identical. For example, among the Trukese there were practitioners which may engage in any or all of the specializations of magico-religious activities involving agricultural rites, divination, healing and malevolent activities. This raised

the issue of whether to consider the different specializations as one magico-religious practitioner role or several. When there was no way to unambiguously discriminate whether a particular individual practitioner pertained to one specialization of a role/type or another (e.g., whether a sorcerer or a shaman, or a healer-diviner vs. diviner only) and the practitioner was generally thought to engage in both types of activities, the practitioner was coded as a single status and role specialization was assessed as a variable. Other ambiguous cases with situations involving several different practitioner types, or one type with specializations were resolved on the basis of selection and training characteristics. If selection and training conditions were the same, the different specializations were considered a single status. The consequence was that where there were magico-religious statuses with what appeared to be highly specialized roles, they were generally recognized as a single status with specialization. However, if the different specializations had an exclusive differentiation in the selection processes and training procedures for the practitioner status, the specializations were coded as separate practitioners. This occurred among the Tanala, where the *ombiasy* status was divided into two statuses, the *ombiasy nzako*, who purchased ritual power, and the other *ombiasy* roles (*manangatra* and *ndolo*), who acquired their position through possession ASC experiences.

The coding of a highly specialized practitioner roles as a single practitioner status rather than several should have a minimal impact upon the classification of practitioner types. This is because the differences between the different specializations of a given practitioner role are limited to a few variables of the many (98) which were used to classify the practitioners. Coding each specialization separately would merely proliferated instances of the same magico-religious practitioner type since the different specializations would be classified as the same type since they share most characteristics in common. This was in fact found in analysis of the Creek society, where the separation of the chief priest specialization from other shamans found both specializations to be of the same type (Shaman).

The discussion of malevolent practitioners in the introduction suggested that a single society may have more than one culturally recognized magico-religious practitioner role which engages in largely or exclusively malevolent practices (e.g., the Azande/Evans-Pritchard sorcerer versus witch distinction). However, no evidence was encountered for two distinct practitioner types engaged largely or exclusively in malevolent practices within a single society in the sample used here. The

practitioners in a given society which were characterized by members of their own culture as engaging in largely malevolent acts and nothing else were coded as a single practitioner status.

2.2 THE SAMPLE

This study is based upon a stratified subsample (26%) of the Standard Cross-Cultural Sample (SCCS) (Murdock and White 1969). The subsample used in this study was arrived at by first selecting every other odd number society in the SCCS (every fourth society) as the initial sample. Since the societies are ordered on the basis of geographical proximity, this procedure provided a sample of societies which is well representative of the SCCS, and therefore of world societies. Of this initial sample of 47 societies, information on magico-religious practitioners was unavailable or inadequate for two of the sample societies, the Hadza and the Tuhueleche. The Hadza have been replaced by the !Kung Bushmen, because they are in the same cultural province (Murdock 1981). None of the indigenous South American societies in the sample had an economy based on extensive agriculture. Therefore the Mapuche were substituted for the Tuhueleche, since the pinpointed Mapuche were an indigenous South American society characterized by an extensive reliance upon agriculture as a mode of subsistence. The 47 societies of this study are shown by

geographical region in Table 2.1, along with the pinpointed time period for the SCCS.

Two of the societies in this sample, the Mbuti and Siriono, had magico-religious practices present in the society, but had no special culturally recognized status or position as a magico-religious practitioners at the pinpointed time period. These groups were among the simplest in terms of measurements of social complexity (hunting and gathering), and show evidence of deculturation. The Mbuti, descendants of the pygmies, had adopted a Sudanic language and developed a symbiotic relationship with their Bantu neighbors. The Siriono were a starving hunting and gathering group, which lacked magico-religious practitioners typical of the other societies in the Equatorial language group (see Stearman 1984 on Siriono deculturation). Since these cases appear to be special exceptions rather than the rule, and since there was not a sufficient basis to evaluate the hypothesis of deculturation effects upon magico-religious practices, these societies were excluded from the formal analyses of the relationship of practitioner types to social conditions. However, the communal magico-religious practices of these societies were assessed in the initial analyses, and the relation of these activities to the other magico-religious practitioners evaluated in the context of the general model developed here.

Table 2.1
Societies in Sample

AFRICA	CIRCUM MEDITERRANEAN	EURASIA
Nama (Hottentot) 1860	Wolof 1950	Samoyed 1894
!Kung Bushmen 1950	Fulani 1951	Toda 1900
Ovimbundu 1890	Fur 1880	Kazak 1885
Mbuti 1950	Kafa 1905	Garos 1955
Ibo 1935	Amhara 1953	Vietnamese 1930
	Tuareg 1900	Semang 1925
	Babylonians 1750 B.C.	Tanala 1925
	Romans 110	Japanese 1950
	Kurd 1951	Chukchee 1900
INSULAR PACIFIC	NORTH AMERICA	SOUTH AMERICA
Iban (Sea Dyak) 1950	Montagnais 1910	Bribri 1917
Alorese 1938	Kaska 1900	Callinago 1650
Kimam 1960	Twana 1860	Saramacca 1928
New Ireland (Lesu) 1930	Paiute 1870	Jivaro 1920
Pentecost 1953	Hidatsa 1836	Siriono 1942
Marquesans 1800	Creek 1800	Tupinamba 1550
Trukese 1947	Zuni 1880	Cayua 1890
Atayal 1930	Aztec 1520	Mapuche 1950

2.3 DEVELOPMENT OF THE CODING FORMAT

In order to formulate a set of variables for the purpose of characterizing the magico-religious practitioners, ethnographic materials covering magico-religious practices of approximately 30 societies chosen on the basis of convenience and representation of the major regions of the world were selected. These societies' materials on magico-religious practice were reviewed and notes taken on the central characteristics of the practitioners and their activities. The characteristics of the magico-religious practitioners found in these societies were reviewed and organized into common categories (e.g., selection procedures, magico-religious activities, political/social powers, ASC induction techniques, types and sources of power, etc.). The major theoretical and empirical concerns addressed in the anthropological literature on magico-religious practices were also included as variables (e.g., critical vs. calendrical rites, possession vs. non-possession, charismatic vs. political power, superior gods vs. minor spirits, etc.). This initial schema was then applied to the coding of several societies and revised on the basis of the applicability of the coding categories. The societies reviewed in the formation of the coding categories and those initially coded did not serve as a basis for the sample used in this study.

After this initial phase of development of the coding format, the coding schema was then applied to the assessment of the practitioners in the societies in the sample. However, the process of modification and development of the coding format continued. Variables were added as other salient characteristics were noted; some characteristics were grouped in large variables constituting "check-lists" of characteristics (personality characteristics, types of techniques, types of ASC induction procedures). This led to an enormously cumbersome set of overlapping variables, which required that the codes be synthesized and reduced. Codes which proved to be rare or not consistently reported (e.g., certain descriptions of practitioner during ASC) were removed, and many overlapping variables (e.g., sources of power, control of power, types of power) were condensed into multiple category variables or ordinal variables.

During the initial coding of magico-religious practitioners in the societies of the sample, the coding schema underwent continued revision in an effort to reduce the coding format to a smaller number of central variables and to provide clarification of the variables. One of the continued efforts was to derive a smaller set of variables which adequately assessed the characteristics of the magico-religious practitioners. This effort was seen as

attempting to develop variables which represented repeatedly observed regularities in the practitioners, in a sense, the categories inherent to the practices. This process of revision required that the entire sample be recoded at the termination of the first complete coding. During this process of coding, a set of coding instructions (Winkelman 1984) were developed to clarify the meaning and applications of variables. In the process of coding an extensive search was made for sources providing information on magico-religious practices. Sources utilized included the Peabody Museum Catalogue, bibliographic searches, HRAF files and bibliography, as well as the SCCS bibliography and the citations present in the already completed studies utilizing the SCCS (see Barry and Schlegel 1980). The newly acquired sources were frequently the most important sources on magico-religious practices (see SCCS supplemental bibliography in Appendix 3).

When the coding had been completed, the coding format included approximately 360 variables, including the multiple codings for repetitive variables such as the altered state induction procedures associated with the different magico-religious activities. These data were subjected to a wide variety of exploratory analyses (cluster analyses, factor analysis, entailment analysis) designed to reveal the general structure and interrelations of the data, to generally confirm the hypotheses which had generated the research, and to assist in the consolidation of redundant variables into a smaller more manageable set of variables. After extensive data screening, the original data were reduced into a set of 98 variables (see below) after extensive data screening which involved combining variables, eliminating those variables very low in frequency, of little theoretical interest, or lacking clarity because of ambiguous coding instructions. Reduction to this number of variables² was determined by the limitations (n=100) of the program used to calculate similarity among practitioners. This set of variables was used as the basis for determining the classification of practitioner types presented here. The initial data were not subjected to reliability checks, but the revised data set underwent coding reliability checks (see Winkelman and White 1987). The revised set of data differs primarily in being a refinement and clarification of variables and variable associations, although a few changes have also occurred in the magico-religious practitioner statuses that were coded.

2.4 VARIABLES

The variables used as the basis for this research were chosen with the intention of assessing all of the major

areas which can be considered to include principal characterizations of magico-religious practitioners. Mythological explanations are the only major areas of characterization which the author recognizes as not extensively considered in the codings. The variables used in the analysis reported here are presented below. The variables and descriptions provide an overview of the major variables areas and informs the reader of the range of characteristics assessed, and their relevance for understanding the nature of magico-religious practitioners and activities and their similarities and differences. These are not all potentially relevant variables, but the wide range of characteristics assessed should provide a sufficient basis for an accurate and stable classification of magico-religious types. A revised variable set is provided in Winkelman and White 1987 (see Appendix 3) to enable others to determine the impact of different variable groups on the typology derived. The variables below are presented in ten broad categories: magico-religious activities; sociopolitical powers; social characteristics; professional characteristics; selection and training; contexts and motives for practitioner's activities; supernatural power; special abilities; techniques employed; and ASC conditions and spirit relations.

Magico-Religious Activities

These activities were coded as either absent, secondary, or primary functions of the practitioner.

HEALING: Actions taken by practitioner in response to current illness

PROTECTION: Actions taken to avoid future effects or detrimental states of affairs which have not yet begun to impinge directly upon the health of the client. This may also include specialization for **PROTECTION IN COMBAT** and **PROTECTION FROM MAGICAL PRACTITIONERS**

PURIFICATION: The removal of illness causing influences resulting from contamination, violation of taboos, etc.

DIVINATION: Actions undertaken by the practitioner with the presumed intent of acquiring information about states of affairs not immediately available to practitioner or client.

DIVINATION: ALTERED STATE, NON-POSSESSION: Divination based upon use of a non-possession ASC (see ASC below).

DIVINATION: ALTERED STATE, POSSESSION: Divination involving a possession ASC (see ASC below). Possession here includes both Practitioner/Spirit Dialogue as well as the stronger sense of possession as take over of the practitioner by the Spirit.

DIVINATION: MATERIAL SYSTEM:

High Control: A material system interacted with or manipulated; and the outcome from the material system is under control of practitioner or assistants; and the relationship of system outcome to question of interest is known. This includes ordeals and other outcomes based upon the physiological or behavioral responses of key individuals.

Low control: The material system is not under direct physical control of practitioner; or the practitioner is unaware of the question or the relation of the outcome to question.

FOOD ACQUISITION: Magico-religious activities directed toward the acquisition of non-agricultural food-stuffs such as hunting magic.

AGRICULTURAL/ANIMAL CARE: Magico-religious activities which have the intention of improving, maintaining or insuring the well-being crops, domestic animals.

ANCESTOR WORSHIP: Funerary or post mortuary rites or public worship or ceremonies of propitiation to ancestors

PROPITIATION: Activities directed toward spiritual beings with the intention of currying favor, beseeching favors, placating, worshipping, etc.

MALEVOLENT ACTS: The practitioner causes illness, death, detriment to domestic animals, crop failure, destroy fertility, or carry out malignant acts against others. These include:

BODY CONSUMPTION: Eating the body or soul of a victim, or magically removes body parts, causing death.

KIN HARM: Killing kin magically or in order to acquire power; or causes harm indiscriminately among local group.

DESTROY SOCIO-ECONOMIC WELL-BEING: Acting against aspects of socioeconomic well-being other than crops or domestic animals.

Socio-Political Powers

POLITICAL/LEGISLATIVE POWER: Practitioner has institutionalized role in which (s)he makes decisions for social group with respect to such activities, or is a central advisor to those who make such decisions and shares in their social and economic privileges.

TAXES/PROPERTY CONTROL: Receiving goods by force as well as donations, offerings, etc. made without the condition of or provision of a particular personal service. Includes goods received through tributary relationships or taxation or the control of non-ritual group property.

JUDICIARY: Moderate judiciary decisions involve me-

diating or settling disputes; determining the guilt of individuals or other activities without direct severe consequences; or extreme judiciary decisions when severe consequences, e.g. banishment, death, imprisonment.

WAR POWER: Makes military decisions for social group or directly advises those who make such decisions on basis of recommendations.

INFORMAL POLITICAL POWER: Charismatic leaders and others who may undertake decisions for group, but without an institutionalized basis for their power. Includes hexing of deviants or enemies as part of social response to these threats.

LIFE CYCLE RITUAL: Performs post birth ceremonies, initiation rites, or marriage.

Social Characteristics

SEX RESTRICTION: Male/Balanced/Female. When incidence of practitioners of one sex is rare (does not involve at least an estimated 1/4 of the practitioner group) or if one sex is less frequent and thought to have less power, practitioner is coded for predominate sex restriction or exclusive sex role.

SOCIAL STATUS: Coded for highest typical social status of practitioner: highest when there are no others in culture whose status exceeds practitioners' except for highest political leaders; high when above average individuals; normal if no other indication status; and low if below average member of society.

ECONOMIC STATUS: When there are multiple ranks/levels of practitioners, the code is for the highest typical economic status of practitioner: Highest if wealth of practitioners is seldom surpassed by any other non-practitioners except for highest political rulers or if services provided by practitioner are the most important source of specialized remuneration or accumulation of wealth within the culture; other codes are as with social status.

MORAL STATUS: Society's view of the general morality and benevolence/malevolence of the practitioners' actions. Exclusively moral when no activities culturally defined as malevolent are attributed to practitioner status; predominantly moral when members of the culture only rarely suspect immoral or malevolent acts, and such acts do not appear to be actualized or are only rarely actualized; ambiguous moral status when practitioner actually engages in or is widely believed to engage in various practices which cause harm, illness, death, destruction of well being or property, etc., but also engages in major activities with important social value (e.g., healing, propitiation or agricultural increase rituals); and predominantly or exclusively negative moral evaluation when

practitioner only rarely engages in activities thought of as positive or is never thought to engage in activities culturally valued as positive.

Professional Characteristics

OCCUPATIONAL SPECIALIZATION: Part-time, or full-time when males have no other major remunerative activities or do not engage in the same subsistence activities as other males; or when females do not engage in usual female tasks, are not married or are married but barren, or if married with family have special assistants not generally present for females to help with regular household tasks.

OVERLAPPING EXCLUSIVE SPECIALIZATION: There may be no differences among practitioners of a type, or differences of magnitude, not type of power, status or activities; overlapping differentiation in specialization in which all or most practitioners of a type of engage in the same activities, with some specialized differentiation; or exclusive differentiation in which the practitioners of a type have minimal overlap in activities, engaging in largely exclusive specialization (e.g., specialization in healing or divination or agricultural rituals).

PRACTITIONER GROUP: Practitioner group does not exist; or no formal group but information exchange, ceremonies or contests among practitioners; or formal group-recruitment and training by full practitioners.

KILLED: Practitioner is killed by others for actual or suspected participation in magico-religious role.

PERSONALITY CHARACTERISTICS: These are characteristics typical of full practitioners and manifested outside of the ritual context; it does not include characteristics present only prior to training but not characteristic of full practitioner.

INTELLIGENT: Good memory, thinker.

RECLUSIVE: Quiet, introverted, reserved.

ROLE IMPAIRMENT: Barrenness, sterility, weakness or deformities.

TEMPORAL LOBE PERSONALITY SYNDROME includes such attributions as mentally ill, sensitivity to dreams, nervousness, excitability, hysterical, bad temper, unusual eyes or modification in stereotyped sex-linked behavior roles (see chapter 9.3).

Selection and Training

ILLNESS: Person becomes practitioner or trains to become practitioner because of an illness, or in an effort to become cured from illness.

INVOLUNTARY DREAM or VISION: Vision is involuntary in the sense that it is not precipitated by external

factors (e.g., drugs, exhaustion, austerities, induced or planned sleep), and is taken as indication of propensity, power, calling, etc.

SPIRIT SELECTION: Person believed to seek role because of spirit torment, insistence, or possession.

VISION QUEST: Person acquires role through deliberately induced experiences designed to invoke a visual experience/contact with spirit world.

SOCIAL LABELING: Scapegoating and attribution of a role which is generally denied.

BIOLOGICAL INHERITANCE: All descendants or all same sex descendants acquire power/role automatically in fashion similar to genetic inheritance.

VOLUNTARY SELECTION: Position is sought voluntarily without determinate influences from social or political position and expectations, illness, involuntary dreams, or possession.

SOCIAL SELECTION: Tendency for offspring of practitioners to acquire practitioner role, ranging from social inheritance—any tendency for transfer of power to direct descendants, to social succession—position transferred to an immediate descendant of the practitioner, although not necessarily a specific individual.

POLITICAL ACQUISITION: Status is acquired through actions involving the formation of political alliances, coups, warfare, etc.

CEREMONIAL ACQUISITION: Passage to full status practitioner marked by a ritual ceremonial indicating change of status.

TRAINING PAYMENTS: Payments may be token or nominal fees, or may involve major payment where initiate must rely upon resources outside of immediate family group in order to provide fee, or fee is so large that it requires a considerable time or becomes restricted to upper economic classes because of cost.

TRAINING BY SPIRITS: Role acquisition is culturally defined as acquired in training from spirits.

TRAINING BY PRACTITIONERS: Informal observation and incidental learning; or individual practitioners train directly; or training officially provided a formal group forming a permanent society with a continuity in leadership and control of access to the group

Contexts and Motives for Practitioner's Activities

These variables assess aspects central to Durkheim's distinction between magic and religion, individualistic versus collective, and Titiev's (1960) distinction between critical and calendrical rituals—whether activities occur in response to unfavorable situations (critical), or as a part of a seasonal annual ritual determined by a

particular period in the annual cycle (calendrical).

PUBLIC CONTEXT: All in the local living group are expected to attend and all are eligible to attend without specific invitation, with possible exception of specific excluded groups (e.g., menstruating women).

CLIENT CONTEXT: Practitioner engages in activity at a client request and it occurs in a private as opposed to public place, and associated members tend to be close relatives of patient.

PRIVATE CONTEXT: Activity occurs with practitioner(s) alone or with single client and in privacy or secrecy.

MOTIVE-CLIENT REQUEST: Request for practitioner activity by an individual client, except when the individual is a social or political leader requesting activity thought to benefit the population at large (see social function).

MOTIVE-SOCIAL FUNCTION: Practitioner makes decision to engage in activity and the activity is thought to benefit the population as a whole, or practitioner is requested to engage in activity by social leader. Social function is particularly applied to the fulfillment or enactment of calendrical rituals (those occurring on specified days, generally annually).

MOTIVE-PERSONAL: Practitioner carries out the activity only in the practitioner's own behalf and not when fulfilling clients' requests or social functions.

Supernatural Power

SPIRIT RELATIONSHIPS: Personal spirits particular to the individual; or minor spirits which have a special relationship with a limited group of people (e.g., kin group); or major spirits of equal importance to most or all members of the culture and common to more than one kinship group.

POWER TYPE: Power based on control of or special relationships to spirits or gods or received from them; impersonal power based on sources not directly involving spirits or gods including concepts such as mana and prana (animatism and power which can be transferred from practitioner to trainee); or personal power related to development of practitioner's personal spirit/soul.

ASC POWER: Acquired through induced ASC experiences.

RITUAL/TECHNICAL POWER: Acquired from specialized ritual or knowledge.

POWER CONTROL: Power is: practitioner's or of entities under practitioner's control; occasionally independent of practitioner, out of control, or of occasionally independent entities; generally independent entities; or of independent entities or out of practitioner's control.

POWER AWARENESS: Power always or generally applied/appealed to with awareness/intention; or power generally or always applied unconsciously.

Special Abilities

WEATHER CONTROL: Practitioner thought to be able to directly affect weather, including rain, storms, lightning, wind, clouds.

FIRE IMMUNITY: Belief that practitioner can handle extremely hot objects which would be expected to cause injury to body, but without actually experiencing damage or discomfort.

SOUL FLIGHT: Belief that practitioner can fly, displace self, project consciousness to distant places (with or without spirit/animal familiars), become invisible, etc.

LOVE MAGIC: Influence amorous relationships for good or bad.

DEATH/REBIRTH: Practitioner is thought to undergo culturally recognized death experience (e.g., dismemberment) with a rebirth or resurrection, or may actually die as a result of ASC.

ANIMAL TRANSFORMATION: Belief that the practitioner is thought to become transformed into an animal, to project personal consciousness through the "vehicle" of an animal, to become an animal spirit, or has special relationship to animals such that the death or injury to one is transferred to the practitioner.

Techniques

SACRIFICE: Action taken in which an object or its essence is ritually offered to a spiritual being or an individual. A sacrifice may be destroyed, consumed by practitioners or the group related to client, or consumed by the community.

PHYSICAL STIMULATION: Washing, cleansing, blowing, sucking, massaging, or laying-on-of-hands.

HERBAL: Plant remedies extensively employed in healing.

INCISIONS: Any cutting into skin.

OBJECT EXTRACTION: Remove objects from patient, presumably through sleight of hand.

DISCHARGE: Energy/objects projected by practitioner to effect other systems.

CHARM: Practitioner/Client carries/wears object as means of treatment or protection.

EXORCISE: Remove the effects or presence of illness or misfortune causing spiritual entities.

SPIRIT CONTROL: Practitioner controls or commands spirits or receives information on request.

SPELLS: Utterances used with magical intent and with the belief in the spoken word having magical efficacy.

Spells may be general pleas, or may require exact repetition.

MANIPULATIVE/IMITATIVE: Practitioner manipulates substance with the intent of causing a magical effect. Imitative techniques (Sympathetic Magic-Law of Similarity) involve activities carried out or symbolic relationships established which mimic or enact a set of relationships in one medium, with the intent of transferring or imposing the same set of relationships in another medium including the transference of influences from one object to another.

EXUVIAL/PERSONAL OBJECT MANIPULATION: (Sympathetic Magic-Law of Contagion) Use of personal body substances or excretions, or the use of substance which have been in contact with the body (e.g., food, clothing) as a basis for magical acts.

ASC Conditions and Spirit Relations

These variables assess the nature of the personal state of consciousness and experiences of the magico-religious practitioner trainees during their training. When there was a critical on-set of symptoms which indicated propensity and constituted the transition to practitioner development, those states and the conditions present were assessed. When there was no training but ceremonial acquisition of power/role, these conditions were assessed. **ALTERED STATE OF CONSCIOUSNESS:** An altered state of consciousness (ASC) refers to change from the normal psychophysiological parameters of consciousness and awareness as stated by practitioners, inferred on the basis of behavior by observers, or indicated by induction factors below. An ASC may not be behaviorally obvious nor labeled as such by reporter, but inferable on the basis of behavior, induction procedures (e.g., fast, austerities), or when practitioner is member of tradition known for altered states tradition not behavioral obvious (e.g., meditators). The presence of ASC may also be indicated by phrases such as ecstasy, fervor, devotional states, etc. Non-possession altered states include observable and culturally recognized altered states including: Soul journey, an ASC in which practitioners point of view or consciousness is thought to travel, project or displace to a distant place while practitioner's body remains behind; Vision quest, an ASC induced with intention of acquiring visions, visual spirit contact but not involving projection of self or soul away from physical location; Possession ASC, a culturally recognized altered state culturally defined as possession (see below). **ASC SPIRIT RELATIONSHIP:** There are a number of different ways in which a spirit may be present or mani-

fest itself during magico-religious activity.

WEAK PRESENCE- No spirit vocalization via practitioner, such as is found in possession. The practitioner may hear spirits, but this is not heard by others.

PRACTITIONER/SPIRIT DIALOGUE- Spirit personalities are manifested via the practitioner and the practitioner's personality is also manifested in interaction with the spirit personalities. There is imitation of spirits or animals which involves an interaction with the practitioner's own personality.

POSSESSION OF SPIRITS BY PRACTITIONER- A special relationship is established between practitioner and spirit(s) which does not involve the domination of the practitioner's personality by a spirit personality, but rather the use of the spirits by the practitioner (rather than a vice-versa cultural interpretation). Even if spirit assistants are acquired as permanent adjuncts to the practitioner's personality or powers, and reside within the practitioner, this is not possession unless there is a periodic or permanent relationship established which involves complete displacement of the normal personality of the practitioner.

POSSESSION: A culturally defined phenomena in which there is possession of practitioner by spirits. It is a condition culturally interpreted as a state during which the practitioner's own personality is temporarily displaced by the personality or presence of a spirit entity, and is culturally interpreted as control of the practitioner by spirits. A crucial indicator of possession is spirits speaking without the manifestation of the normal personality of the practitioner.

ASC INDUCTION PROCEDURES AND CHARACTERISTICS:

The general physiological effects of these procedures are discussed in chapter 9.

SEXUAL ABSTINENCE: Restriction of sexual activity prior to or during magico-religious training.

SOCIAL ISOLATION: Elimination or radical reduction in normal social relations. If there is contact with other trainees, practitioners, etc., this was considered social isolation when there is no or minimal contact with other outsiders.

SLEEP: Deliberately induced sleep as part of magico-religious activity, not contributed to by drugs, exhaustion, etc.

SLEEP DEPRIVATION: A period of 24 hours or greater of no sleep by end of ceremony.

AMNESIA: No memory for events transpiring during ceremony.

SPONTANEOUS ONSET: Critical on-set of phenom-

ena inducing ASC, including breakdowns, epileptic seizures, unplanned dreams, etc., but beginning outside of a specific ritual context, and without apparent planning or intent, although perhaps in response to specific types of stressful events.

HALLUCINOGENIC DRUGS: Includes use of any known substances with vision producing properties, especially peyote, psilocybin, datura, marijuana, opium, morning glory seeds, tobacco, etc., as well as stimulants and substances producing convulsions.

AUSTERITIES: Minor austerities include physical lacerations, extended periods of serious fasting, exposure to temperature extremes, or extreme physical exhaustion. Major austerities include extreme physical lacerations involving serious injury to body and extreme pain, or other activities which carry risk of death.

FOOD RESTRICTION:

Particular restriction- A specific food or group of foods must not be eaten prior to magico-religious activity, or are prohibited on a long-term basis.

General restriction- General reduction of total food intake prior to ceremony or across time.

Fast- Prohibition on ingestion of food or water for a total period of at least 24 hours by termination of ceremony.

TREMORS/CONVULSIONS: Tremors- Slight shaking, trembling, shivering for reasons other than being physically cold. Convulsions- Contorted or uncontrolled limb movements, spasmodic movements, convulsions, fits, extensive spasms, etc.

COLLAPSE/UNCONSCIOUSNESS: Practitioner collapses during the magico-religious activity, or is also unconscious, a period of no verbal nor behavioral communication.

AUDITORY DRIVING: Any drumming, singing, chanting or other percussion, assessed as moderate to extensive.

2.5 STATISTICAL METHODS

The research findings reported here are based upon extensive use of quantitative and statistical methods. While an understanding of what the statistics mean is important, an understanding of how they are computed may not be of interest to all readers and can detract from the flow of ideas. In order to avoid that, the statistical procedures presented in the text are generally described in general conceptual terms, with more technical statistical and methodological information and descriptions of analysis procedures provided in Appendix 2 - Methodological Appendix and in footnotes.

CHAPTER 3

MAGICO-RELIGIOUS PRACTITIONER TYPES, SOCIOECONOMIC CONDITIONS AND CHARACTERISTICS

This chapter presents the methods used in determining the different magico-religious practitioner types, the groupings derived, and the justification for the groups and labels. The following terminology is employed to refer to the different types of empirically derived magico-religious practitioner groups:

- (1) Shamanistic Healers
 - a) Healer Complex: Shaman, Shaman/Healer, Healer;
 - b) Medium
- (2) Priest;
- (3) Sorcerer/Witch

The independent means of validation of this classification is presented. A secondary validation is provided by the relationship of the different types of magico-religious practitioners to the socioeconomic conditions of the societies in which they are found. There are strong and regular differences in the social conditions of the societies in which the various magico-religious practitioner types are found. The different types of magico-religious practitioner are briefly characterized with respect to the primary aspects of their roles. The major variable areas are contrasted across the different magico-religious practitioners in order to illustrate the primary commonalities and differences in magico-religious practice.

3.1 CLUSTER ANALYSIS OF PRACTITIONER TYPES

Determination of the different types of magico-religious practitioners was achieved through a quantitative analysis of the variables presented above. Cluster analysis procedures were used as the basis for empirically determining the typology. A comparison and assessment of different outcomes from a wide variety of measurement conditions and procedures were utilized to determine final classification (see Methodological Appendix 2.4 for details).

Although there are some differences between the various solutions provided by cluster analysis, similar and stable grouping are present across different amalgamation rules, with a few cases shifting between princi-

pal clusters under different solutions. The differences between solutions involved: 1) a different order of amalgamation between groups; 2) a shifting of a few problematic cases between groups; and 3) the formation of small anomalous clusters. These differences occur as a result of different amalgamation rules, or the inclusion or exclusion of certain cases, particularly the non-practitioner cases (Mbuti and Siriono lay practices).

The practitioners which were associated with different clusters in the different solutions were classified with the application of a few simple rules. The practitioners which formed the small anomalous groups in some solutions were classified with the larger groups with which they were clustered in other solutions. Other differences were resolved by placing the practitioners in the group with which they were most consistently classified across solutions.

The different solutions considered suggest that there are three major types of magico-religious practitioners, with one type divided into four subtypes. The labels used to identify these different types were suggested by the common usage of these terms and their frequent application to the practitioners under consideration. The labels applied to the magico-religious practitioner types arrived at in the classification are:

- (1) Shamanistic Healers, including
 - a) Healer Complex: Shaman, Shaman/Healer, Healer;
 - b) Medium
- (2) Priest;
- (3) Sorcerer/Witch

In this book the capital letter is used to indicate the etic practitioner types recognized here (Shaman, Shaman/Healer, etc.); lower case is used when referring to the general concept (e.g., healers, priests) rather than the etic practitioner type.

The Mediums are included with the Healer Complex group as a broad group of Shamanistic Healers, based upon common types of selection, training and functions. Shamanistic Healer are all magico-religious practitioners selected and trained through the use of altered states of consciousness for professional activities of healing

and divination. The Healer Complex is subdivided into Shamans, Shaman/Healers and Healers. In the Healer Complex, clustering of some of the cases into distinct groups varied under the different types of analyses. A group of the Healer Complex which was consistently clustered together across the different solutions are labeled Shaman; those practitioners in the Healer Complex which are never found in the cluster with the Shamans are labeled Healers. There were a group of cases which varied between the Shaman group and the Healer group under different measurement procedures. The differences between solutions with respect to the Healer Complex were resolved by creating a transitional group which included those cases which were occasionally clustered with the Shamans and occasionally with the Healers. These are classified and labeled as Shaman/Healers. The division of the Healer Complex practitioners into subtypes was done prior to the analysis of the relationship of these practitioners to socioeconomic conditions.

Also associated with the Healer Complex are a few problematic or unusual cases. The Jivaro *whuea* or 'old warrior', was generally clustered with an outlier Healer group, or occasionally with Priests. The primary function of the *whuea* was purification and protection of a warrior after having taken a head, and while empirically a Healer, functioned much as a Priest. Two practitioners classified as Healers (Ovimbundu and Mapuche) were occasionally clustered with an outlier Medium group. Two other atypical cases clustered with the Healers are the general magico-religious activities coded for the Siriono and Mbuti. Another is the male community rituals of the Mbuti, the molima male society ceremonies, which were undertaken for curing and success in food acquisition activities (hunting) of the latter. These two societies lacked a formal magico-religious practitioner status.

The Priests have a few cases which were inconsistently clustered. Three additional practitioners classified with the Healer Complex (Toda Healer, Ibo Oracle, and Roman Cult) were occasionally clustered with the Priests, but most frequently with the other Healers. The Marquesan Inspirational Priest, the Creek Rain Priest and the Ibo Rain Priest were occasionally clustered with outlier Healer Complex groups.

A few cases were inconsistently clustered with the Sorcerer/Witch group. The Garo Sorcerer/Witch is the only practitioner classified in this group which was not clustered in that group under all cluster analysis solutions. The Creek Rain Priest and the Roman Shaman/Healer (sorcerer, witch or necromancer) were clustered with the Sorcerer/Witch group under one solution, but are

classified with the other practitioner groups with which they were clustered more consistently (Priest and Shaman/Healer, respectively). The Ibo Rain Priest was also clustered with the Sorcerer/Witch practitioners in some solutions (apparently due to extensive missing data), but with the Priest clusters in other solutions.

In the early phases of this research, the relationship between practitioner types and socioeconomic conditions was examined to determine exceptions to general rules. This was done in order to arrive at more powerful generalizations by determining possible reasons for exceptions and ways to accommodate them to the overall structure of the data. This search for explanation of exceptions has resulted in the discovery that some exceptions resulted from a failure to recognize the presence of some practitioners in a given society because of oversight of relevant materials. These searches and the subsequent coding reliability assessments have suggested five additions¹ to the culturally recognized magico-religious practitioner statuses included in the original cluster analyses. These practitioners were classified for use in additional analyses based upon their principal characteristics and the concordance of these characteristics with those of the different magico-religious practitioner types (presented below).

3.2 VALIDATION OF CLUSTER ANALYSIS CLASSIFICATION

Since the bulk of analyses which follow depend upon the classification of magico-religious practitioner types arrived at here, consideration of the validity of the solution is important, especially given the few anomalous cases in the cluster analysis groupings. The BMDP K-Means procedure (Dixon and Brown 1979) was used to validate the classification of practitioner types based upon the synthesis of the different cluster analysis solutions. The K-Means program takes that assignment of cases to group or type, and then redistributes the cases among groups, seeking to maximize the Euclidean distance between clusters using the original 98 variables employed to generate the clusters. This procedure was employed for the six groups, with no data standardization since the variables were all binary or three step ordinal. This procedure reassigned 14 cases, or only 11% of the sample.² Those cases which were reassigned are either those which were inconsistently classified in the cluster analyses, or differences which are consistent with the model of social transformation developed below (Shaman → Shaman/Healer → Healer → Medium). Since the classification differences with the K-Means

validation were minimal and theoretically meaningful, the classification presented in Appendix 1 was accepted without further modification.

Although this work establishes that there are cross-culturally valid types of magico-religious practitioners, this typology is not offered as a rigid set of constraints, nor as a final division. The transformation of types is also found among magico-religious practitioners as a consequence of socioeconomic changes discussed below. There is a potential need for further development of subtypes of Priests, as well as for distinguishing among types of Sorcerer/Witch practitioners.

The wide range of variables used for this classification should ensure that the typology derived will be stable across a wide range of other variable selections and other cultures not included in these analyses. However, it should be recognized that the selection of a specific subset of variables could be expected to produce a different typology.

3.3 PRACTITIONER TYPES AND SOCIOECONOMIC CONDITIONS

This section addresses the relationship of each magico-religious practitioner type to the social conditions of the societies in which they were present. These relationships serve both as a means of additional validation of the classification provided above, as well as an introduction to the central distinctions among the practitioner types. The variables used to assess the relationship to social conditions were the social complexity variables reported by Murdock and Provost (1973). The ten variables they reported were screened for their usefulness in predicting magico-religious types, but only 4 variables were found to be significantly predictive: fixity of residence (nomadic versus sedentary lifestyle), the presence of agriculture as a primary subsistence activity; political integration beyond the level of the local community; and social stratification (presence of castes and classes or hereditary slavery) (see Methodological Appendix 2.2 for further discussion).

Shaman. Shaman are primarily found in societies with hunting, gathering, or fishing as the primary mode of subsistence ($n = 7$); two are in pastoral societies of Eurasia (Chukchee and Samoyed), and four occur in New World societies relying primarily upon agriculture (Creek, Jivaro, Tupinamba, and Callinago). Although some form of agriculture is practiced in many of the societies with Shaman, it is generally not a major form of subsistence. The Shamans in this sample are found only in societies with no formal classes, and lacking an administrative

political organization beyond the local community (political integration). None of the Shaman are found in sedentary societies. The multiple regression procedures indicated that the incidence of the Shaman practitioners was not significantly predicted by agriculture nor social stratification, but independently significant contributions to the explanation of the incidence of the Shaman practitioners were found with lack of both political integration ($p < .0005$) and fixity of residence ($p < .02$), which provided a multiple $R = .68$ ($p < .001$).

In order to control for the potential confounding effects of diffusion, autocorrelation regression procedures (see Methodological Appendix 2.3) were utilized. Although there was significant evidence of diffusion, the autocorrelation controls indicated that there are stable relationships of political integration and fixity of residence as predictors of the Shaman. The autocorrelation effect reflects the absence of Shaman in the Circum-Mediterranean and Insular Pacific, where increases in agriculture, sedentary lifestyles, and political integration have led to the disappearance of hunting and gathering lifestyles, and apparently therefore of the Shaman.

Shaman/Healer. The Shaman/Healers occur primarily in sedentary societies with a major reliance upon agriculture as a food source ($r = .29$, $p < .05$); the only exception in this sample is a pastoral society. The weak correlational relationship reflects the lack of Shaman/Healers in many societies with agriculture, where Healers and Mediums are found instead. Neither social stratification nor political integration correlated significantly with the Shaman/Healers, which are found in societies at all levels of these variables. Although the incidence of the Shaman/Healer variable was significantly ($p < .05$) correlated with the presence of agriculture as a major mode of subsistence and the fixity of residence, only the agriculture variable was individually significant in prediction of the Shaman/Healers in multiple regression ($r = .29$, $p < .05$); there was no evidence of diffusion. Since Shaman tend to be absent from agricultural societies, while essentially all Shaman/Healers are present in agricultural societies, this suggests that agriculture is central to the differences between them.

Healers. The Healers are likely to be found in societies which rely upon agriculture as a primary source of food; all three exceptions are pastoralists. Since a primary reliance upon agriculture (or a pastoral economy) is characteristic of all of the societies with Healers (as well as Shaman/Healers), the association of the Healers with the presence of agriculture as a major mode of subsistence is a necessary but not sufficient condition for the Healer. The presence of Healers is strongly predicted

by the presence of political integration beyond the level of the local community, with only three of the twenty Healers found in societies without political integration beyond the local level. Multiple regression of the Healer variable on the various social complexity variables indicates that political integration alone has the most significant correlation ($r = .45$, $p < .005$); the addition of agriculture and social stratification to the regression did not provide an increase in the explanation of the variance. There was no evidence that diffusion of the Healer practitioners accounted for the distribution of this practitioner type.

Medium. Medium are present in societies with a primary reliance upon agriculture as a food supply, or which are pastoralists. However, agriculture cannot be seen as the immediate cause of the incidence of the Medium, given the many societies with a heavy reliance upon agriculture without a Medium present. The Mediums are strongly predicted by the presence of political integration beyond the level of the local community ($r = .51$, $p < .005$); only one society in the sample had a Medium present without at least local level political integration. Although other social complexity variables were significantly correlated with the Medium (e.g., social stratification), these other social complexity variables did not contribute significant additional explained variance. However, the Mediums are absent from the North and South American societies with the exception of the Saramacca, who are descendants of escaped African slaves who established a society in Surinam. This absence raises the question of whether this practitioner type develops as the result of structural conditions in society or as a result of diffusion. The Medium variable was entered into autocorrelation multiple regression with the political integration variables, and maintained significant correlations ($p < .005$) with control for diffusion. It appears that political integration beyond the level of the local community is central to explaining the incidence of Mediums.

Priest. Priest practitioners are generally found in societies which have semi-sedentary or permanent residency patterns and a major reliance upon agriculture as a mode of subsistence. The exceptions (Kazak, Fulani, Tuareg and Toda) are all pastoral societies with political integration beyond the local community. Societies with Priests generally have political integration beyond the level of the local community, and all societies with classes have Priests. Significant correlations of Priests were found with agriculture ($p < .001$), political integration ($p < .0000$) and classes ($p < .0002$); multiple regression implicated agriculture and political integration as

having independently significant contributions (multiple $R = .75$, $p < .001$), with no significant diffusion effects in the autocorrelation analysis. It appears that Priests have evolved or developed as a response to the leadership needs in sedentary agriculture societies and have further developed as the sociopolitical leaders of these larger communities as they expanded through political incorporation of other societies.

Sorcerer/Witch. All societies have magico-religious practitioners involved in malevolent acts (e.g., Shaman and Shaman/Healers), but the specialized position of the Sorcerer/Witch is found almost exclusively in societies with political integration beyond the level of the local community. The Sorcerer/Witch is found only in societies with agricultural or pastoral economies, and is significantly ($p < .0001$) associated with political integration and with the presence of social stratification (classes); both variables had independently significant contributions in multiple regression ($R = .70$, $p < .001$) and there is no evidence of diffusion. Sorcerer/Witches frequently deny their status, and are generally found in the lowest socioeconomic class of society. This suggests that their position in stratified and politically integrated societies is a contributory factor in determining their status and roles.

Summary. The relationship of the different magico-religious practitioner types to social conditions is summarized as follows:

Shaman- hunting and gathering nomadic groups without political integration
 Shaman/Healer- agricultural societies at all levels of political integration and social stratification
 Healer, Medium and Priest- agricultural societies with political integration beyond level of local community
 Sorcerer/Witch- agricultural societies with political integration beyond level of local community and social stratification.

3.4 PRACTITIONER CHARACTERISTICS

In order to provide the reader with a general understanding of the nature of these practitioners and their similarities and differences, this section presents the principal characteristics of these different practitioner types in Table 3.1, and follows this with a contrastive discussion of the practitioners with respect to the major variable areas. Practitioner characteristics are assessed in ten principal areas: magico-religious activities; sociopolitical power; social characteristics; professional characteristics; selection and training; motives for and context of activities; supernatural power; special

abilities; techniques employed; and ASC conditions and spirit relations. The variables characterizing each practitioner type meet the following criterion: 1) the variable is present for at least 67 % of the cases in the type; or 2) the incidence of a variable in a type is at least 50% of the total incidence of the variable across all types. These characterizations are therefore tendencies, and are not always found present in all of the practitioners of the type.

Magico-Religious Activities

Healing is a primary activity of the Shamanistic Healers; the Priest and Sorcerer/Witch seldom engaged in these activities. The Priest's involvement in health activities is limited to ceremonies for purification and protection against possible future calamities. The Sorcerer/Witch only occasionally engage in health activities, for example when forced to remove a spell or other malevolent effect. The Shamanistic Healers also provide protection against spirits or malevolent magical practitioners.

Divination is also a primary activity of the Shamanistic Healers, but is generally not present for the Priest or Sorcerer/Witch. The divination procedures of Shaman and Medium use non-possession and possession ASC, respectively. The Shaman/Healers and Healers are more likely to use material systems for divination, where a mechanical system (set of objects) plays a central role in determining the divination outcome, such as the use of systems like I Ching and Tarot.

Malevolent acts are the primary activity of the Sorcerer/Witch, and are also major activities of the Shaman. The Shaman/Healer and Healers also engage in malevolent acts, but only in a minor way. Malevolent acts are almost entirely absent for the Medium and Priest. Activities such as eating the body and soul of victim, killing kin, or destroying socioeconomic well-being are predominant for the Sorcerer/Witch, occasionally present among the Healer Complex, and absent for the Medium and Priest.

Food increase and agricultural rites are important activities of the Shaman Healers and the Priest, who had important magico-religious activities designed to improve material welfare, especially related to food. The Shaman and Shaman/Healer provide assistance in hunting or finding game. The Shaman/Healer, Healer, Medium and Priest engage in agricultural rites or other food acquisition activities.

Propitiation and worship of spirits is the primary activity of the Priests and Mediums, frequently done in conjunction with agricultural rituals. Propitiation is not

a major activity for the practitioners of the Healer Complex, but is utilized by some of them as a technique in their other activities. Shamans do not engage in propitiation, except as a minor technique in dealing with recalcitrant spirits. Ancestor worship is carried out almost exclusively by Priests.

Sociopolitical Power

Sociopolitical power is an important component of the role of the magico-religious practitioners, except for the Sorcerer/Witch, for whom sociopolitical power is completely absent. The Priests have the greatest range of sociopolitical power, including political, legislative, judicial, military and economic powers. The Shamans exercise charismatic power as communal leaders, as well as war power in being military leaders. The Shaman/Healer and Healer have weak manifestations of political power, particularly as indicated by their social and economic status and judiciary roles. The Mediums however, only have weak political power, manifested in judiciary decisions with moderate consequences.

Social Characteristics

The sex restrictions of the position of the Priest limited it almost exclusively to males. Males were also predominant among the Healers, with females only rarely present. Shaman and Shaman/Healer are predominantly male, but females are permitted to occupy the role. Mediums are predominantly female, with men seldom participating as practitioners. The Sorcerer/Witch practitioners are generally thought to include both males and females.

The social status of Priest and Shaman is among the highest in their societies. Healers also have higher than average social status, while the Shaman/Healer is of no exceptional status. The Medium and the Sorcerer/Witch are considered to be of low social and economic status. The economic status of the Shamans and Shaman/Healers is generally no different than that of the other members of their egalitarian societies, while Priest and Healers have high economic status.

The moral status of the Priest and Medium is generally exclusively benevolent. Although the Shaman/Healer and Healer generally did not engage in immoral behavior, their moral status is that of being predominantly benevolent, reflecting the possibility that they might use their power to harm others. However, the Shaman has an ambiguous moral status, reflecting the fact that Shaman engaged in both benevolent desired acts (healing) and malevolent acts (hexing enemies). This

Table 3.1 Practitioner Types' Principal Characteristics

VARIABLES	SHAMAN
0- SOCIETAL CONDITIONS	0- Hunting & gathering, Nomadic No/local Political Integration No Social Classes
1- MAGICO-RELIGIOUS ACTIVITY	1- Healing and divination Protection from spirits and malevolent magic Hunting magic Malevolent acts
2-SOCIOPOLITICAL POWER	2- Charismatic leader, communal & war leader
3- SOCIAL CHARACTERISTICS	3- Predominantly male, female secondary High social status Ambiguous moral status
4- PROFESSIONAL CHARACTERISTICS	4- Part-time No group- individual practice
5- SELECTION AND TRAINING	5- Vision quests, dreams, illness and spirit's request ASC and spirit training or individual practitioner Status recognized by clients
6- MOTIVE AND CONTEXT	6- Acts at client request for client, local community
7- SUPERNATURAL POWER	7- Animal spirits, spirit allies Spirit power usually controlled
8- SPECIAL ABILITIES	8- Weather control, fly, fire immunity, death and rebirth, transform into animal
9- TECHNIQUES	9- Spirit control Physical and empirical medicine Massaging & plants
10- ASC CONDITIONS & SPIRIT RELATIONS	10- ASC training and practice Shamanic soul flight/journey Isolation, austerities, fasting, hallucinogens, chanting and singing, extensive drumming and percussion, frequently resulting in collapse and unconsciousness

Table 3.1, Continued

SHAMAN/HEALER	HEALER
0- Agricultural subsistence Sedentary	0- Agricultural subsistence Sedentary Political integration
1- Healing and divination Protection against spirits and malevolent magic Hunting magic and agricultural rites Minor malevolent acts	1- Healing and divination Agricultural and socioeconomic rites Propitiation
2- Informal political power Moderate judiciary decisions	2- Judicial, legislative and economic power Life-cycle rituals
3- Predominantly male Moderate socioeconomic status Predominantly moral status	3- Predominantly male, female rare High socioeconomic status Predominantly moral
4- Part-time Collective/Group Practice Specialized role	4- Full-time Collective/Group Practice Highly specialized role
5- Vision quests, dreams, illness and spirit's requests ASC and ritual training by group Ceremony recognizes status	5- Voluntary selection, payment to trainer Learn rituals and techniques Ceremony recognizes status
6- Acts at client request in client group	6- Acts at client request in client group Performs at public collective rituals
7- Spirits allies and impersonal power (mana) Power controlled	7- Superior gods and impersonal power (mana) Ritual techniques and formulas Power under control
8- Occasional flight, animal transformation	8- None
9- Physical and empirical medicine Massaging, herbal, cleanse wounds Charms, spells, exorcisms and rituals Spirit control and propitiation	9- Charms, spells, exorcisms, rituals and sacrifice Propitiation and command of spirits
10- ASC training and practice Shamanic/Mystical ASC Isolation, austerities, fasting, hallucinogens, chanting and singing, extensive drumming and percussion, frequently resulting in collapse and unconsciousness	10- Limited ASC or absent Social isolation, fasting, minor austerities, limited singing, chanting or percussion

Table 3.1, Continued

MEDIUM	PRIEST
0- Agricultural subsistence Sedentary Political Integration	0- Agriculture Semi-sedentary or permanent residency Political integration
1- Healing and divination Protection from spirits and malevolent magic Agricultural magic Propitiation	1- Protection and Purification Agricultural and socioeconomic rites Propitiation and Worship
2- Informal political power Moderate judiciary decisions	2- Political, legislative, judicial, economic and military power
3- Predominantly female, male secondary/rare Low socioeconomic status Exclusively moral	3- Exclusively male High social and economic status Exclusively moral
4- Part-time Collective/Group Practice Temporal Lobe Syndrome	4- Full time Organized practitioner group Hierarchically ranked roles
5- Spontaneous possession by spirit Training in practitioner group Ceremony recognizes status	5- Social inheritance or succession Political action
6- Acts primarily for clients Performs public ceremonies	6- Acts to fulfill public social functions Calendrical rites
7- Possessing spirits dominate Power out of control, unconscious	7- Power from superior spirits or gods Has no control over spirit power
8- None	8- Affect weather
9- Propitiation and spirit control Exorcisms and sacrifices	9- Propitiation and collective rites Sacrifice and consumption
10- ASC- Possession Spontaneous onset, tremors, convulsions, seizures, compulsive motor behavior, amnesia, temporal lobe discharge	10- Generally no ASC or very limited Occasionally alcohol consumption, sexual abstinence, social isolation, sleep deprivation

Table 3.1, Continued

SORCERER/WITCH	VARIABLES
0- Agriculture and sedentary Political integration Social stratification	0- SOCIETAL CONDITIONS
1- Malevolent acts Kill kin, cause death, economic destruction	1- MAGICO-RELIGIOUS ACTIVITY
2- None	2- SOCIOPOLITICAL POWER
3- Male and female Low social and economic status Exclusively immoral	3- SOCIAL CHARACTERISTICS
4- Part-time Little or no professional organization Killed	4- PROFESSIONAL CHARACTERISTICS
5- Social labeling, biological inheritance Innate abilities, self taught or learn	5- SELECTION AND TRAINING
6- Acts at client request or for personal reasons Practices in secrecy	6- MOTIVE AND CONTEXT
7- Power from spirits and ritual knowledge Has control of spirit power Power may operate unconsciously or out of control	7- SUPERNATURAL POWER
8- Animal transformation, fly	8- SPECIAL ABILITIES
9- Spirit control, ritual techniques	9- TECHNIQUES
10- Indirect evidence of ASC Flight and animal transformation	10- ASC CONDITIONS & SPIRIT RELATIONS

was also reflected in the higher incidence of persecution and killing of the Shamans by others for their actual or suspected malevolent actions. The Sorcerer/Witch was generally viewed as having a highly immoral nature.

Professional Characteristics

The practitioners of the Shaman, Shaman/Healer and Mediums are part-time specialists in that they engage in typical subsistence activities or other remunerative work beyond whatever earnings they receive as a practitioner. The Healers have a tendency towards having full time employment in the magico-religious capacity. The Priest are generally full-time practitioners and obtain their livelihood from the benefits they accrue through their position. The Sorcerer/Witch practitioners generally do not gain remuneration for their activities, although they might be paid by clients.

Role specialization is a characteristic of the Shaman/Healers and Healers. These practitioners have a tendency for overlapping or extensive specialization, where different specializations of the practitioner type may engage in a very limited range of the full scale of professional activities associated with the position. There may be treatment of only certain disease types, or specialization in divination or agriculture activities to the exclusion of each other and healing activities, much along the line of professional specialization in allopathic medical practices in Western societies. The profession of the Shaman is not institutionalized in a group structure and Shaman generally carry out their professional duties without assistance from other Shaman. However, there is increasing specialization and institutionalization of the practitioner role among the Shaman/Healers and Healers, who have a significantly higher incidence of joint ceremonies, formal group activities, and the formal acquisition of professional status through ceremonial initiations. The Medium and Priest normally have formally organized groups.

Consistent personality characteristics are not found for most practitioners. The Healer Complex is most frequently characterized as being intelligent and clever. The Mediums are frequently characterized as having a particular personality profile. A variety of characteristics are attributed to the Mediums such as being crazy, neurotic, hysterical, nervous, excitable, subject to hallucinations, having unusual dreams, or fits, convulsions, and seizures. This indicates a central nervous system dysinhibition similar to those associated with epileptic seizures, as well as the related ictal personality syndrome considered by Mandell (1980; cf. Winkelman 1986a and

Chapter 9.3). The spontaneously induced ASC which are typical of the selection for the Medium role have other symptoms of a similar lability in the central nervous system such as compulsive motor behavior, tremors and convulsions, and occasionally amnesia. This topic is discussed further in chapter 9.

Selection and Training

The practitioners of the Healer Complex generally seek their roles voluntarily, but the Shaman and Shaman/Healer practitioners are also frequently selected on the basis of illness, involuntary visions, dreams, or vision quests. The Mediums are selected for their roles through spontaneous spirit possession experiences, and are taught by individual practitioners, but occasionally trained by groups or learn directly from the spirits. Selection through social inheritance is weakly present for all practitioner types. The Priest are typically selected through social inheritance, social succession, or political action or appointment. The Sorcerer/Witch is typically selected for the role in an involuntary process of social labeling in which they are frequently attributed the role due to biological inheritance.

Shamans are generally trained by another Shaman acting alone, and/or they learn directly from the spirits. The Shaman/Healer, Healer, and Medium are more likely to receive their training from a group of practitioners rather than an individual practitioner. The Healers frequently have payment to the practitioner or group as a requirement for training. The Priest typically receive their training from a practitioner group, or receive their training incidentally through observation of their predecessors. Sorcerer/Witch practitioners are thought to acquire their skills from inheritance or innate tendencies, or to learn them directly or incidentally from other practitioners.

Motive and Context

The motive for activities of the Shamanistic Healers is generally a client's request. While the context for the Shaman's activities is the client group, the other Shamanistic Healers perform in both client's family group and public contexts. The Priests generally act because it is their social function to carry out certain rituals and activities which occur at certain times of the year such as planting season, harvests, and commemorative feasts; these activities are generally performed in public. The Sorcerer/Witch are thought to act primarily on their own behalf, generally acting out of jealousy, envy, anger, greed or revenge; however, they sometimes act for

clients. They carry out their activities in private and with secrecy.

Supernatural Power

Relations with spirits as a source of power is found for nearly all of the magico-religious practitioners in the sample. The Shaman and Shaman/Healers are predominantly associated with animal spirits and other minor spirits. The Shaman/Healer and Healer also have impersonal sources of power such as mana. The Priest and Medium are associated with superior spirits and gods. The Healers and Priests also have a power source similar to the impersonal mana power, manifested in the power derived from knowledge of rituals and techniques. Mana power is not characteristic of Shaman and Mediums, whose power is thought to be derived from spirits. Sorcerer/Witches have both spirit and ritual power.

The practitioners of the Healer Complex generally exercise their power with awareness, but the Shamans and Shaman/Healers are occasionally found to have their power operate out of control, for instance when their familiar spirits would act against them or others. The Medium's power is thought to be based in spirits, who are thought to possess the Medium and act independently of the Medium's control, and occasionally without the Medium's awareness. The Priest do not control the spirit beings with whom they are associated, but they did appeal to their spirits/gods with awareness. Sorcerer/Witches may act deliberately and with a power under their control (sorcerers), or with a power that operates unconsciously and unintentionally (witches).

Special Abilities

The Shamans are believed to transform themselves into animals, as are most of the Sorcerer/Witch practitioners; this is not found with other practitioners except some Shaman/Healers. Activities such as weather control, love magic, immunity to fire, soul flight, and death/rebirth experiences are more frequent in the Shaman and Shaman/Healer type than any other practitioners. Priests are frequently expected to affect the weather, especially indirectly in terms of the future protection of agricultural production.

Techniques

The magico-religious techniques assessed are associated with most of the Healer Complex, particularly the Healers. Generally the Mediums do not use the magical techniques frequently found in the Healer Complex, but instead rely upon their propitiation and ASC relation-

ships with spirits as a means of manipulating the supernatural. The techniques employed by the Healer Complex, particularly in healing, include physical manipulations of the patient such as rubbing, massaging, cleansing of wounds; application of herbal medicines; techniques such as object extraction (sleight-of-hand); the use of spells and charms; exuvial, imitative and manipulative techniques, and exorcism and other forms of spirit control. Special relationships with spirits are used as a technique by essentially all practitioners. The Healer Complex practitioners command spirits. The Shaman/Healer and Healer also use propitiation as a technique to gain other ends (e.g., healing), but generally not as an activity in its own right. The Medium and the Priest primarily rely upon propitiation and sacrifice as magico-religious techniques for accomplishing their ends. Sacrifice, particularly sacrifice consumed by the attending group, is employed extensively by the Priests, as well as by many of the Healers and Mediums.

ASC Conditions and Spirit Relations

Altered states of consciousness are universal among the training activities of the Shaman, Shaman/Healer and Medium practitioners. ASC are generally weak or lacking among the Healers. ASC are generally absent as conspicuous aspects of the training of the Priest and Sorcerer/Witch, although most of the Sorcerer/Witch practitioners have metaphorical or indirect references to ASC (e.g., animal transformation, flight). The few Priests who have indications of ASC generally employed procedures such as social isolation, sexual abstinence or use of alcohol.

The ASC of the Shamans and a few of the Shaman/Healers are characterized as involving a soul journey, in which the practitioner's soul is thought to leave the body and travel to a spirit world. However, soul journey beliefs are absent for the Healers. The ASC of the Mediums are characterized as involving possession of the practitioner by a spirit.

The training procedures of the Shamans and the Shaman/Healers involve the induction of non-possession ASC through social isolation, physical austerities, the use of hallucinogens, auditory driving and percussion, and frequently result in collapse and unconsciousness. There are no overall differences in the ASC procedures and characteristics of the Shamans and Shaman/Healers, although Shamans employ more overall ASC induction procedures. The spontaneously induced ASC which Mediums experience as leading to their selection show

symptoms of lability in the central nervous system such as compulsive motor behavior, tremors and convulsions, seizures and amnesia; these characteristics are almost entirely absent from the other practitioner types. In addition to the spontaneously occurring ASC experiences, the Mediums generally also use other deliberate ASC induction techniques as a part of their training and activities— singing, chanting, and dancing. Although these ASC are induced by a variety of different means, they are functionally equivalent in terms of major psy-

chophysiological changes involving dominance of the frontal cortex by slow wave discharges emanating from the hippocampal-septal region of the brain (see Mandell 1980; Winkelman 1986a, and Chapter 9 here).

In summary, the variables considered above show that there are important distinctions among magico-religious practitioners. Their specific characteristics and functions are discussed more extensively in subsequent chapters. The following chapter examines the interrelationship among practitioners and their functions.

CHAPTER 4

PRACTITIONER CONFIGURATIONS AND SELECTION-FUNCTION RELATIONS

This chapter considers the interrelationships among practitioners, the correlation of these configurations with social conditions, and the relationship of magico-religious selection and training to the social and magical functions of the practitioners. The first part provides an overview of: 1) the number of types of practitioners present in a society; and 2) the interrelationship among or configurations of practitioner types which occur in different societies. This illustrates that all societies have Shamanistic Healers. The principal patterns are that societies with one practitioner have a Shaman. Societies with two types of practitioners also have a Priest present with the Shamanistic Healer. Societies with three practitioner types add a Medium or a Sorcerer/Witch, and those with four (or more) have Priest(s), Healer Complex practitioner(s), a Medium and the Sorcerer/Witch. Societies with one, two, three or four types of practitioners present are associated with hunting and gathering, agriculture, political integration, and social stratification, respectively. The examination of the relationships of selection and training procedures to principal magico-religious and social roles reveals three functional interrelationships. These are:

- (1) selection and training through altered states linked with healing and divination;
- (2) selection through social inheritance or political action linked with sociopolitical activities, propitiation ceremonies, and rites for protection; and
- (3) selection through social labeling processes ascribing to low class/status individuals biological inheritance as the selection procedures which are purported to lead them to engage in a variety of malevolent activities.

These three functional linkages of selection and training with magico-religious and social activities are directly associated with the Shamanistic Healers, Priests, and Sorcerer/Witches, respectively.

4.1 PRACTITIONER TYPE INTERRELATIONS

The unit of analysis in this chapter is the society rather than the practitioner. Each society was assessed with respect to the presence of each of the type of practitioners arrived in the classification: Healer Com-

plex, (Shaman, Shaman/Healer, or Healer), Medium, Priests, or Sorcerer/Witch. Multiple incidences of a given practitioner type in a single society were reduced to a single representation. This occurred primarily for the Priest group. There are no societies with multiple representatives from the Sorcerer/Witch Practitioner group. There are three societies with multiple representatives within the Healer Complex. One is Rome, with the sorcerer, witch or necromancer and the Eastern Cult practitioners (both Shaman/Shaman/Healers). Another is the Fur with the Fur Magician (Shaman/Healer) and the Fur Healer (*puggee*). The third is the Jivaro with a Shaman and a Healer (priest). The Roman society is represented as a single practitioner, while both of the Fur and Jivaro practitioners are each represented.

The societies in the sample were separated into groups on the basis of the number of types of practitioners present in the society. The societies in the sample have one, two, three, or four types of magico-religious practitioners present, considering the subtypes of the Healer Complex as a single type.

Practitioner Type Patterns. Examining the number of practitioner types present in a society illustrated the following incidences of types and configurations. The societies with only one practitioner present generally have a Shaman present ($n = 10$); the others have Shaman/Healers ($n = 3$; Hidatsa, Kiman, Nama Hottentot) or Healers ($n = 1$; the Lesu). Since Healer Complex practitioners are always present when there is only one practitioner present, it indicates that they represent a fundamental and universal aspect of magico-religious activity.

The societies with two practitioner types present exhibit a basic pattern of a Priest and a practitioner from the Healer Complex. The several exceptions to this dominant pattern among the societies with two practitioner types have the following pattern: Atayal- Priest and Medium; Jivaro- Healer/Priest and Shaman; Trukese-Healer and Medium. In the Atayal case, the Medium is labeled as a shaman by the ethnographer and the K-Means validation reclassified the Atayal Medium as a Shaman/Healer. In the Jivaro case, the *whuea*, or old warrior, was clustered with both the Healers and the Priests, but classified as a Healer; its classification as a Priest would have been as justifiable and the Jivaro would

have then conformed to the Priest-Healer Complex pattern. The Trukese Healer is a status largely acquired through social inheritance and involves the exercise of political power and agriculture rituals, all central characteristics of the Priests. The Atayal Priest and Medium, Jivaro Healer and Shaman, and Trukese Healer and Medium configurations are functionally equivalent combinations to the Priest-Healer Complex configuration. In these cases of the exceptions, the two practitioners have the same functions performed by the Priests and Healer Complex: agriculture rites and worship, and ASC, healing and divination, respectively.

The societies with three practitioner types present exhibit two basic patterns. All societies have a Priest and a Shamanistic Healer, normally a Healer. In addition to the Priest and the Shamanistic Healer, those societies with three practitioner types present had either a Sorcerer/Witch Practitioner or a Medium. The two basic configurations for those societies with three practitioner

types present are:

- 1- (a) Priest, (b)Healer Complex, and (c) Medium; or
- 2- (a) Priest, (b)Healer Complex or Medium, and (c) Sorcerer/Witch Practitioner

The societies with four practitioners exhibit a single pattern of a Priest, Healer Complex Practitioner, Sorcerer/Witch Practitioner, and Medium. The member of the Healer Complex is from the Healer group in all cases except the Japanese, where the Japanese Ascetic, classified as a Shaman/Healer, is the representative of the Healer Complex. These societies are predominantly Circum-Mediterranean societies, but also include the Saramacca in South America and the Japanese and Tanala (Madagascar).

The structure of relationships present with respect to the number of types practitioners present in a society is graphically represented in Figure 4.1. This presentation ignores the few exceptions discussed above, integrating them within the predominant pattern.

	PRIEST			
			SORCERER/ WITCH	SORCERER/ WITCH
			or	
			MEDIUM	MEDIUM
	SHAMANISTIC HEALER	HEALER COMPLEX	HEALER COMPLEX	HEALER COMPLEX
NUMBER OF TYPES OF PRACTITIONERS	1	2	3	4

Figure 4.1 Number of practitioner types and types present.

Entailment Analysis of Practitioner Types. In order to determine the different magico-religious practitioners which occur together and the relationships among practitioner types, an entailment analysis program was used (see Methods Appendix 3.7). The entailment analysis program assesses whether the presence of a given practitioner type has a regular relationship to the presence or absence of other practitioner types (e.g., co-occurrence or mutual exclusion). In assessing co-occurrence or mutual exclusion, entailment analysis determines whether two different practitioner types always occur together or never occur together in the same society. The entailment structure for the different magico-religious practitioner types is presented in Figure 4.2. Solid line arrows are entailment relationships (If A is present, then B is present); broken lines are exclusion relationships (If A is present then B is absent, and vice-versa). The phi for the relationship and number of exceptions are also provided.

The Shaman and the Priest form opposing foci in the entailment structure. The Shaman has exclusion relationships with the Priest and all other practitioner types, while the presence of the Priest practitioner entails the presence of the other four practitioner types. This indicates that when there is a Shaman present there are generally no other practitioners present, but if there are any of the other practitioner types present, then there is generally a Priest present as well. The Shamans occur alone in societies, but the Priests are present only when there are other practitioners present as well. The analysis also reveals that Shaman and Shaman/Healers do not occur together, nor do Shaman occur in societies with Healers or Mediums present (one exception). The Medium status also entails the Healer status with few exceptions; if there is a Medium present, then a Healer is likely to be present as well.

4.2 PRACTITIONER CONFIGURATIONS AND SOCIAL CONDITIONS

Since the relationships of the individual practitioner types to socioeconomic variables are discussed in Chapter 3 and in each of the respective chapters on the practitioner types, they are not reviewed here. Rather, the major configurations of practitioner types as indicated in Figure 1 were examined with respect to social complexity variables (Murdock and Provost 1973; cf. Methodological Appendix 3.2). The intent was to discover if there were systematic social differences between the different configurations in order to determine if the differences would identify causal factors responsible for the transition from one practitioner configuration to a

more complex configuration.

The difference in social complexity variables between societies with one practitioner type present and those with two types present were assessed in order to ascertain the reasons for the presence of Shaman/Healers instead of Shaman and the emergence of Priest practitioners. The societies with only one practitioner type present generally have a hunting and gathering mode of subsistence, while all of the societies with two practitioner types present rely primarily upon agriculture for subsistence. The relationship of agriculture to the incidence of the Shaman/Healer and Priest suggests that agriculture is the central factor in giving rise to the configurations of two practitioner types.

The same social complexity variables were assessed with respect to the differences between those societies with two practitioner types present and those with three present practitioner types. The shift from societies with two practitioner types present to those with three types present involves a shift from the Priest and Shaman/Healer (Healer Complex) configuration to one which includes an additional practitioner type, the Medium or the Sorcerer/Witch Practitioner. Agriculture was of no use in differentiating the two groups; the societies with two or three practitioner types present have a major reliance upon agriculture as a mode of subsistence or pastoral economies. However, the social stratification and political integration variables have strong differential relationships with respect to the societies with two and three practitioners. The societies with two practitioner types present do not have classes present, except for the Romans; however, approximately half of the societies with three practitioner types present have classes present. However, political integration is a stronger predictor/differentiator of the differences. All of the societies with three practitioner types present except for the Zuni have at least one level of political integration beyond the local level. However, of the societies with only two practitioner types present, only two, the Romans and Atayal had political integration beyond the local level. Thus it appears that political integration is central in the shift from two practitioner types to three practitioner types, contributing to the emergence of both Mediums and the Sorcerer/Witch Practitioners.

The shift from the societies with three practitioner types present to those with four types involves the occurrence of both of the alternatives available to those societies with three practitioner types present. In addition to the Priest and a practitioner from the Healer Complex, there is the presence of a Medium and a Sorcerer/Witch Practitioner. The societies with three and four practitioner

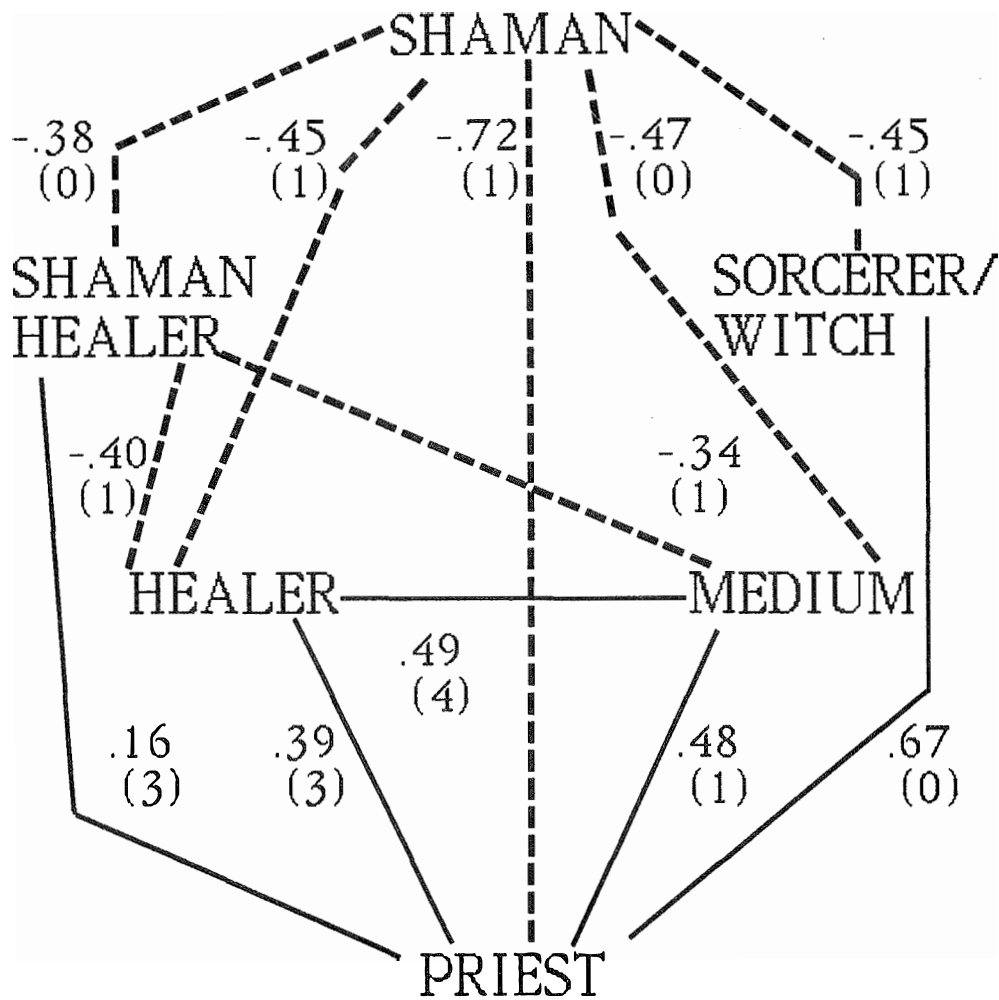


Figure 4.2 Entailment of practitioner types.

types present were compared with respect to socioeconomic variables. All have agriculture or pastoralism as a major form of subsistence, and all except the Zuni have political integration beyond the local community, indicating that these variables are not useful in differentiating between the two type configurations. The crucial difference is with respect to the presence of classes; although only approximately half of the societies with three practitioner types present have classes, all societies with four practitioner types present, except for the Saramacca, have classes.

In summary, agriculture appears to be central to the transformation from societies with only representatives from the Healer Complex, generally a Shaman, to those with Priests as well. Political integration beyond the local community is central to the transformation from societies with two practitioner types to those with three. The primary difference between those societies with three practitioner types present and those with four lies in the stronger tendency for classes to be present in those societies with four practitioners. Figure 4.3 illustrates the practitioner configurations and their relationships to these key socioeconomic conditions.

A general evolutionary model is suggested by the relationships of the individual practitioner types to social variables, as well as by the relationship of the social variables to the configurations of magico-religious practitioner types. In order to assess the success of a general evolutionary model in accounting for the patterns in magico-religious practitioner types, a Practitioner Type Configuration variable was created, based on the four categories of Figure 4.3, to represent the configurations of practitioners in the societies of the sample. This is a rather simplistic representation of the magico-religious practitioner types and their interrelationships; for instance, it does not provide assessment of the factors responsible for the differences in patterns at each level (e.g., the differences in those societies with three practitioner types present, that is, Mediums as opposed to Sorcerer/Witch Practitioners). However, it allows for a test of the potential significance and power of explanation which appear to be provided by the social variables.

The prediction of the Practitioner Type Configuration variable by social conditions was assessed through two statistical procedures, log linear analysis and the autocorrelation multiple regression analysis. The social

P R A C T I T I O N E R C O N F I G U R A T I O N S		PRIEST	PRIEST SORCERER/ WITCH or MEDIUM	PRIEST SORCERER/ WITCH MEDIUM
	SHAMAN	SHAMAN/ HEALER	HEALER	HEALER
	HUNTING & GATHERING	AGRICULTURE	POLITICAL INTEGRATION	SOCIAL CLASSES
SOCIOECONOMIC CONDITIONS				

Figure 4.3 Practitioner configurations and socioeconomic conditions.

variables were represented by binary variables assessing: (1) the presence/absence of agriculture as a major means of subsistence, (2) the presence/absence of political integration beyond the local community, and (3) the presence/absence of classes.

The Practitioner Type Configuration variable and the binary variables for agriculture, political integration and classes were entered into log linear analysis (BMDP3F, Dixon and Brown, 1979) to determine the best model of relationships among the variables, and in particular to determine if there were interaction effects among the social variables in their prediction of Practitioner Type Configurations. The test of higher order interactions² indicated that only the second order interactions were significant, and the comparisons among the different second order models showed that the interactions among the socioeconomic variables were not significant in explanation of the Practitioner Type Configuration Variable. However, the interaction between the Practitioner variable and each of the social variables is significant. The model which specifies an independent effect of agriculture, political integration, and classes upon the Practitioner Type Configuration variable, has a significance level of .9796 and fits the data quite well.

In order to account for the possibility that diffusion of traditions was spuriously accounting for the relationships with socioeconomic variables, and in order to confirm the independent contributions of the three main variables in this model, the binary representations of agriculture, political integration, and classes were entered into autocorrelation multiple regression analysis with the Practitioner Type Configuration variable. All three variables showed independently significant contributions to explanation of the variance in the Practitioner Type Configuration variable (agriculture $p < .01$; political integration $p < .001$; classes $p < .01$). The multiple regression of agriculture, political integration, and class upon the Practitioner Type Configuration variable is highly significant (Multiple $r = .82$, $r^2 = .68$, $p < .001$), and there are no diffusion effects under either model (distance: $z = -1.3$; language: $z = -.08$). This strongly establishes that practitioner type configurations result from socioeconomic conditions, not diffusion, and confirms the log linear analysis which demonstrates that each variable has an independent contribution to explanation of practitioner type differences.

Summary. Analysis of the coincidence of the different practitioner types indicates that there are four major configurations of magico-religious practitioners: (1) a

single practitioner from the Healer Complex, generally a Shaman, (2) a Priest and a practitioner from the Healer Complex, (3) Priest, Healer Complex, and Medium or Sorcerer/Witch Practitioner, and (4) Priest, Healer Complex, Medium, and Sorcerer/Witch Practitioner. These different configurations of practitioners are shown to be strongly related to socioeconomic conditions. Agriculture appears to be central to the transformation from the first stage to the second. Political integration appears to be the causal factor in the transformation from stage two to stage three. Finally, social stratification or classes appear to be causal factors in the transformation from stage three to stage four. The general evolutionary model is found to be very strongly related to the data; multiple regression analysis with autocorrelation controls indicate that each of these factors has a significant contribution to the explanation of the Practitioner Type Configurations and that these relationships are independent of the effects of diffusion.

Bourguignon's research (Bourguignon and Evascu 1977) implicated agriculture, stratification and jurisdictional hierarchy as the different social conditions differentiating possession and non-possession ASC. Swanson (1960) found the significant prediction of different dominant forms of spirit beliefs and relations by the number of sovereign groups or independent jurisdictions present in society, comparable to levels of political integration. The consistent implication of these variables in differentiating aspects of ideational cultural suggests that agrarian revolution, state formation, and class formation are important factors in creating differences in social, political, and economic influences upon psychodynamics and basic social institutions. In order to identify these social institutions, the relationship of selection and training procedures to magico-religious and sociopolitical functions will be investigated next.

4.3 SELECTION PROCEDURES AND MAGICO-RELIGIOUS ACTIVITIES

One of the hypotheses generated early in the research process was that there should be a relationship between selection processes for the magico-religious practitioners and the magico-religious and social activities in which the practitioners engaged. Although the stereotypical differences between priests and shamans and their different training and focus of concern provided some general notion about differences, there were no explicitly formulated hypotheses prior to analyses. It appears that prior to this research there had been no

consideration of the relationship of magico-religious practitioner selection procedures to their professional activities. These analyses prove to be material to the general theoretical perspective developed here. They indicate a functional relationship between selection procedures and magico-religious activities which corresponds to the different practitioner types and indicates the functional and institutional bases of magico-religious phenomena.

As a result of the analyses performed, several hypotheses about the functional relationships of training and selection to role activities have been formulated:

- (1) Training involving ASC induction leads to role activities involving healing and divination.
- (2) Selection based upon social succession or political action leads to role activities involving political powers, agriculture fertility rites, propitiation, and rites for protection.
- (3) Selection on the basis of attribution of biological inheritance of the role or other forms of social labeling leads to an exclusively malevolent role characterization in which individuals are believed to engage in seriously immoral behavior.

In order to assess the relationship of training and selection to major role activities, the variables listed below were analyzed for entailment relationships (see Methodological Appendix 2.7). Entailment procedures take data for groups of cases and indicate which other variables are present, given that a particular variable is present. All variables were treated as binary variables (presence/absence). Those which have ordinal values were collapsed into binary variables representing presence/absence.

Selection Variables

Biological Selection
 Social Labeling
 Selection through Illness
 Selection through Involuntary Experiences
 Selection by Spirits
 Selection through Vision Quest
 Selection through Social Inheritance
 Selection through Social Succession
 Selection through Political Action
 ASC Training

Major Role Activities

Healing
 Protection
 Divination
 Food Acquisition
 Agriculture
 Propitiation
 Malevolent Acts
 Political/Legislative Power
 Property Control/Taxation
 War Power
 Judicial Power
 Informal Political Power

The entailment diagram of the selection procedures and the major role activities is presented in Figure 4.4. The only relationships shown are inclusion or implicative relationships. The entailment analysis indicates that the selection procedures and magico-religious activities fall into three major groups. Exclusion relationships (if A present, B is absent) are found between numerous elements of the three different entailment chains shown in Figure 4.4. The exclusion relationships are not shown in figure 4.4. Nonetheless, there are exclusion relationships between the major selection variables of each chain (ASC training, social succession and political action, and selection through social labeling).

Group one involves selection through illness, involuntary or induced visions, or spirit insistence/possession. The practitioners who have these selection procedures are involved in some sort of ASC training as well. The practitioners who engage in ASC training are also involved in healing and divination. This chain can be read as: If a practitioner is selected through illness, then it is interpreted as involuntary selection by spirits. These (and other) practitioners involved in ASC training also engage in healing and divination.

The second group has selection through social succession or political action. The practitioners so selected exercise political/legislative and judicial power. Their magico-religious activities include agriculture rites, protection ceremonies, and propitiation.

The third group involves selection through attribution of biological inheritance or other forms of social labeling. These practitioners do not engage in propitiation activities or exercise political/legislative power or

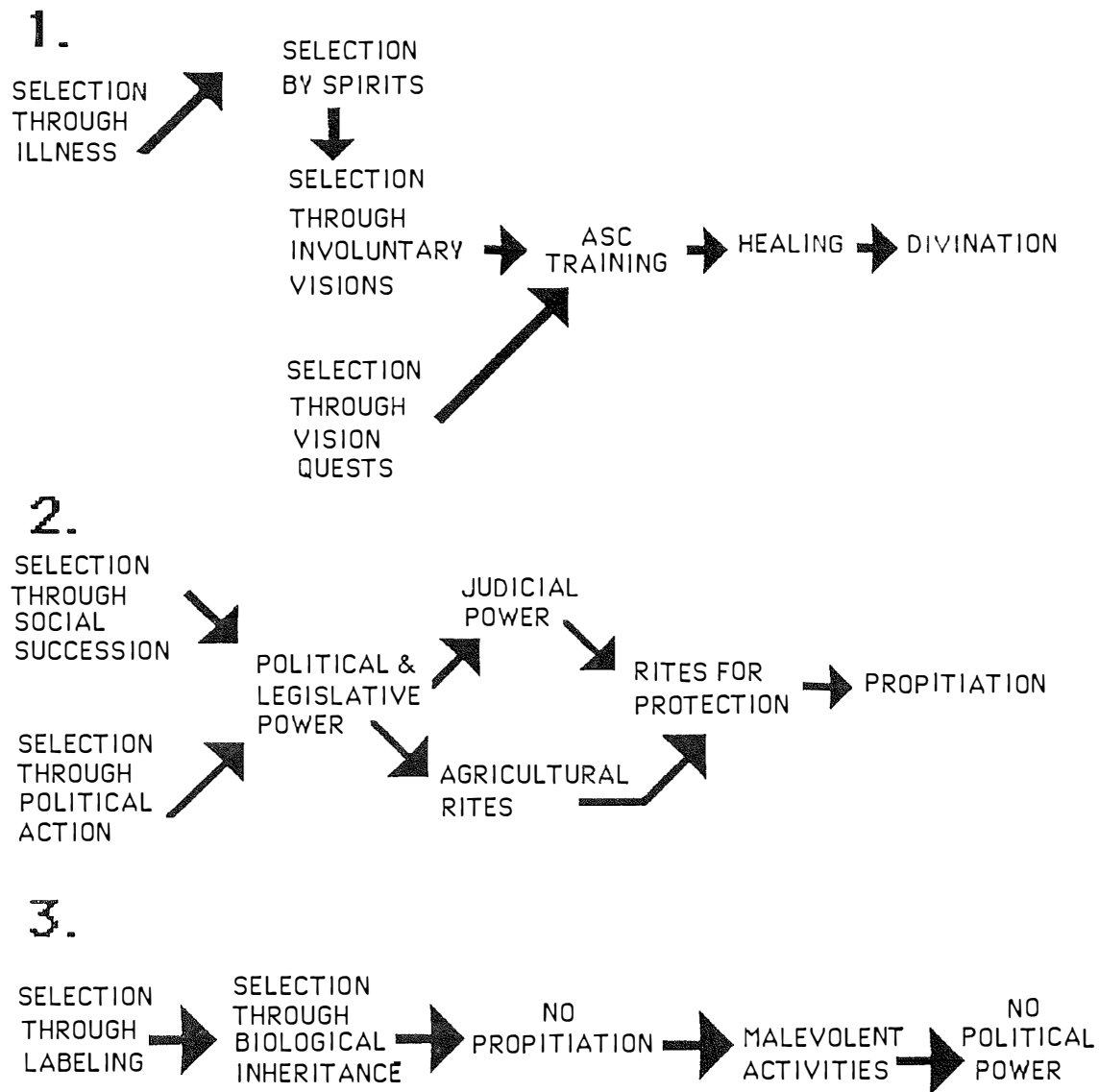


Figure 4.4 Entailment of selection procedures and role activities.

other recognized social powers. Instead, they are all thought to engage in malevolent activities.

These data suggest that the nature of the selection procedures for magico-religious roles are strongly related to the activities in which practitioners engage. One would expect it to be true of positions in general that selection and training procedures would be related to professional activities. The fact that selection procedures are related to activities in a cross-cultural sample strongly supports the argument that the members of a type are in fact functionally equivalent.

The different selection procedures also implicate origins or institutional bases for magico-religious practices. These findings suggest that the relevant selection or institutional factors are: (a) ASC training, (b) social succession or political action, and (c) ascription of negative roles. These role selection procedures or institutional bases lead to regular magico-religious activities: (a) healing and divination, (b) propitiation and agricultural fertility rites, and (c) malevolent acts, respectively.

The hypothesis that these three sets of entailment chains represent the institutional structure of magico-religious practices is supported by the strong relationship of these factors to the different practitioner types. The first chain with ASC training and the healing and divination activities is strongly associated with the Healer Complex and the Mediums; all of these practitioner types except for the Healers have entailment relationships with the first entailment chain. The Healers as a group do not significantly entail with this chain because of the lack of ASC training in some Healers; however, many do have ASC training, and even those lacking such training also engage in healing and divination. The second chain with role selection based upon social succession or political action is entailed by the Priest type. The third chain involving social labeling and malevolent activities is entailed by the Sorcerer/Witch Practitioners.

Sex Role Selection and Magico-religious Practice.

The idea that these practitioner configurations reflect a fundamental social division of labor is further supported by the examination of the magico-religious practitioners as a function of their different sex based division of labor. Cross-cultural studies (White, Burton and Brunder (1977) have shown that there are universals in the male and female division of labor. While some tasks are done exclusively by males, others are predominantly done by males, equally shared between the sexes, or predominantly done by females; no tasks were considered to be exclusively female.

The application of this principle to the analysis of this data confirms the sexual division of labor and the

general division of practitioner types. Some practitioners are exclusively male (Priests), while others are predominantly male (Healer Complex), both male and female (Sorcerer/Witch), or predominantly female (Medium). Dividing the magico-religious practitioner's into the groups based upon the sexual division of labor provides profiles similar to those of the different practitioner types.

Exclusively Male Practitioners

Propitiation and protection
Extensive sociopolitical power
High socioeconomic status
Predominantly moral
Hierarchical practitioner group
Selection through social inheritance or succession or political action
Public social functions
Power from superior gods
Sacrifice, spells and manipulative techniques
No ASC

Predominantly Male Practitioners

Healing, divination and propitiation
Judiciary power
High socioeconomic status
Public and client activities and client request
Animal and personal spirits
Sacrifices, physical treatment, manipulative techniques
ASC training

Male and Female Practitioners

Malevolent activities
Normal or low socioeconomic status
Immoral
Trained by other practitioners
Spirit and technical power
Animal relationships
Imitative and spirit techniques
ASC

Predominantly Female

Healing and divination
No political power
Low socioeconomic status
Selected by spirit possession
Taught by practitioner group
Client activities
Power from spirits- superior and minor
No/low control of power
ASC- possession and temporal lobe symptoms

While the groupings based on sexual division of labor are not as powerful in their ability to organize the data, the sexual division of labor does have a strong relationship with the magico-religious data, further indicating that the organizational structure of magico-religious practices corresponds to fundamental aspects of social organization.

4.4 THE EVOLUTION OF MAGICO-RELIGIOUS PRACTICE

These strong and regular relationships among magico-religious practitioner types, societal conditions, and selection procedures and functions confirms the identification of the institutional bases of magico-religious practice. A comparison of the different institutional bases of magico-religious practice across the different practitioner types and social conditions illustrates a differential distribution. The ASC bases are universal, being found in all societies, beginning with the Shaman of hunting and gathering societies and continuing through the Shaman/Healers, Healers and Mediums of more complex societies. The institutional bases associated with the political-religious power and malevolent magic are not universal. While Shamans do have political and magico-religious roles, the specialized political religious roles of Priests emerge in agricultural societies and continue as the dominant institutions in societies with political integration and social stratification; concomitantly the ASC base become less important socially. And

while all societies have practitioners engaged in malevolent magic, the specialized role of the Sorcerer/Witch is associated with those societies with political integration and social stratification.

These patterns suggest a general evolutionary model, in which the original magico-religious basis associated with the Shaman become differentiated as nomadic and egalitarian hunting and gathering societies undergo sociocultural evolution to sedentary agricultural societies with political integration and social stratification. The relationship of practitioner types and configurations to social complexity variables shows strong and direct relations to agriculture as a major mode of subsistence, political integration beyond the level of the local community, and the presence of classes. Agriculture apparently leads to the transformation of the Shaman into the Shaman/Healer and the emergence of the Priest. Political integration solidifies the power and position of Priests, as well as leads to the development of Healers and Mediums. Finally, the processes of political integration and the conditions of social stratification both contribute to the incidence of the Sorcerer/Witch Practitioners.

While the analyses reported above support an evolutionary model, the reasons for such development and change have not been established. The following chapters on Shamanism, Shamanistic Healers, Priest and Sorcerer/Witch practitioners further assess these practices, their social functions and institutionalized roles, and the evidence for such evolution.

CHAPTER 5

SHAMANISM

This chapter provides a descriptive background for the shaman, beginning with the classic descriptions of Eliade and others. These commonalities in the description of the shaman are shown to have direct correspondences with the empirically derived characteristics of the group labeled Shaman in this study. These commonalities and cross-cultural similarities require explanation which can not be accomplished by the hypothesized processes of diffusion. It is argued that Shamans are the original representatives of a cultural adaptation to biologically based ASC and the associated adaptive potentials. The particular form of this biological basis in shamanism is shaped by the psychosocial and ecological conditions and demands of hunting and gathering lifestyles. The similarities between Shamans and the other Shamanistic Healers suggests that Shamans and their potentials developed into other forms of magico-religious practice as a consequence of sociocultural evolution.

5.1 CLASSIC SHAMANISM

Knowledge about shamanism and its Siberian and worldwide manifestations had already reached a broad academic audience by the time of the publication of Eliade's (1951/1964) classic *Shamanism Archaic Techniques of Ecstasy*. However, not only is there considerable variation within Siberian shamanistic practices, but as Eliade pointed out, the term shaman had become applied to a broad group of magico-religious practitioners utilizing trances, altered states of consciousness, spirit interactions, or other magico-religious activities. This problem of the definition or extension of the term "shaman" has remained a point of contention. Is the shaman exclusively a Siberian practitioner, any practitioner using ASC?

The classic core of shamanism as defined by Eliade involved the shaman's use of "techniques of ecstasy" (altered states of consciousness) in interaction with the spirit world on behalf of the community, particularly in healing, divination, protection, and finding game animals. The shaman's ecstatic states were characterized as a magical flight, "a trance during which his soul is believed to leave his body and ascend to the sky or descend to the underworld" (Eliade 1964:5). The shaman was not possessed by spirits, but rather in control of spirits and demons, through which many tasks were accomplished— healing, dream interpretation, divina-

tion, clairvoyance (clear seeing), communication with spirits and the dead, recovery of lost souls, mediation between gods and people, and protection against spirits or malevolent magical practitioners.

Eliade suggested that selection for the role of the shaman derived from a crises, a period of illness or insanity characterized as a spirit affliction and sickness, in which a divine being chooses the individual for the role and gives him new rules for life. This initiation crises typically involved an experience of suffering, death and rebirth with dismemberment, ascent to the sky, descent to the underworld, and conversations with spirits and souls. The shaman learned to see and communicate with the spirits, a necessary step for the improvement of the shaman's condition and the development of spirit relations for power and professional practice. The shaman developed a dialogue with the spirits, imitating conversations with them, and invoking them through chanting and singing.

Eliade suggested that learning the language of the animals was central to this enactment and development, as well as the basis for the knowledge of the secrets of nature and prophesying. The shaman developed relationships with animal spirit helpers, especially birds. Birds symbolized the magical flight of the shaman—an experience in which the shaman's soul or spirit is thought to depart the body and travel to a spirit world. The animal spirits were controlled by the shaman and the vehicle through which the shaman transforms into an animal. The animal transformation/soul flight took the shaman into the ascent to the sky, movement through the earth, and descent to the underworld, frequently through "tree or pole climbing rites" (Eliade 1964:143). The birch, post or pillar symbolizes the Cosmic Tree, Sacred Tree or World Tree, the vehicle of ascension, which interpenetrates and connects the shaman's three worlds—sky, earth and underworld. The shamanic technique of movement through these worlds, is through this *axis mundi*, the "center", "opening" or "hole" through which the shamans, spirits and gods descend and ascend.

A principal activity of the shaman was ritual healing. The rituals involved the shaman imitating the animals and spirits and their struggles and battles, summoning the spirit allies while beating the drum, singing, chanting, dancing, and moving violently and excitedly. At the culmination of this conversational interaction with the

spirit world, the shaman collapsed exhausted. The shaman then entered into magical flight or the soul journey, ascending to the upper worlds, descending to the lower ones, or traversing the middle world in completion of shamanic tasks. Shamans played an essential role in the defense of the psychic integrity of the community, an anti-demonic champion, fighting spirits and disease and defending "life, health, fertility, the world of light, against death, diseases, sterility, disaster and the world of darkness" (Eliade 1964:509). "[T]he dramatic structure of the shamanic seance... the sometimes highly elaborate staging... obviously exercises a beneficial influence on the patient. But every genuinely shamanic seance ends as a spectacle unequaled in the world of daily experience." (Eliade 1964:511).

The technique of communication used by the shaman "as a creator of a state of interaction between this world and the other world is fundamentally an ecstatic role taking technique...fundamentally the art of transformation [or]...social role changing" (Siikala 1978:28-29) that creates direct and reciprocal communication with the spirit world. Siikala analyzed the shamanic ritual in terms of action units or ritual acts, which combine into a fixed series of ritual interactions with the spirit world. The ritual acts of the shaman brought the client group and local community into interaction with the spirit world. The interaction was charged with fear and awe, and the evocation of powerful emotional experiences and emotional healing.

Other investigators of shamanism (e.g. Hultkrantz 1966, 1973, 1978; Halifax 1979; cf. Siikala 1978 for review) have suggested similar characteristics of the shaman. An essential characteristic of shamanism is thought to involve an ecstatic state of communication (trance or altered state of consciousness) with the spirit world on behalf of the community. Most also considered the shamans' ecstatic states to involve, at least on some occasions, an experience of soul flight. Although the shaman generally was contrasted with the social and political position of the priest, Halifax, Hultkrantz and Siikala also point out that the shaman may be characterized as having political power, as well as engaging in negative acts as a witch or wizard. The Shamans' involvement with political power was generally manifested in their charismatic leadership, and indicated in high social status, in leading raiding parties, organizing communal hunts, and in deciding group movement. Halifax (1979) suggested that shamanism is a religious complex found in hunting and gathering societies, presenting a point similar to that of Hultkrantz (1966)—that there are types of religions corresponding to ecological

conditions of the societies in which they are found.

Because of the lack of cross-cultural analyses, the existence of a universal shaman and its features of shamans have not been conclusively established, despite the commonalities in shamanism argued by various investigators. The research here provides that formal cross-cultural basis, and confirms many of these characteristics.

5.2 THE CROSS-CULTURAL SHAMAN

The magico-religious practitioners of this study which are empirically clustered together and labeled as Shaman include the following:

!Kung Bushman *n/um kxoa-si*
 Samoyed *butode*, *'dano*, *sawode*, *tadibey*
 Semang *hala*
 Chukchee *ene nilit*
 Montagnais *manitousiou(okhi)*
 Kaska *meta*, *nudita*
 Twana *bôswadas*
 Creek *alektca*, *hilis-haya*, *owala*, *kilas*
 Paiute *puha*, *puhaba*
 Cayua *pa?i*, *paye*
 Jivaro *wishinyu*
 Callinago *boyez*
 Tupinamba *pay*, *pagis*

The practitioners classified here as Shamans were almost always referred to as shaman by the ethnographic sources; the !Kung Bushman *n/um kxoa-si* (Num Master) in Africa was the only exception. The study identified Shamans in Eurasia (Chukchee, Samoyed, and Semang), and in all the native North and South American societies except those which had Shaman/Healers or Healers. Shamans are absent from the Circum-Mediterranean and Insular Pacific, where Shaman/Healers are found instead. The Shaman perhaps best known in the recent ethnographic literature include the !Kung Bushman *n/um kxoa-si*, the Jivaro *wishinyu*, and the Chukchee *ene nilit*.

The report on the Chukchee by Bogoras (1909) provided one of the classic descriptions of the Shaman. The Chukchee lacked extensive social organization, even a clan system, and were still largely nomadic in the 1920's (Siikala 1978). Shaman were both male and female and the vocation began in youth, when the individual, tormented by spirit inflicted illness, retired to the wilderness to communicate with and learn from the spirits. The community ultimately decided the legitimacy of an individual practitioner's claims to professional competence. Barnouw's (1942) contrast of the

shaman and the medium was based upon the Chukchee shaman.

The Jivaro shaman is also well known to contemporary ethnography through the work of Harner (1972). The sources for the characterization provided here was based upon earlier sources (Karsten and Stirling). However, the continuity of the Jivaro practices across time is illustrated by the fact that the later work of Harner illustrates the fundamental cross-cultural and cross-temporal similarities in these practices, and apparently provided the basis for his universalist approach to shamanistic experiences (Harner 1982).

The !Kung Bushman of southwest Africa are one of the Shaman best known in contemporary ethnography. The !Kung medicine dance and activities of the *n/um kxoa-si* has been the topic of numerous articles (Marshall 1962, 1969), a book (Katz 1982), and documented on film. Their communal healing activities involved all night sessions, in which the men as healers danced to the incessant singing and clapping accompaniment provided by women. The extensive dancing was thought to activate a energy source which was then transferred to patients. Spirits were pleaded with or commanded in an effort to obtain their assistance in the cure of illness. These ceremonies occurred on an irregular weekly basis. Although the more recent reports of the healing ceremony (Katz 1982) suggested it does not involve drug ingestion, earlier observations (Marshall 1962, 1969) showed the use of psychoactive substances, particularly for healers in training. Recent assessments of the psychoactive properties of the !Kung Bushman medicine plants showed that the vast majority have evidence of being psychoactive (toxic or hallucinogenic) (Winkelman and Dobkin de Rios 1989).

The general characteristics ascribed to the shaman by Eliade and subsequent investigators are largely confirmed by this study and the general characteristics associated with the empirically identified group labeled as "Shaman". These empirically determined similarities are characterized below in terms of their social complexity conditions (Murdock and Provost 1973) and the categories of variables outlined in the Methods Chapter 2.4.

Societal Conditions. The practitioners classified as Shaman are the only type of magico-religious practitioner found in nomadic hunting and gathering societies. Although the Shaman are primarily found in societies with hunting, gathering, or fishing as the primary mode of subsistence; several are found in pastoral societies of Eurasia (Chukchee and Samoyed), and four occurred in New World societies relying primarily upon agriculture

(Creek, Jivaro, Tupinamba and Callinago). The Shamans in this sample are found only in societies with no formal classes (although slavery did exist in some of these societies) and generally in societies lacking an administrative political organization beyond the local community (Murdock's Political Integration 0 or 1). No Shamans are found in sedentary societies.

Autocorrelation multiple regression procedures show independently significant contributions to the explanation of the incidence of the Shaman practitioners from both political integration ($p < .0005$) and fixity of residence ($p < .02$), which provides a multiple $r = .68$ ($p < .001$). Although there is significant evidence of diffusion, the autocorrelation controls indicate that there are stable relationships with these variables¹. The autocorrelation effect with the language measurement indicates a strong historical relatedness among societies with respect to the incidence of the Shamans, reflecting the absence of these practitioners in the Circum-Mediterranean and Insular Pacific, where sedentary lifestyles and increases in political integration have apparently led to the disappearance of Shamans.

All except two of the hunting and gathering societies of the sample have Shamans. The two exceptions, the Mbuti and Siriono, did not have a specialized magico-religious status present in the society. This finding is accounted for within this model by the presence of cultural practices involving the lay use of ASC for healing; these activities are empirically most similar to the Healers. The lack of Shamans is discussed as a consequence of deculturation in Chapter 6 in the section on the Social Transformation of the Shaman.

Magico-Religious Activities. Healing and divination activities are the primary activities of the Shaman; hunting magic is also a primary activity for many Shaman. Divination procedures are based upon non-possession ASC. Healing primarily dealt with beliefs in the loss of the soul, attack by spirits, or malevolence from other shamans; however, natural illness remedies are also employed.

Sociopolitical Characteristics. The Shamans' involvement with political power is generally informal and charismatic; however, the Shaman are the charismatic political leaders in these societies where political integration or leadership is limited to the level of the local community. Shaman are involved in community leadership, have high social status, and are leaders in the organization of communal hunts and in deciding group movement. Shamans are war leaders (raiding parties) and make judiciary decisions, such as designating who are sorcerers or witches, or resolving disputes. However,

they lack the other political powers associated with more complex societies.

Social Characteristics. Shamans are predominantly male within most societies; however, females generally have access to the status, but their participation is frequently restricted to post-menopausal years. The Shamans have among the highest social status of those in their group, but generally are not characterized as having a favored economic status. The Shaman is characterized as having an ambiguous moral status by their societies, reflecting their involvement in both benevolent (healing) and malevolent (killing) activities.

Professional Characteristics. Shamans are part-time specialists in that they engage in typical subsistence activities; while Shamans may be paid for their services, there is no evidence that they generally have economic status beyond that of other individuals in their egalitarian hunting and gathering societies. Shaman generally carry out professional duties without assistance from other Shaman, and are generally trained by another Shaman acting alone. Although the Shaman do not have professional groups, they may engage in contests or other forms of competition.

Selection and Training. The Shamans are selected and trained through a variety of indicators and procedures. Shamans are considered to have been selected for their positions as a result of involuntary visions, having received signs from spirits, having experienced serious illness, or as a consequence of deliberately undertaken vision quest or ASC induction experiences in which they encountered personal spirit allies. All Shamans undergo a variety of ASC induction techniques, procedures, and agents as a part of their training. Shamans have individual teachers, learned incidentally from observation, or are taught directly by the spirits. However, the final recognition of an individual as a Shaman is the response of the community who validate the status by seeking the services of the Shaman.

Motive and Context. Shaman engage in activities on behalf of a client group or the local community, generally at the request of an individual or their family. The Shaman engage in malevolent magical acts as well. These are generally private acts carried out for personal reasons, although magically attacking group enemies may be public.

Supernatural Power. The Shaman's power is primarily derived from relationships with and control of spirits, particularly animal spirits. Although familiar spirits may occasionally operate outside of the Shaman's control or awareness, the Shaman is generally considered to be in control of the power.

Special Abilities. The Shaman are most likely to be characterized as having special abilities such as the capacity to fly, weather control, immunity to fire, the ability to transform into an animal, and death and rebirth experiences.

Techniques. Techniques used by the Shaman are primarily based upon interactions with and manipulations of the spirits; these relations are "magical" (spirits commanded) rather than "religious" (spirits propitiated). Techniques also include the use of physical treatments such as rubbing, massaging, cleansing of wounds, and herbal medications; sucking and blowing.

ASC Conditions and Spirit Relations. All of the Shamans have ASC thought to involve soul flight, journeys to the underworld, and/or transformation into animals. Although Shamans interact with the spirit world and imitate spirits in the context of ceremonies, the Shamans are not possessed. Shaman's ASC are induced through a variety of procedures including hallucinogens, fasting and water deprivation, exposure to temperature extremes, extensive exercise such as dancing and long-distance running, various austerities, sleep deprivation, auditory stimuli (such as drumming and chanting), and social and sensory deprivation. The ASC induction normally results in a collapse and a period of unconsciousness.

Summary. The formal quantitative cross-cultural analysis presented above empirically identifies a group of magico-religious practitioners through cluster analysis procedures. Analysis based on a wide range of variables substantiates that some Eurasian practitioners called shaman are empirically more similar to American and African practitioners than they are to some other practitioners in Eurasia, who are also called shaman. The empirical similarity is more relevant than geographical location or labels previously applied, and suggests that the term shaman be extended on the basis of patterns of characteristics of the practitioners, such as these presented here. These similar patterns also demand that we explain why such universal and cross-cultural patterns are found.

5.3 THE UNIVERSAL BASIS OF SHAMANISM

The cross-cultural distribution of Shaman in hunting and gathering societies which is found in this sample supports the hypothesis of a universal distribution of shamanism, with the suggestion that the Shamans were present in all regions of the world at some time in their hunting and gathering past. Since the status of the

Shaman, with a similar complex of characteristics, roles, activities, and beliefs, is found in a number of widely separated societies, the question is raised as to whether these very similar statuses result from diffusion of a single tradition, or from the independent invention of essentially the same institution in different societies.

Practitioners classified here as Shamans are found in all regions of the world except for the Circum-Mediterranean and Insular Pacific. The absence of Shamans in these regions is related to the lack of nomadic hunting and gathering societies without political integration. This is confirmed by the autocorrelation analyses which constitute a formal quantitative test of the diffusion hypothesis based upon language similarity and geographical distance. The autocorrelation test of the diffusion hypothesis show the stable prediction of the Shaman by nomadic residency patterns and the lack of political integration (Winkelman 1986a).

The presence of Shamans in such widely varying language groups as the Click (!Kung), Paleosiberian (Samoyed), Mon-Khmer (Semang), and among the various languages of the North American Indians indicates that any diffusion hypothesis would have to postulate a rather ancient common group. Based upon language differences, that presumed common group would have had to have diverged at least 20,000 years ago or more (see Ruhlen 1975). Apparently shamanism was a part of the culture of the Paleolithic hunting and gathering groups that migrated from Asia to populate the Americas 10-50,000 years ago (see Furst 1976), and it is generally accepted that Eurasian shamanic practices provided the basis for the presence of shamanic practices in the Americas (Le Barre 1970). Such diffusion might explain some other cases of shamanism, but other factors must be considered as crucial to the origin of shamanism even if diffusion were established.

Presuming that diffusion from a common source could account for the present distribution of shamans, one must ask why shamanic practices should maintain such similarity across time and societies, while the language and other social variables such as marriage patterns, family organization, marital residence, and kinship terminology should acquire such divergent patterns. Even if the present distribution of shamanism can be attributed to diffusion from an original common source, it would not have persisted if it were based merely upon a diffused system of belief, and not also upon some other objective features which made it an adaptive response.

The finding that Shamans are generally present in hunting and gathering societies with no political integration beyond the local level suggests that shamanism

corresponds to an ecologically and socially determined "type of religion" (Hultkrantz 1966), modeled upon the corresponding notion suggested by Steward (1955) with respect to "types of culture." A type of religion "contains those religious patterns and features which belong to or are intimately associated with the cultural core and therefore arise out of environmental adaptations" (Hultkrantz, 1966:146). Hultkrantz's notion of an ecologically determined religious type suggests that the worldwide similarity in the Shaman results in part from the similar ecological conditions associated with the hunting and gathering societies. Hultkrantz points out that shamanistic phenomena spring from "religious sentiment," sources associated with the psychological makeup of humans, a psychological basis shaped by ecological factors.

Hultkrantz's "religious sentiment" is better conceptualized as the physiologically based ASC. It has been shown that a wide variety of ASC, trances, transcendent and mystical states induced through a variety of different conditions and induction procedures create a common alteration in the psychophysiology of consciousness (Mandell 1980, Winkelman 1986b, Chapter 9 here). The importance of the ASC is reflected in its universal distribution and in the predictive relationship of ASC to healing and divination activities (Winkelman 1986a, b; Chapter 4.3). A common feature of the Shamans, Shaman/Healers, Mediums and most Healers is the presence of the ASC as a central feature of selection, training and professional practice. All societies have magico-religious healers who utilize ASC in this respect. This indicates that this biologically based ASC potential provides the basis for a universal distribution of Shaman and related Shamanistic Healers which utilize ASC in healing activities.

The common physiology underlying ASC induced by a variety of different procedures involves the replacement of the normal physiological condition of sympathetic dominance and desynchronized fast wave activity of the frontal cortex with a parasympathetic dominant state characterized by cortical synchronization by high voltage slow wave EEG activity originating in the hippocampal-septal area (see Mandell 1980, Winkelman 1986b). A wide variety of ASC induction agents and procedures and psychophysiological conditions produce this pattern, including: hallucinogens, opiates, and other drugs; extensive running or other motor behavior; hunger, thirst, and sleep loss; auditory stimulation and other forms of intense sensory stimulation such as physical torture or temperature extremes; sensory deprivation, sleep states and meditation; and a variety of psychophysiological imbalances or sensitivities resulting from he-

reditarily transmitted nervous system liabilities, epileptic-like states resulting from injury, disease, or other trauma to the central nervous system such as extreme temperatures, or other sensitive conditions of the temporal lobe and the associated structures of the hippocampal-septal system and amygdala.

Analysis of the relationship of the ASC training procedures to the magico-religious activities indicates a functional relationship. When practitioners have ASC induction as a part of their training, they also engage in healing and divination as a part of their magico-religious role. Previous research has suggested numerous reasons for a functional relationship of the ASC to healing and divination abilities (see Winkelman 1982, 1986b, 1991, Chapter 9 here; Finkler 1985; Blacker 1981; Walsh 1990). Although these ASC are dominated by patterns of discharge from evolutionarily earlier parts of the brain (limbic system and projections to the frontal cortex), they are not intellectually or cognitively primitive. The hippocampal formation is an association area and central to memory acquisition, storage, and recall. Mandell (1980) cited research which indicates that the hippocampal slow wave states are an optimal level of brain activity for energy, orienting, learning, memory, and attention. Eastern meditative traditions value these states as providing the basis for a more objective perception of reality. The yoga traditions indicate that *siddhis*, including healing and other "psychic abilities," are a by-product of spiritual development procedures which involve direct and profound alterations of consciousness (Evans-Wentz 1978 [1935]).

The functional role of ASC derives in part from the inherently therapeutic properties derived from the common physiological changes underlying ASC. The general physiological aspects of ASC—parasympathetic dominance, slow wave discharges, interhemispheric integration, and limbic-frontal synchronization can be seen as having inherent therapeutic effects (Winkelman 1991b). The parasympathetic dominant state is the basic relaxation response, and has inherent benefits for the functioning of the human system. The parasympathetic collapse induces relaxation with therapeutic effectiveness against a range of stress induced and exacerbated maladies. ASC can lead to erasure of previously conditioned responses, changes of beliefs, loss of memories, and increased suggestibility (Sargant 1974). ASC can be expected to have beneficial effects in treatment of psychosomatic tension states, anxiety and phobic reactions, given the parasympathetic dominant state (Finkler 1985).

ASC affect the brain/mind interface, permitting conscious control and regulation of what are typically uncon-

scious organic bodily processes. ASC involve conscious-unconscious integration through activation of unconscious material which permits abreaction and the resolution of conflicts (Budzynski 1986). Traditional ASC based healing practices give expression to repressed aspects of the self and conflicts. Budzynski (1986) ASC procedures reduce critical screening by the left hemisphere, releasing control to the right hemisphere. This then permits expression of the normally repressed side of the brain, as well as reprogramming at these unconscious non-verbal levels.

ASC have a variety of therapeutic effects (Winkelman 1991), including improvement of individual psychological and physiological well-being (Walsh 1980, 1990; Shapiro 1980; Wolman and Ullman 1986). Shapiro reviews literature showing that meditation has a number of beneficial effects as a clinical intervention technique for both psychological and physiological conditions. Meditative practitioners have established their ability to alter and control a wide variety of physiological activities of their bodies, suggesting that ASC experiences may lead to a greater control of one's own physiology.

The information reviewed above and covered more extensively in Chapters 9 and 10 suggests that the universal presence of altered state magico-religious healing practices is functional and psychobiologically based. The evidence includes the common psychobiological characteristics of ASC, the therapeutic effects of ASC, the functional relationships of ASC with the abilities of healing and divination, and the universal distribution of such practices. In addition to the physiological similarities underlying diverse ASC, there is other evidence that Shamans derive from a ecological adaptation of biologically based ASC potentials. This includes: the universal distribution of Shamans in hunting and gathering societies; their distribution throughout the world without evidence of diffusion (borrowing); and their greater empirical similarity to each other than to other types of magico-religious practitioners in their own regions.

Shamans are found throughout the world in hunting and gathering societies, and share more in common than they do with other types of magico-religious healers in the same region (the Shaman/Healers, Healers and Mediums). This suggests that the commonality arises as a result of the interaction between the innate structure of the human mind (ASC potentials) and certain social/ecological conditions. The ASC which are essential to selection and training for the shaman can occur under a wide variety of circumstances. This suggests that shamanism was spontaneously invented or rediscovered as a result of those experiences. These altered state experi-

ences can manifest spontaneously in individuals, occur as a consequence of a wide variety of procedures which induce these states, or occur as a result of chance processes (e.g., injury, extreme fatigue, near starvation, or accidental ingestion of hallucinogens). Since these states of consciousness have profound effects upon experience and apparently result in healing as well as a powerful insights, they would likely be sought after, and institutionalized once discovered.

The uniformities in shamanic practices worldwide can then be seen as a result of the interaction of the biological and mental potentials with social conditions and human needs. This would include: the rise of shamans as socially influential individuals because of their transformative and insightful experience; reinduction of the shaman's ASC experience in the patient; and characteristics which result from the interaction of the shaman and the group with the environment under conditions related to the group's hunting and gathering lifestyle (e.g., association of the Shaman with animals and hunting activities).

The universality of the basic experiences related to shamanism is suggested by divergent research. Shields' (1978) cross-cultural study of belief in the out-of-the-body experience, the core element of the shamanic soul flight or journey, found it to be nearly universal. Shield's study established that these basic experiences, which are an essential aspect of shamanism, do occur widely. The studies of near death or clinical death experiences (e.g., Moody 1975; Ring 1981), as well as research on the "astral projection" or out-of-the-body experiences (e.g., Green 1968; McIntosh 1980; Blackmore 1982), illustrate a basic structure of experience similar to the shaman's ecstatic flight. Harner's (1982) work with modern

shamanic induction experiences illustrated that many of the archetypal features of shamanism are found by those who induce ASC following these ancient practices.

These homologies indicate that the shamanic flight is a manifestation of a human psychophysiological and archetypal structure, and that shamanism incorporated that basis. Shaman form the original basis for the universal distribution of practitioners who utilize ASC to engage in healing and divination. The fundamental importance of shamanism is reflected in its survivals and modifications in more complex societies in various sociocultural adaptations to the psychobiological potentials of ASC. Shamans and other Shamanistic Healers utilize ASC because they are adaptive in meeting demands for survival, including healing through ASC induced stress reduction, encouraging positive hope and expectation, and facilitating divination to determine the location of game and other culturally relevant information.

However, the cross-cultural differences in those healers employing ASC as a fundamental aspect of training and healing illustrates that there are differences in the manifestation of this ASC potential. As suggested previously (De Rios and Winkelman 1989), the term "shaman" should be reserved for those ASC practitioners of hunting and gathering societies and the empirically similar practitioners in the slightly more complex societies. The term "shamanistic healer" can refer to all healers utilizing ASC. The following chapter explores the characteristics of these different practitioner types to substantiate the hypothesis that Shaman and their ASC based biological potential was transformed into other types of practitioners as a consequence of socioeconomic evolution.

CHAPTER 6

SHAMANISTIC HEALERS

The characteristics of the other Shamanistic Healers and their relationship to the Shaman are addressed in this chapter. The characteristics of the Shaman/Healer are contrasted with those of the Shaman to show that the systematic differences between the two types have direct relationships to the proposed social transformation of the Shaman to the Shaman/Healer. The systematic differences in practitioner characteristics between the two correspond directly to the social differences between the two types of societies in which they are found. This and other evidence such as exclusion relations and common functions and training are cited as evidence of the proposed transformation. The characteristics of the Medium and Healer are also addressed, and the continuities and discontinuities with the Shaman are assessed. The Medium cannot be seen as a direct descendant of the Shaman, given the great differences of their respective societies in terms of social complexity. The Medium is a tradition which uses the same ASC basis and potentials as the Shaman, but manifested in a different form as a consequence of the conditions of the complex societies where they are found. The Healer's characteristics are assessed and compared with those of the Shaman. In spite of substantial differences between the two, the consideration of diachronic data on some of the societies and practitioners in the sample suggests that shamanic traditions may have given a basis for the Healers. However, other data clearly indicate that some Healer traditions derive not from shamanistic practices, but from the Priest traditions of complex societies. Nonetheless, the continuity between the Shaman/Healers and Healers suggests that many Healers may ultimately have their origins in shamanistic practices.

6.1 THE SHAMAN/HEALER

The Shaman/Healer practitioners are frequently referred to as shaman by the ethnographers when found in the Americas, but have a variety of other labels in other regions of the world, for example the Nama Hottentot seer (*gai aogu*), the Fur magician, the Roman Eastern Cult participants, the Roman sorcerer, witch, or necromancer, the Kurd *dervish*, the Japanese ascetic, and the Hidatsa bundle holders.

The Shaman/Healers were generally found in societies which also had other magico-religious practitioners.

The Shaman/Healers occurring alone in a society are:

Nama Hottentot *gai aogu*, *gebo aob*

Kimam *undani*, *warrewundu*

Hidatsa bundle holders

The Shaman/Healers with other practitioners present are:

Fur magician

Roman sorcerer, witch, necromancer

Roman "Eastern or Oriental" cults

Kurd *dervish*, *shaika*, *sayyid*

Sea Dyak (Iban) *manang*

Japanese ascetic *kitosha kannushi*

Aztec *tlapouhqui*, *ticitl*

Zuni theurgist, medicine man, doctor

Bribri *jawa*

The Shaman/Healers in this sample include a number of practitioners that seem quite different. Not only are there many North and South American practitioners who are called shaman, but there are also two practitioners which represent major religious traditions. The Japanese ascetic is based on the Shinto Buddhist professionals and related traditions, which are extensively described by Blacker (1975). The Kurd *dervish* is a representative of the Islamic traditions, but one which is frequently in conflict with the mainstream Islamic power. The *mulla*, also an Islamic practitioner, is found in the Kurd society as well. The Romans were unique in having two practitioners classified as Shaman/Healers: the Roman sorcerer, witch, necromancer, and the Roman "Eastern or Oriental" cults. The Roman sorcerer, witch, necromancer involved a set of overlapping activities which were conceptually linked from the point of view of the Romans. This practitioner was involved in healing, divination, agricultural rites, and while generally held in disrepute, was occasionally utilized by the powerful upperclass members of Roman society. The Roman "Eastern or Oriental" cults involved a recurrent phenomena in ancient Roman society. These were a variety of cults from the east (Orient), associated with the simple agriculturalists and pastoralists who were integrated into the lower strata of Roman society. These religions appealed to the emotions, induced ASC, and met needs not fulfilled by the Roman state religion (see Appendix 1 for further discussion).

The remainder of this section provides a characterization of the Shaman/Healers, based upon the variables which they shared.

Societal Conditions. The Shaman/Healers occur primarily in sedentary societies with a major reliance upon agriculture as a food source; the only exception (Nama Hottentot) is pastoral. The only societies with Shaman/Healers which are not completely sedentary are the Nama Hottentot, Hidatsa, and Iban. Shaman/Healers are found in societies at all levels of social stratification and political integration. Although the incidence of the Shaman/Healer variable is significantly correlated with both the presence of agriculture as a major mode of subsistence and the fixity of residence, only the agriculture variable is individually significant in prediction of the Shaman/Healers in multiple regression ($r = .29, p < .05$); there was no evidence of diffusion.

Magico-religious Activities. The primary activities of the Shaman/Healers are healing and divination; they also provide protection against spirits or malevolent magical practitioners. The Shaman/Healers use non-possession ASC for divination, as well as material systems, where a mechanical system (set of objects) play a central role in determining the divination outcome, such as the use of systems like I Ching and Tarot. Food increase and agricultural rites are important activities of the Shaman/Healers; they also provided assistance in hunting or finding game. The Shaman/Healers also engage in malevolent acts, but it is not generally considered a major professional activity.

Sociopolitical Power. The Shaman/Healers generally do not have sociopolitical power other than that which involved moderate judiciary decisions in the context of divination, determining who was a Sorcerer, etc. This reflects the concentration of political power in the hands of Priest who are generally found in the societies where there are Shaman/Healers. However, when there are no Priest present, the Shaman/Healer generally exercises considerable charismatic power.

Social Characteristics. Shaman/Healer are predominantly male, but females are permitted to occupy the status. The Shaman/Healer do not have high social and economic status, reflecting the social dominance of the Priests in societies where Shaman/Healers are present. Although the behavior of the Shaman/Healer generally is not considered to be immoral, their moral status is predominantly, not exclusively benevolent, reflecting the possibility that they might use their power to harm others.

Professional Characteristics. The Shaman/Healers are part-time specialists in that they engage in typical subsistence activities or other remunerative work beyond

whatever earnings they receive as a practitioner. Role specialization is a characteristic of the Shaman/Healers, where there is a tendency for overlapping or extensive specialization, in which different individual members of practitioner type may engage in a very limited range of the full scale of professional activities associated with the position. There may be treatment of only certain disease types, or specialization in divination or agriculture activities to the exclusion of each other and healing activities, much along the line of professional specialization in allopathic medical practices in Western societies. Shaman/Healers have a higher degree of professional social organization and group activities than Shaman, including collective ceremonies and training by groups of Shaman/Healers rather than by individuals. There are joint ceremonies, formal group activities, and the formal acquisition of professional status through ceremonial initiations.

Selection and Training. The Shaman/Healers generally seek their roles voluntarily, but are also frequently selected on the basis of illness, involuntary visions, dreams, or vision quests. Shaman/Healers are generally taught by a practitioner group.

Supernatural Power. Relations with spirits as a source of their power is found for nearly all these practitioners. Shaman/Healers are predominantly associated with animal spirits and other minor spirits. The Shaman/Healers also have impersonal sources of power (mana). Shaman/Healers generally exercise their power with awareness, but are occasionally found to have their power operate out of control, for instance when their familiar spirits would act against them or others.

Special Abilities. Shaman/Healers are believed to be able to transform themselves into animals. Abilities such as weather control, love magic, immunity to fire, soul flight, and death/rebirth experiences are also frequent, but not universal among the Shaman/Healers.

Techniques. Shaman/Healers utilize special relationships with spirits as a technique, as well as ritual manipulations. The techniques employed include physical manipulations of the patient such as rubbing, massaging, cleansing of wounds; application of herbal medicines; techniques such as object extraction (sleight-of-hand); the use of spells and charms; exuvial, imitative and manipulative techniques, and exorcism and other forms of spirit control. Shaman/Healers generally command the spirits, and do not use propitiation.

ASC Conditions and Spirit Relations. Altered states of consciousness are typical in the training activities of the Shaman/Healer. The ASC of a few of the Shaman/Healers are characterized as involving a soul journey;

most are found to have what is labeled as a yogic, meditative or mystic ASC, involving auditory driving, fasting, social isolation and sleep deprivation. The training procedures of the Shaman/Healers also frequently involve the use of hallucinogens, and resulted in collapse and unconsciousness. There are no overall differences in the types of ASC procedures used and characteristics of the ASC of the Shamans and Shaman/Healers, although Shaman have evidence of more extensive use of ASC induction procedures.

6.2 THE SOCIAL TRANSFORMATION OF THE SHAMAN

The worldwide distribution of the Shamans in hunting and gathering societies which is found in this sample is consistent with the findings and expectations of many students of shamanism. It appears that the shamanic role developed under conditions of hunting and gathering societies. The fundamental use of the ASC and the universal distribution of these ASC based healing practices suggests that the Shamans provide the original basis for a diverse set of shamanistic healing practices that evolved with increasing social complexity.

This section addresses the question of what happens to the Shaman under conditions of societal transformation from hunting and gathering to agricultural societies. The major issue is whether under these conditions of social change the shaman's status ceases to exist, with a new magico-religious status taking its place; or whether the shaman's characteristics change under the new social conditions. It is argued here that systematic changes takes place in the role of the Shaman as a result of social change.

A similar theory of shamanic evolution was proposed by Siikala (1978), who provided a detailed consideration of the differences in shamanic practitioners and their forms under different social conditions. Siikala suggested a transformation of the shamanic role under conditions related to the breakdown of the clan structure and the stratification of the community. She proposed that there are four different types of shamans, which she labeled small group shamans, independent professional shamans, clan shamans, and territorial professional shamans.

Small group shamans were characteristic of the highly nomadic northern ethnic groups in Siberia, where shamanism was not under clan control. Here the shamans were not as influential as in other groups considered by Siikala, and the activities were similar to the form of professional shamanism. These practices were frequently

characterized as family shamanism; since there was little control over who can practice, the drumming and other shamanic activities were engaged by those who desired to do so.

Individual professional shamanism was more prevalent among the Paleo-Asian groups like the Chukchee in the sample studied here. The independent professional shaman was a private enterprise with no hierarchical political or organizational control over access to the position and its practice. Among the Chukchee, those who felt compelled by spirit experiences to seek the shamanic role do so, and the shaman's clients were the parties who decide if the shaman is qualified and successful.

Clan shamanism was found among the Evenks, Samoyeds, Yukagirs, Amur, and certain Altaic groups. In these societies the shaman had the role of a chief, and the clan controls the selection of shamans. These groups were chiefly involved in hunting and fishing, with little herding. The activities of these shaman included ancestor shaman worship, a characteristic not typical of shamanic practices in other parts of the world.

The territorial professional shamans were found in Central Asia and southern Siberia, in particular among the Altaic Turks. Siikala suggested that these types of shamans have a very rich mythological tradition, with considerable influence from Lamaism. The initiatory rites were supervised by older shamans, and full acquisition of the role required many years of ceremonies.

The sample used in this study includes the Kazak, a society in the Uralic-Turkic linguistic family, and found in the region where Siikala (1978) pointed to the predominance of the territorial professional shamanism. The practitioner from the Kazak who has been classified here as a Medium is presumably an example of the territorial professional shaman among the Kazak in the 1930 (see Castange [1930] who describes the *baqca*). As Siikala suggested, the shamanic role had apparently become transformed across time into a different type of practitioner labeled here as a Medium.

Siikala pointed out that societies with professional shamans differed with respect to the other Siberian peoples in that they were horse breeders with social structure characterized by patriarchal feudalism. Siikala hypothesized that with the disintegration of the clan system and the stratification of the community, the shamanic practices developed towards the professional type. The Altaic Turks had politically stratified societies that created and conquered empires, suggesting that the presence of a politically stratified society could also be important in explaining the transformation of the Shaman.

Siikala's hypotheses pertained to Siberian practitioners, and cannot be directly assessed with the data of this study since it would require diachronic data on a number of Siberian societies. However, the data from this study can be used to assess this hypothesis in a cross-cultural rather than regional context. Siikala hypothesized that the breakdown of the clan system and the stratification of society leads to the professionalization of shamanism. The research here indicates that sedentary residence, agriculture and political integration are the social conditions which differentiate the Shaman from Shaman/Healer, Healer and Medium, suggesting that these conditions may be responsible for the change in shamans. The Shamans of this sample are restricted to societies without classes (social stratifications), but so are most of the Shaman/Healers; it is agriculture which strongly differentiates Shamans and Shaman/Healers, and it is fixity of residence and the lack of political integration beyond the local community which are the primary factors predicting the incidence of Shamans at the societal level. Similarly, the presence of political integration beyond the local community is also the strong predictor of the Healers and Mediums. The presence of classes (Social Stratification) is significantly associated with the presence of Mediums, some of which are labeled shamans by Siikala and other ethnographers. However, multiple regression analysis implicated political integration as a more important factor than the presence of social stratification. The breakdown of the clan structure and the stratification of society hypothesized by Siikala as central to the transformation of the shaman may reflect the processes of political integration, and class stratification seems to be a likely consequence of the processes of political integration, particularly when it involves the conquering of other communities.

The differences in the societal conditions of the Shaman, Shaman/Healer and Healer strongly suggest a social transformation of the Shaman. However, there is also the possibility of the replacement of the Shaman by a different type of practitioner, instead of a gradual evolution. What data would differentiate a hypothesis of shamanic transformation as opposed to shamanic replacement? In addition to the differences in societal conditions, there are relationships among the practitioners and systematic differences between them which support the hypothesis of transformation or evolution.

The entailment relationships reported in Chapter 4 support the evolutionary hypothesis. The fact that Shamans do not occur in the same societies with Shaman/Healers supports the transformation hypothesis, since the lack of co-occurrence of Shaman and Shaman/Healers is

precisely what is expected if the former was transformed into the latter. The similar exclusion relationships of both the Shaman and Shaman/Healer with Healers and Mediums supports the evolutionary hypothesis in the same way.

If the transformation of the Shamans involves the professionalization suggested by Siikala and is a result of systematic social processes, the differences between the variables characteristic of the Shaman and Shaman/Healer groups should bear a systematic relationship to the transformation process. In order to assess which variables were the main differences between types of practitioners of the Healer Complex, the BMDP K-Means¹ analysis was employed.

The analysis indicate that the Shamans and Shaman/Healers differ significantly only with respect to a few major variable areas which are consistent with the hypothesized continuity of the two types and the hypothesized professionalization of the Shaman as the consequence of changes in the socioeconomic conditions of the societies. Shamans have hunting magic as a fundamental aspect of their professional activities, but lack agricultural rituals; Shaman/Healers have both, reflecting the agricultural basis of their societies. One of the main differences between Shamans and Shaman/Healers is in the greater social organization of the Shaman/Healers. The greater degree of institutionalization of the practitioner role among the Shaman/Healers is seen in the higher incidence of formal group activities, the formal acquisition of full status through ceremonial initiations, and the acquisition of training from a group of practitioners rather than from an individual practitioner. The Shamans, living in small dispersed nomadic hunting and gathering societies, presumably do not have the opportunity or need to develop formal group activities. The Shaman/Healers in more complex societies have the population and practitioner base which permits professional groups.

The Shaman/Healers also have a higher degree of role specialization, where one specialization of the role primarily engage in one type of activity (e.g., healing or only a specific disease) to the exclusion or general exclusion of activities in other areas of specialization (e.g., divination, agriculture rites), which are the domain of other specializations of the practitioner type (see Professional Characteristics variables). This is consistent with the demands of an organized practitioner group in society, since specialization can be expected to reduce competition.

While the Shamans generally experience ASC labeled as involving some spirit contact, the Shaman/

Healers experience ASC during training which are not directly associated with experiences labeled as spirit communication. This difference is also reflected in the differences in sources of power. The Shaman/Healers are frequently characterized as having an impersonal or personal source of power in addition to the spirit power, which tends to be the only source of power associated with the Shamans. This impersonal or personal source of power is also reflected in the higher incidence of magical rituals and techniques with special power emanating from the Shaman/Healers, assumed to be independent of spirits. This use of impersonal power is indicative of the social changes in shamanistic practices. The source of power through rituals and knowledge transmitted through group training and certification reflects a change from power based on direct experience (ASC) and community validation (typical of the Shaman) to one more subject to groups and professional control.

Another significant difference between the Shamans and Shaman/Healers is in the decrease in the social status of the Shaman/Healers, reflecting the leadership role of Shamans in their societies and the general presence of other types of practitioners with higher status (Priests) in societies with Shaman/Healers. However, when the Shaman/Healers occur alone (e.g., the Nama Hottentot, Hidatsa and Kiman), they are sociopolitical leaders in their societies, consistent with the leadership role of the Shaman.

These correspondences of practitioner differences with the effects of social change provide direct evidence for the hypothesis that the Shaman/Healers have their origin in the Shaman role, and that across time the Shamans have undergone transformations in societies with agriculture, sedentary lifestyles, and the presence of hierarchical levels of political integration. In addition to the correlation evidence provided above on the relationship of the practitioner types to the social conditions, there is other evidence which supports this transformation. The cluster analyses based upon 98 variables characterizing the practitioners places the cases labeled as Shaman/Healers with the Shamans under some measurement conditions. This indicates substantial similarities between the Shaman/Healers and what is generally thought of as and labeled here as Shamans. The separation of Shamans and Shaman/Healers into two groups was a methodological decision made in the interest of developing a typology and reconciling difference among cluster analysis solutions. There is an exclusion relationship between the two types of practitioners (Shamans and Shaman/Healers) meaning that they do not co-occur in the same society). This is also evidence for the proposed

transformation in that the Shaman and Shaman/Healer could not occur together since the Shaman/Healer is the outcome of the transformation of the Shaman role under certain social changes. Not only do Shaman/Healers not occur in any societies with Shamans present, they do occur in societies which can be presumed to have had practitioners more typical of the Shamans in the immediate past (e.g., the Hidatsa, Bribri, Zuni, and Aztec in North America), given the veritable ubiquity of shamans in the region. The basic similarity of training and selection procedures and the functional similarities of the two types of practitioners (healing and divination) also supports the hypothesis of transformation, since the two practitioner types are selected and trained in a similar fashion (involving altered states of consciousness) and carry out the same types of activities (healing, divination, and malevolent acts) in different types of societies. The notion of functional equivalence in different types of societies is substantiated by the subsistence variables which distinguish the Shamans and Shaman/Healers (hunting and gathering versus agriculture). These converging lines of evidence well substantiate the origin of the Shaman/Healer in the Shaman.

6.3 THE MEDIUM

The practitioners classified as Mediums are generally referred to as diviners, oracles, seers, healers, priests or shaman. The practitioners included in this type which were labeled as shaman by the ethnographers are from the Kazak (Eurasia) and the Atayal (Insular Pacific). The term Medium is selected to refer to this group of practitioners because they engage in some form of *possession* ASC, during which spirits are believed to take over the Medium's body and operate through it (see Bourguignon 1976b or Chapter 9 here). During these ASC they are thought to be "mediums" (vehicles, conduits) through which spirits communicate with people. The Mediums in this sample are Old World practitioners, not being found in any of the indigenous societies of the Americas in this sample. However, a Medium is present however among the Saramacca of South America, descendants of slaves escaped from the plantations of Surinam; such practitioners are also present in contemporary New World societies (e.g., Spiritualist in Mexico and Brazil).

The Mediums are generally found in societies with both Priest and Healers also present; Mediums are frequently associated with the presence of Sorcerer/Witch practitioners, but this is not an entailment relationship. The practitioners classified as Medium include the following:

Igbo *dibea*
 Fulani *mo keni kenado*
 Wolof *M' Deup, lefohar*
 Kafa *ekko, eqqo, eqo*
 Tuareg freinds of *Kel Asouf*
 Amhara *zar, balazar*
 Kazak *baqca, baski, bagsha*
 Babylonia oracle- *ragintu*
 Toda *teuol, teuodipol*
 Japanese *miko, kyoso*
 Tanala *ombiasy manangatra*
 Vietnamese *dong, thay dong, phu, ba and ong dong*
 Marquesa *taua paea, taua umoko, taua hiko etua*
 Alor *seer*
 Trukese *nanonu, uanonu*
 Atayal *sikawasai*
 Saramacca *gadu, gadu ma bu*

The activities of Mediums are well known in the anthropological literature. Much of the dispute over what constitutes a shaman has been created by those who have considered practitioners like the Mediums to be shaman. The activities of Mediums are addressed by Lewis (1971) in the work on *Ecstatic Religion*. While the use of ASC by Medium clearly link them to the Shaman, the general characteristics of the Medium are quite different from those of the Shaman.

Societal Conditions. Mediums are present in societies which have a primary reliance upon agriculture or pastoralism as a food supply. The Mediums are strongly predicted by the presence of political integration beyond the level of the local community ($r = .51, p < .005$); only one society in the sample has a Medium present without at least local level political integration. The other social complexity variables (e.g., social stratification) did not contribute significant additional explained variance. The strength of the relationship with political integration is noted in that only the Trukese have a Medium present without political integration beyond the local level. The Mediums are absent from the North and South American regions with the exception of the Saramacca, who are descendants of escaped African slaves who established a society in Surinam. This raises the question of whether this practitioner type develops as the result of structural conditions in society or as a result of diffusion. The autocorrelation multiple regression analysis with the social complexity variables shows that the political integration variable alone correlates significantly with the Medium variable. No evidence of significant diffusion effects was found. It appears that political integration

beyond the level of the local community is central to explaining the incidence of Mediums.

Magico-religious Activities. The primary activities of the Mediums are healing and divination; they also provide protection against spirits or malevolent magical practitioners. Divination is accomplished through the use of ASC. Propitiation and worship of spirits is another primary activity of the Mediums, frequently done in conjunction with agricultural rituals. Malevolent activities are essentially lacking in the Medium group.

Sociopolitical Characteristics. The Mediums generally do not exercise any political power, although they do occasionally have some form of informal judicial power, designating who are sorcerers or witches, or resolving disputes.

Social Characteristics. Mediums are predominantly women and are generally of low social and economic status. Although there are a few societies in which practitioners of this type are largely male, they are generally found in this role infrequently. The Mediums are generally evaluated by the members of their culture as being exclusively moral and benevolent in their activities, and generally not associated with the negative use of magical power for harm of others.

Professional Characteristics. Mediums are generally part-time practitioners, engaging in normal subsistence activities in addition to their activities as practitioners. Mediums frequently do not receive remuneration for their professional activities. There is little specialization among the Mediums. Mediums frequently have formally organized groups for training and practice. The Mediums are frequently characterized as having a particular personality profile which is not associated with any other magico-religious practitioner type. A variety of characteristics attributed to the Mediums such as being crazy, neurotic, hysterical, nervous, excitable, subject to hallucinations, fits, convulsions, and seizures, etc. indicate a central nervous system dysinhibition similar to those associated with epileptic seizures, temporal lobe discharges and the related ictal personality syndrome (see Mandell 1980, Winkelman 1986b and Chapter 9 here; and Wright 1989). The Mediums have the highest incidence of these characteristics, being present in about half of them. However, the spontaneously induced ASC which are typical of the selection for all of the Medium exhibit other symptoms of a similar lability in the central nervous system such as compulsive motor behavior, tremors and convulsions, and occasionally amnesia. This is referred to as a temporal lobe discharge syndrome and shown to be strongly correlated with social stratification and possession ASC (see Chapter 9). These spontane-

ously induced possession ASC experiences which apparently occur outside of the control or intention of the to-be-practitioner no longer occur once the Medium undergoes a period of training. Subsequently, the possession episodes are no longer induced spontaneously, but occur only when there is a deliberate intention on the part of the Medium to enter an ASC.

Selection and Training. Mediums are selected for their roles through spontaneous spirit possession experiences which involve culturally defined episodes of possession by spirits in which the personality of the practitioner is believed to be replaced by that of a spirit entity. Mediums differ from other shamanistic practitioners in that the *initial* ASC episodes leading to the need for training for the practitioner status are thought to be spontaneously induced and outside of the control or intention of the practitioner to-be; the status is not viewed as being sought in a voluntary fashion. Mediums' selection also involves episodes of illness and involuntary dreams or visions, as well as deliberate ASC induction procedures. They may be taught by individual practitioners and/or learn directly from the spirits, but are generally trained by groups.

Motive and Context. The Medium's activities are generally carried out at the request of a client group; their activities may occur in the setting of the client's family group, or may be public ceremonies in which the practitioner's activities are observed or participated in by the local community.

Supernatural Power. Relations with spirits is the primary source of their power for these practitioners. The Mediums are associated with superior spirits and gods, and generally did not have evidence of an impersonal source of power. The Medium's power is thought to be based in spirits, who are thought to possess the Medium and act independently of the Medium's control, and occasionally without the Medium's awareness. There is the general belief that the Medium is not in control of what happens during the ASC, and may experience amnesia for all that transpired during that time. The Mediums have low control of their power and occasionally low or no awareness of its application, for instance when the spirits act outside of the Medium's consciousness.

Techniques. Generally the Mediums do not use the magical techniques, but instead rely upon their propitiation and ASC relationships with spirits as a means of manipulating the supernatural. However, sacrifice, particularly sacrifice consumed by the attending group, is also frequently employed.

ASC Conditions and Spirit Relations. ASC are universal among the training activities of the Mediums. The initial ASC of Medium are spontaneously induced, characterized as involving possession of the practitioner by a spirit. This is normally manifested in conditions such as compulsive motor behavior, tremors, and convulsions. All but one of the Mediums are characterized as undergoing possession experiences, following Bourguignon's (Bourguignon and Escavu 1977) definition of possession as a belief in which the practitioner's personality is thought to be replaced by a spirit entity. The ASC of the Medium are characterized as involving possession by a spirit. The spontaneously induced ASC which Mediums experience as leading to their selection show symptoms of lability in the central nervous system such as compulsive motor behavior, tremors and convulsions, seizures and amnesia; these characteristics are almost entirely absent from the other practitioner types. In addition to the spontaneously occurring ASC experiences, the Mediums generally also use other deliberate ASC induction techniques as a part of their training and activities—singing, chanting, and dancing. However, as the practitioner undergoes training, the possession ASC no longer occur spontaneously. Nonetheless, the characteristics of the professional Medium's ASC are still thought to involve possession, in that the Medium is believed to operate under the control of the possessing spirit while in the ASC.

6.4 SHAMANS AND MEDIUMS

The ASC characteristics of the Shamans and Mediums have created a long standing controversy as to the extension of the term shaman and the relationship of the Shaman to possession ASC. The empirical analyses and the distinct societal, professional, and ASC characteristics of Shaman and Mediums should make clear the differences and the importance of the distinctions.

Hultkrantz (1978) suggested that as the role of the shaman becomes less important in more complex societies, it becomes transformed from a community function into a private act similar to the practices of spiritualism found in modern societies. Spiritualist mediums are frequently female, engage in ASC appropriately labeled as possession trances, and generally lack malevolent activities, linking the spiritualists with the practitioners classified as Mediums in this study.

Integration of Siikala's review of the different forms of shamanism with Hultkrantz's ideas of ecologically based religious forms and the data of this study supports

for the notion that the ASC potentials associated with the Shaman is transformed into or manifested as other practitioner types, such as the Medium as suggested by Hultkrantz. However, the strong association of the Mediums with political integration indicates that this process, not social stratification, is responsible for the formation of the Medium.

The analyses of the relationship of the Shaman and Medium to the socioeconomic conditions of their societies indicates that the Shaman role is the form which ASC based magico-religious practitioners tend to take in hunting and gathering societies without political integration, while the Medium is the form which these practices take in agricultural societies with political integration beyond the local community.

If the presence of political integration beyond the local level is crucial to the development of a Medium type practitioner, the question is raised as to why there are no Mediums present in some societies with political integration, especially the seven societies here with two or more levels of political integration beyond the local community. The exceptions were found to have characteristics which explain them by accommodating them to the perspectives developed here. Five of the societies with two or more levels of political integration (Fur, Roman, Kurd, Aztec, and Creek) and no Mediums had Shaman/Healers present. Since it is argued that the Shaman and Shaman/Healer provide the basis for the Medium role, their presence provides an explanation for the absence of Mediums in these five societies with Shamans and Shaman/Healers present. A similar argument might be extended to the Garo, whose Sorcerer/Witch Practitioner was shown to have a strong similarity to the Shaman practitioners. The Ovimbundu Healer was on occasion clustered with an outlier group of Mediums; since the Ovimbundu Healer engages in possession ASC experiences during training, this further suggests that it is substantially similar to the Mediums. It appears that the exceptions to the rule that Mediums occur in societies with more than one level of political integration beyond the local community can be accounted for in terms of the presence of ASC practitioners which would develop into this role.

The hypothesis that the Shamans are transformed into possession ASC Mediums is suggested by other aspects of the data. The essential similarities in the training processes (ASC training) and the major magico-religious activities (healing and divination) indicate that the practitioners are engaged in the same functional role in different types of societies. The discussion in the chapter on ASC indicates that there is a fundamental

similarity between the Shamans and Mediums in the ASC used as a part of training, although there are differences in other characteristics and to the nature of initial ASC—being actively sought as opposed to being a result of central nervous system dysinhibitions, respectively.

Although Shamans and Mediums all engage in ASC during training, there are differences in voluntary seeking of positions and ASC experience versus spontaneous onset of possession of other symptoms of affliction, respectively. However, although the Mediums are characterized by spontaneous seizures, illness, and possession, the Shamans are similarly characterized by selection involving illness, unusual dreams, visions, or omens which indicate that ASC training must be undertaken.

The similarities between spiritualism and shamanism suggested by Hultkrantz have also been explored by Barnouw (1942), who compared the Chukchee shaman (classified here as a Shaman) with the modern spiritualist of America and Europe in the 19th and 20th centuries. As Siikala's work demonstrates, the Chukchee represent only one aspect of shamanism within Siberia, and clearly cannot represent the variation of shamanic beliefs and practices worldwide. However, the Chukchee shaman's presence as an intermediate form between small group and territorial professional shamanism suggests that it provides a good approximation. Barnouw recognized clear differences in the shamanic and spiritualist traditions, for instance with respect to cosmological beliefs, but he also recognized that there were at least superficial similarities between the two systems. He framed his inquiry in the context of determining whether these similarities resulted from parallel development or from diffusion.

Barnouw noted that in both cases, the practitioner may be of either sex and be paid a price frequently set by the practitioner's familiar spirits. Both practitioner's activities centered around a seance, a session of "other worldly" communication. This occurred in a small dark room where the practitioner and the clients crowded together. The medium or shaman was frequently bound (tied up), and the need for fasting prior to the seance was recognized in both traditions. In the case of the shaman, the ceremony began with a session of singing and drumming, which might continue for hours; the medium's parallel was the use of music as an aspect of the initial portions of the seance. As the session progresses, communication from the "other world" began in the form of voices and sounds. The medium's or shaman's spirit guides were thought to provide not only the source of communication, but the origin of numerous physical phenomena (e.g., touches, movement of objects, apparitions).

tions, etc.), which frequently occurred. Barnouw noted similarity in other areas, namely the handling of fire, speaking in tongues (glossolalia), and clairvoyant abilities.

The major differences Barnouw noted between the shaman and the spiritualist was that the shaman was active during the seance, vigorously beating the drum, while the medium adopted a passive relaxed behavior. The characteristics of the two afterward were also strikingly different. The shaman was invigorated and full of energy in spite of the extensive activity, while the passive medium tended to show evidence of considerable exhaustion, frequently appearing drained and ill. Barnouw suggested that shamanism and spiritualism were in fact very similar complexes and critically assessed the hypothesis of parallel invention. He accepted the possibility that some similarities could have resulted from some easily arrived at techniques for fraudulently producing evidence of the spirit world (e.g., raps, noises, spirit voices), but suggests that it is difficult to stretch such an hypothesis to cover all parallels, particularly handling of fire and glossolalia. These similarities between shamanism and spiritualism possess an "essential interconnection".

However, Barnouw ruled out Tylor's hypotheses of "survival" and "revival", as well as his own earlier ideas of diffusion and parallel development. Rather, he suggested that the similarities be explained as a complicated example of convergence. Convergence involves independent developmental processes starting from distinct origins and pursuing somewhat disparate paths, culminating in similar features or processes. Barnouw explained the independent development of similar gestalts through recourse to psychology. He reviewed the report of Borgoras which argued that the Chukchee shaman had a nervous and highly excitable temperament which was manifested at puberty or early youth. These episodes involved sickness and spirit visitations in dreams and required that the individual become a shaman to get well. Barnouw found that the personality of the spiritualist medium was in many respects similar to the characterization offered for the Chukchee shaman. He cited others who noted the passivity of the mediumistic ASC, the abdication of normal personality, and the relaxation of voluntary control, resulting in a state of infantile regression which allowed access to the subconscious. Some studies (see Tenhaeff 1962) have also suggested that there are some hysterical and disintegrative personality tendencies associated with professional mediums in Europe (see also Schmeidler 1973, for reviews of other research and criticism).

The similar personality dispositions of the shamans and mediums suggested by Barnouw indicate a possible basis for the similarity of the two complexes. Although Barnouw pointed out that there is no reason why these dissociated states and "multiple personality" should come to be connected with spiritist seance phenomena, the recent research on the relationship of various personality conditions and ASC (e.g., see 9.3 and 9.5 here) does indicate a reason for the association, specifically that the personality conditions are related to greater facility for entering ASC. Barnouw's argument of convergence should be modified to explain the similarity of Shamans and Mediums as arising out of independent invention and linked to the structure of the human mind. It is the fundamental similarity of the ASC which provides the basis for the commonality of Shamans and the Mediums. The differences can be seen as resulting from the different socioeconomic conditions under which each is found and the actively induced ASC versus the ASC originating as a response to or because of temporal lobe labilities.

The significant differences between the Shaman and the Medium in terms of the initiation is noteworthy. The Shamans actively seek the status with deliberately induced ASC in early adolescence, while the Mediums await the spontaneous on-set of conditions in late adolescence or early adulthood before undergoing ASC training. This active versus passive difference in undoubtedly at least in part responsible for other differences between the two practitioner types.

The evolution of the Shaman into the Medium must be seen as at best an indirect evolution. Considerable social differences exist between the societies in which the two types are present, and the evolution of the Shaman into the Shaman/Healer suggests that the Mediums represent a similar utilization of ASC potentials, but a distant successor to the Shamans.

6.5 THE HEALER

The Healers are generally not labeled as "shaman"; the Mapuche *machi* in South America is the only exception. The others Healers have a variety of names, and include the Ovimbundu Diviner, the Ibo Oracle, the Fur *puggee*—an Islamic Practitioner, the Amhara scribe—an Ethiopian Coptic Practitioner, the Babylon exorcist, the Vietnamese *thay* or sorcerer, and others labeled priests, mediums, witch doctors, and healers. Most of the Healer practitioners are from the Old World.

A few problematic or unusual cases were also associated with the Healer Complex. The Jivaro *whuea* or 'old warrior', is generally clustered with an outlier

Healer group, or occasionally with Priests; while empirically most like the Healers, the *whuea* functioned much as a Priest. The primary function of the *whuea* was purification and protection of a warrior after having taken a head. Other Healers occasionally clustered with the Priest practitioners under some cluster analysis solutions include the Toda Healer, and the Ibo Oracle. Two practitioners classified as Healers (Ovimbundu and Mapuche) are occasionally clustered with an outlier Medium group. Other atypical cases clustered with the Healers are found among the the Siriono and Mbuti, societies which lack a formal magico-religious practitioner status. The general magico-religious activities coded for these societies, and the male community rituals of the Mbuti (molima) are also clustered with Healer groups.

The following practitioners in this sample are classified as Healers:

Wolof *ya bopa*

Ovimbundu *ochimbanda, chongo, chouti*

Fur *puggee* (Islamic)

Garó *kamal*

Vietnamese *Thay* (*Thay phap, phu thuy, nagi, and boi*)

Fulani *moodibbo, modibbe* (Islamic)

Igbo oracle *aghara, igwe, kamala, ibini*

Tuareg *marabout, shofra, amekelleou, Insiliman* (Islamic)

Babylonia exorcist *ashipu, mashmash*

Kazak *molah, iman* (Islamic)

Tanala *ombisay nkazo*

Amhara *dabtara, debtera* (Catholic)

Toda *utkoren, utpol*

Trukese *souroo*

Lesu healer, magician, knower

Marquesa *tahuna o'ono (o'oko)*

Saramacca *obia, obiame, man negge obia*

Mapuche *machi*

When there is a Healer present in a society, there is also a Priest present as well (entailment relationship). Although Healers also frequently occur in societies with Mediums and Sorcerer/Witches, this is not always the case.

Several of the Healers are representatives of major religious traditions. The Islamic practitioners include the Fur *puggee*, Fulani *moodibbo* or *modibbe*, the Tuareg *marabout, shofra*, and the Kazak *molah* or *iman*. The Catholic religion is represented by the Amhara *dabtara*.

Societal Conditions. The Healers are found in societies which rely upon agriculture or pastoralism as a primary source of food. The presence of Healers is strongly predicted by the presence of political integration

beyond the level of the local community, with only three of the twenty Healers found in societies without political integration beyond the local level (Lesu, Trukese, and Jivaro). Multiple regression of the Healer variable on the various social complexity variables indicates that political integration has the most significant correlation ($r = .45$, $p < .005$); the addition of agriculture and social stratification to the regression did not provide an increase in the explanation of the variance. There is no evidence that the distribution of the Healer practitioners is a consequence of diffusion.

Magico-religious Activities. The primary activities of the Healers are healing and divination; they also provide protection against spirits or malevolent magical practitioners. Healers generally divine through the use of a material system, where a mechanical system (set of objects) plays a central role in determining the divination outcome, such as the use of systems like I *Ching* and Tarot. Healers also have important roles in agricultural rituals and propitiation ceremonies. Healers engage in malevolent acts, but only in a minor way.

Sociopolitical Power. The Healers exercise political, legislative and judicial power, and generally have considerable social power, as reflected in their social and economic status. The integration of the Healer's positions within the institutional structure of society is further illustrated by their participation as officiants in a variety of life cycle rituals such as naming ceremonies and other post-birth rituals, marriages and funerals.

Social Characteristics. Healers are predominantly male, with females only rarely present. Healers also have higher than average social and economic status, and are generally considered to be moral actors by their cultures.

Professional Characteristics. The Healers have a tendency towards having full time employment in the magico-religious capacity. Role specialization is a characteristic of the Healers, where there is a tendency for overlapping or extensive specialization, in which different individual members of practitioner type may engage in a very limited range of the full scale of professional activities associated with the position. There may be treatment of only certain disease types, or specialization in divination or agriculture activities to the exclusion of each other and healing activities, much along the line of professional specialization in allopathic medical practices in Western societies. There are joint ceremonies, formal group activities, and the formal acquisition of professional status through ceremonial initiations.

Selection and Training. Healers generally seek their roles voluntarily, but access to the profession is generally limited by large costs. The Healers frequently have

payment of considerable value to the practitioner or group as a requirement for training. Healers receive their training from a group of practitioners rather than an individual practitioner.

Motive and Context. Healers primarily act at clients' requests and perform in the client's family context. Healers also have roles in public ceremonies; they sometime officiated at these ceremonies, and at other times served as assistants to Priests.

Supernatural Power. The Healers' power involves both special relationships with spirits and ritual techniques and knowledge, but generally not ASC. Healers tend to be associated with superior spirits or gods, and to have impersonal sources of power such as mana as well. This is manifested in the power derived from knowledge of rituals, spells, formulas, and manual techniques. Healers exercise their power with awareness, and generally with direct control over the spirits or impersonal sources of power.

Special Abilities. None.

Techniques. Special relationships with spirits is used as a technique by essentially all practitioners. The techniques employed by the Healers, particularly in healing include: physical manipulations of the patient such as rubbing, massaging, cleansing of wounds; application of herbal medicines; techniques such as object extraction (sleight-of-hand); the use of spells and charms; exuvial, imitative and manipulative techniques, and exorcism and other forms of spirit control. Healers generally command the spirits, although they might also use propitiation as a technique to gain other ends (e.g., healing), but generally not as an activity in its own right. Sacrifice, particularly sacrifice consumed by the attending group, is also employed by many of the Healers.

ASC Conditions and Spirit Relations. The Healers generally do not use ASC, and when they do, the ASC appear less important, obvious and intense than they are for the other Shamanistic Healers. ASC are generally weak or lacking among the Healers, and only about half of them have direct evidence of ASC use. When Healers are present in societies, the Medium is generally also present, representing the more direct utilization of ASC potentials for healing and divination.

6.6 SHAMANS AND HEALERS

The Healers form a well defined group which are not directly linked to the Shamans. A question of central concern is whether the Healers role is a further development of the Shaman and Shaman/Healer role, or whether the Healers have a different origin. Although definitive

conclusions cannot be drawn here, a brief consideration of the evidence for both processes is reviewed.

Comparison of the Shamans with the Healers through the K-Means procedures indicate that there are important differences between the Shamans and Healers. One area of major differences is with respect to ASC training, where the Shamans have significantly higher levels than Healers in the incidence of all of the ASC induction conditions and characteristics except for alcohol use, amnesia, motor behavior, and deliberately induced sleep states. The Shaman also have significantly higher levels of incidence of spirit relationships in ASC, as well as soul flight experiences, which are lacking for the Healers. While the Shamans are selected for their roles on the basis of ASC experiences labeled as illness, visions, spirit requests, and vision quests, the Healers are selected on the basis of voluntary self-selection, and generally without major ASC experiences. In fact, only about half of the Healers have evidence of direct ASC in training, while all of the Shaman have ASC training.

The frequent presence of payment for training among the Healers indicates some economic restrictions upon access to the positions; the infrequent incidence of females in the Healer group also reveals an increasing control of access to the profession. Thus, while the Shamans' power generally comes from spirits encountered in ASC experiences, the Healers' power is generally impersonal, acquired from knowledge of rituals, spells, charms, exorcisms and techniques. This difference is also reflected in the differences in the divination procedures employed, with the Shamans using ASC, and the Healers using material systems (e.g., like Tarot and I Ching), where a prop is manipulated as a means of determining divination outcomes.

The Shamans and Healers also differ with respect to political power, with the Shamans having informal and charismatic political power and the Healers exercising political/legislative power, judicial power, and higher socioeconomic status. This reflects the different social structures of the societies where the Shamans and Healers are found. The presence of animal association with the Shamans and its general lack among the Healers also likely reflects the different social conditions, with the animal association of Shamans linked to their participation in the hunting activities of their societies. Shamans also have higher levels of malevolent activities, while the Healers are characterized as being predominantly benevolent and moral. The Healers also have significantly higher involvement in life cycle activities (e.g., post-birth ceremonies, marriages, funerals). These differences reflect not only a differentiation of the malevolent

activities from healing, but also an increase in the institutionalization of the Healers role in additional social activities.

The considerable differences between the Shaman and the Healer, coupled with the fact that they occur in quite different societies indicates that although the practitioners share some substantial functional characteristics (e.g., healing and divination), they vary considerably in important ways. The differences in selection and training, in particular contrasting the ASC training with the payment for techniques and ritual knowledge, suggest that the Shamans and Healers do not have a common basis, and that the Shaman cannot be seen as providing the basis for the Healer role. However, the cluster analysis grouping of the Shaman/Healers with the Shamans in some of the solutions and the Healers in others indicates that the Shaman/Healers form the intermediate step. The arguments offered to substantiate the similarities between the Shamans and Shaman/Healers can be extended to the Healers as well. The Shamans and Healers have exclusion relationships and are related on functional grounds, both invariably engaging in healing and divination activities. Furthermore, the presence of political integration predicts the presence of Healer (and absence of Shamans) quite strongly, and the independence of these relationships from the effects of diffusion has been established. Given the presence of independent cases of Healers, one is faced with explicating the social processes which are responsible for the hypothesized development of the Healer role from a prior shamanic type practitioner, or else proposing a new source for the Healer status.

The same question posed with respect to the Shaman/Healer's continuity with respect to the Shamans can be raised in terms of the relationship of the Healer to prior shamanic type traditions and practitioners. Do the Healers have a continuity with whatever healing practitioners existed prior to their development, or does the role arise from a different basis? Examination of some diachronic data on practitioners in this study indicates that some of the Healers from the Islamic tradition both transformed their characteristics, as well as integrated with indigenous practitioners in areas to where they diffused.

The data for the Fulani, Tuareg, and others indicates that there was a synthesis of the Islamic and indigenous traditions, with the former loosing its "purity" and the latter acquiring many Islamic aspects (charms, amulets, Islamic beliefs; see also Trimmingham, 1959, 1968). These changes ranged from the borrowing of elements of Islamic beliefs and practices by the indigenous traditions, to the replacement of indigenous traditions by the Islamic

practitioners. It appears that the Islamic religion not only diffused a practitioner type which constituted a Healer, but also generated a change in the Healer type practitioner present in a number of societies, since indigenous practitioners would become assimilated to Islamic traditions through borrowing Islamic elements and emulating the practices of more prestigious Islamic practitioners. This suggests that magico-religious systems such as those associated with the Healers diffuse very easily and become integrated within existing social and magico-religious systems in the process. The diffusion of Healers practice should not be seen as contradicted by the lack of diffusion effects in the autocorrelation regression analysis. The regression method establishes that the *distribution* of the variables (practitioner types) are not the consequence of diffusion.

MacMichael's (1922) review of the Arab presence in the Sudan indicated that the early Islamic practitioners were characterized as having the ability to fly or project their souls in a fashion similar to the soul flight beliefs ascribed to shamans; these characteristics were not attributed to the Islamic practitioners found in the sample societies at later dates. This suggests that the ASC based Shaman/Healer practitioners might become more similar to Healers as the altered state aspects of the tradition declined, and as individual practitioners became integrated within the political structure extended by Islamic Jihad, trade, and processes of state formation.

However in some cases, for example among the Fur, there was no indication of integration with an indigenous Healer role. In the Fur case, the Fur Magician, classified as a Shaman/Healer, disappeared while the Fur Healer (Islamic *puggee*) became established as the Healer. There is no indication that a transformation occurred. In other cases we find competition between practitioners of different traditions, or within the same tradition, indicating that conflict can occur between magico-religious traditions.

Some of the practitioners of the Healer Complex are associated with religious traditions which can apparently generate different types of magico-religious practitioners, in particular both Healer Complex practitioners and Priests. The Islamic practitioners may be Shaman/Healers, as in the Kurd dervish; Healers as with the Fur and Tuareg; or Priests as with the Kurd *mulla* and Wolof shiek. Similarly, the Buddhist traditions may give rise to Shaman/Healers (Japanese Ascetic) or Priests (Vietnamese Buddhist Priest). Even the Catholic traditions have two distinct practitioner types in the same society with the Amhara Priest and the Amhara Healer (*debtara*) in the Ethiopian Coptic Church. It thus appears that major

religious traditions can provide the basis for distinct practitioner types, and that in such cases shamanic practices do not appear to provide the basis for the development of the Healer role. The presence of these different types of magico-religious practitioners from the same religions appear to be related to the esoteric/exoteric dichotomy found in major religions.

The relationships of the Healers to the Shaman indicate that the relationship is at best indirect. While some of the Healers have ASC conditions involved in training which indicate a continuity with shamanic bases, other Healers are apparently the product of Priestly traditions, and are without ASC bases.

Deculturation and the Healer Complex. One other line of evidence suggests that the shamanic basis would and does develop into traditions and practices like the Healers. Two of the societies in the sample, the Mbuti and the Siriono, did not have a culturally recognized magico-religious status at the pinpointed time period. In these societies, the magico-religious abilities accessible to the population at large were assessed and treated as magico-religious practitioner types in initial cluster analyses used to classify the practitioner types. These cases of non-professional magico-religious practice were very similar to one another and most similar to the Jivaro Healer-Priest, the Toda Healer, the Ibo Healer (oracle), and the other Healer practitioners. Both the Siriono and the Mbuti have evidence of deculturation. The Mbuti, descendants of the pygmies, have adopted a Sudanic language and have developed a symbiotic relationship with their Bantu neighbors. The Siriono were a starving hunting and gathering group at the time of Holmberg's work and lacked the magico-religious practitioners typical of other societies in the Equatorial language group;

Stearman (1984) addresses the issue of deculturation among the Siriono. Although there is not sufficient data in this study to formally address the issue of the effects of deculturation upon magico-religious practice, it seems that such effects may lead to the loss of magico-religious traditions. Since the resulting remnants of magico-religious tradition present in the general populace are most similar to the Healers, it appears that as shamanic traditions become subject to the disintegrative forces of cultural change, they change in the direction of practices more typical of Healers, and that Healer traditions may result from breakdown of shamanic traditions.

Summary. The hypothesized evolution of the shaman into other ASC based magico-religious healing practices would ideally be based upon a diachronic study, one which follows Shaman as their societies and practices change. A natural laboratory is available in societies such as the Paiute and !Kung Bushmen, who have Shaman present in the sample of this study. These practices can be assessed at later dates to determine if the original practices have both continued, as well as transformed concomitant with the social changes they have experienced. However, the autocorrelation control used to assess the relationships between practitioner types and social variables establishes these relationships independent of diffusion. With such methods, synchronic data can be used to establish functional relationships (Jorgensen 1979). The converging lines of evidence cited here substantiate that the original shamanic basis in ASC developed into other types of healing practices such as the Shaman/Healers, and that the underlying ASC basis for the Shaman's practices is manifested in complex societies in the form of Medium practitioners.

CHAPTER 7 THE PRIEST

The implications of the term priest, as applied to magico-religious practitioners, generally take the opposite connotation of shaman (Norbeck 1961). The shaman has been classically considered to be an ecstatic (ASC) practitioner found in simple societies, who acts on the part of clients in engaging in direct interaction with the spirit world. In contrast, the priest is characterized as a specialist in a large society with centralized authority, who acts on the part of the community to propitiate supernatural beings, generally without ASC or direct personal contact with the supernatural. This chapter reviews the characteristics of the Priest practitioners identified in this study. Analysis of the societal conditions associated with Priests indicates that Priests are not universal. Rather, the factors which most strongly predict the presence of Priest practitioners are the presence of agriculture as a primary food source and political integration beyond the level of the local community. Data on Priest in specific societies illustrate the processes which give rise to the community leadership roles which are occupied by the Priests. This illustrates that clan leadership roles and knowledge of agricultural cycles are central to the basis for the Priest roles, especially in societies which have Priests and lack the political integration typical of societies with Priests. The findings here on the nature and functions of the Priest are related to major themes of Durkheim's work in the classic sociology of religion. The discussion by Frazer of the Divine King or magician king is a consideration of the priest practitioner, a sociopolitical leader who unites the secular and sacred power of society into a single position. Priests represent what Durkheim referred to as the institutionalized basis for religion, the practices directed towards meeting the practical needs of creating and supporting society.

7.1 THE PRIEST

The Priests had a few cases which are inconsistently clustered. Three additional practitioners classified with the Healer Complex (Toda Healer, Ibo Oracle, and Roman Cult) are occasionally clustered with the Priests, but most frequently with the other Healers. The Marquesan Inspirational Priest, the Creek Rain Priest and the Ibo Rain Priest are occasionally clustered with outlier Healer Complex or other practitioner groups.

The practitioners classified as Priests include the following:

Ovimbundu *osoma*, *sova* (chief or king) and *sekula yimbo* (headmen)
 Ibo *eye-alusi*, sacrificial priest
 Ibo *ora-nili*, rain priest
 Wolof *murid*, *marabout*, *eliman*, *waliuthe* (Islamic)
 Fulani *maudo laawal pulaaku* or *ardo*, chief of the camp and guardian of the Fulani Way
 Fur *tôgôn* rain priest
 Fur Sultan *aba kuwri*, chiefs and the lord of obeisance
 Kafa king and attendant priests
 Amhara *keys*, *abune*, priests, chief monk, bishop and upper clergy of the Ethiopian Coptic Church
 Tuareg *amenokal*, *ettebel*, *arazou*, Sultan, supreme chief, drum chief and nobles
 Babylonian king and *enu* high priest
 Roman *paterfamilias*, master of the house, family priest
 Roman Pontif, *rex sacrorum*, kings, and priests of the state cult
 Kurd *mulla*, (Islamic)
 Toda *palol*, the dairy priest
 Kazak *aksakal* (*aqsaqal*) and *bij*
 Garo *nokma*, headman
 Vietnamese *bonze*, Buddhist priest
 Vietnamese *Ban Hoi Huong*, the cult committee
 Sea Dyak (Iban) *tuai burong*, *pun rumah*, augur
 Alor head of founding lineage
 Pentecost *nimangki* (*maki*, *manki*, *mwele*) society and *warsangul*, graded male society
 Marquesan *tau'a tau'a nu*, inspirational priest
 Atayal *saparanau* (chiefs) and heads of ancestor cult
 Japanese *yashiki-gami*, family head
 Creek rain priest, weather controllers
 Zuni *pekwin* (sun priest), *kalcina*, *ashiwanni* (rain priest) and *apilashiwanni* (bow priest)
 Aztec sacrificial priest
 Bribri *usegla*, *u-se-ka-ra*
 Saramacca *hedema*, grandman, captain
 Mapuche *nillatufe*, *nempin*

The practitioners of the Priest type in this sample are a quite varied group, including religious leaders from the major world religions such as the Wolof Shiek and the

Kurd Mulla (Islamic), the Vietnamese Priest (Buddhist), the Amhara Priest (Ethiopian Coptic Church), and leaders from other religions such as the Roman Pontiff, head of the Roman State Cult. The positions of some Priests are based upon ancestor worship within the family (e.g., the Roman Paterfamilias, the Vietnamese Ancestor Cult, and the Japanese Headman), while others are political leaders such as the Babylon King, the Ovimbundu Chief, and the Kazak Headman. However, even the politically based positions are dependent upon kinship ties.

One practitioner classified here which seems unusual is the Vietnamese Buddhist Priest. This practitioner is described in the ethnographic sources as being appointed to his position in the local church by local political officials, and serving the community in the capacity of an ancestor priest mediating in family ancestor worship. The activities typical of the Buddhist practitioners (e.g., see Watts 1957, Suzuki 1964), particularly the altered state training, are not emphasized in the sources consulted. If information had been available to substantiate what are presumably other aspects of the Buddhist tradition present in Vietnam, the practitioner might have been classified differently, perhaps as a Shaman/Healer as was found for the Japanese Ascetic, who is also a Buddhist practitioner. However, this classification as a Priest is probably accurate, reflecting different adaptations of the Buddhist religion, similar to the manifestation of Islamic and Catholic practitioners as both Priests and members of the Healer Complex, as was discussed above. These differences in practitioners of the same traditions appear to reflect the exoteric/esoteric and denominational/sect dichotomies frequently used to characterize different aspects of religious traditions and their changes over time.

7.2 CHARACTERISTICS OF PRIESTS

The Priests of this study conform to the classic definition of the priests as a social leader who unites sacred and secular power in a single position, serving as a community leader and propitiating supernatural beings on behalf of the community. However, rather than being a universal aspect of magico-religious practice, they occur in more complex societies, and always with a Shamanistic Healer also present in the society. If a society has a Shaman/Healers Medium, Healer, or Sorcerer/Witch present, there is also a Priest present (entailment relationship) in the society.

Societal Conditions. Societies with Priest practitioners present tend to have semi-sedentary or permanent residency patterns and a major reliance upon agriculture as a mode of subsistence. Several exceptions—the

Kazak, Fulani, Tuareg and Toda—have pastoral economies with political integration beyond the local community. Fixed residency and agriculture appear to be sufficient, although not necessary conditions, for the development of a Priest practitioner. Societies with Priests generally have political integration beyond the level of the local community, but there were exceptions. The Iban, Pentecost, Bribri, and Zuni all have Priests, but local political integration, agriculture as the major mode of subsistence, and permanent residency patterns. There are only two cases of political integration beyond the local community without the presence of Priests (Nama Hottentot and Tupinamba), where we find Shaman/Healers in the position of political leaders. Social Stratification also appears to have a strong relationship to the incidence of the Priest practitioner; there are no societies in the sample with classes, but which were without the presence of Priests. However, Priests do occur in societies without classes. Significant correlations of Priests are found with agriculture ($p < .001$), political integration ($p < .0000$) and classes ($p < .0002$). Multiple regression analysis of these variables with the Priest implicated agriculture and political integration as having independently significant contributions (multiple $R = .75$, $p < .001$). The autocorrelation regression analysis indicated that there is no evidence of diffusion in the distance model ($z = .005$) nor under the language model ($z = 1.03$). Priests appear to have evolved or developed in response to the leadership needs in sedentary agriculture societies and to have further developed as the sociopolitical leaders of these larger communities as they expanded through political incorporation of other societies. The actual diffusion of Priests does not contradict the autocorrelation analyses, which show that the actual world wide distribution of Priests are not a consequence of diffusion.

Magico-religious Activities. The principal activities of Priests include food increase and agricultural rites, particularly those performed at planting or harvest time or as commemorative feasts. Other activities of the Priest include rituals designed to improve material welfare. The Priests' involvements in health activities tend to focus upon preventing future illness (protection), rather than addressing currently active maladies. Priest also provide purification (removing contamination, or potential detrimental effects of taboo violation). Propitiation and worship of gods or superior spirits is another primary activity of the Priests; these are frequently done in conjunction with agricultural rituals or as commemorative feasts. Ancestor worship is carried out almost exclusively by Priests.

A principal aspect of the magico-religious activities

associated with the Priest include publicly consumed sacrifices. These sacrifices are generally based upon the consumption of animal flesh as well as other food; in fact, many societies appear to have practices in which the bulk of all meat consumed occurs in the context of sacrifice and magico-religious rituals supervised by Priests. This consumption of major protein resources and the produce of animal husbandry in the context of magico-religious ritual emphasizes the importance of the Priest as an administrator and controller of the utilization of major food resources in society.

Sociopolitical Power. The Priest have the greatest range of sociopolitical power, including political, legislative, judicial, military and economic powers, and generally serve as the political leaders in their societies. They are also frequently heads of kinship groups or political systems which provide them with control over resources.

Social Characteristics. These practitioners are predominantly or exclusively male, with females generally serving only as assistants. The social and economic status of Priest is among the highest in their societies. The Priests are generally considered to be moral leaders of their societies and are thought to engage only in acts which are morally correct.

Professional Characteristics. Most of the Priests are full-time specialists, receiving their livelihood from their professional activities, or else holding their magico-religious statuses as a result of social positions (e.g., lineage head, chief or king) which provide considerable power. Priests normally have formally organized groups, with a hierarchy that is integrated with or constitutes the political structure of the society.

Selection and Training. Priest generally seek their roles voluntarily, although they may be expected to because of inheritance of the position by a descendant. The actual selection of Priests is largely based upon social inheritance (any number of descendants eligible for position), social succession (only one descendant receives position), or political action involving appointment to the office by others or taking it through force or negotiation. The dominant pattern is one in which the position passes from father to son, although it may be from mother's brother, or involve competition among a kin group (e.g., patrilineal descendants of current practitioner). The importance of the selection procedures in determining the nature of this practitioner type and its activities is revealed in an analysis of the relationship of selection and training procedures to the magico-religious and other role activities. If a practitioner is selected on the basis of social inheritance, social succession or political action, the practitioner has particular activities: rituals for agri-

cultural increase, propitiation of spiritual beings, and general protection against misfortune; they also exercised political, legislative and judicial power. This represents the basis of the Priest magico-religious role. All Priests are so characterized, and no other magico-religious practitioner type is so characterized.

The training for the magico-religious activities of the Priests usually involves learning how to officiate at public ceremonies. Although some Priests receive their training from a practitioner group, it appears that in many cases the Priests do not have a separate period of training. The skills necessary for officiating at these ceremonies appear to be acquired incidentally, for instance through informal observation of ceremonies prior to occupying the status. The central part of status acquisition for the Priests is the occurrence of an inauguration ceremony in which full ascendance to practitioner status is recognized or bestowed.

Motive and Context. Priests generally act because it is their social function to carry out certain rituals and activities. These public events are almost always community functions and calendrical rites which occur at certain times of the year such as planting season, harvests, and commemorative feasts. These activities are generally performed in public and involved group festivities.

Supernatural Power. A principal source of the Priests' power is spirits. The Priests are generally associated with ancestor spirits, village spirits, or superior spirits or gods of importance to the entire social group. Priests are seldom associated with animal spirits. The Priests' spirit power is normally presumed to be beyond the practitioner's direct control; however, the Priest practitioners make conscious deliberate efforts to solicit the intervention of these spiritual entities. A large number of Priests also have an impersonal source of power such as mana, manifested in the power derived from knowledge of rituals or an inherent body source..

Special Abilities. Priests are frequently expected to control rain, especially indirectly in terms of the future protection of agricultural production.

Techniques. The Priest primarily rely upon propitiation and sacrifice as magico-religious techniques for accomplishing their ends. Priests also have knowledge of rituals or ceremonial behavior which are evidence of their supernatural power. Sacrifice, particularly sacrifice consumed by the attending group, is also employed extensively by the Priests.

ASC Conditions and Spirit Relations. ASC induction is generally absent for the Priest. ASC seldom plays a central role in training of Priests, and when they were

present, they are generally limited to procedures such as social isolation, sexual abstinence, use of alcohol, or periods of sleep deprivation. Even when these procedures are present, generally it appears that there is not a culturally recognized and labeled induction of an ASC. Although alcohol is more frequently used among the Priests than with any other type, the absolute incidence of alcohol in training is low. However, there is a very frequent incidence of the use of alcohol in the the magico-religious ceremonies of Priests.

7.3 THE STATUS OF THE PRIEST

Since the Priests are sociopolitical leaders centrally involved in magico-religious subsistence activities in agriculture societies, and since their incidence is so strongly predicted by the presence of agriculture and political integration, it appears that Priests have evolved or developed as a response to the leadership needs in sedentary agriculture societies and have further developed as the sociopolitical leaders of these larger communities as they grew in size and expanded through political incorporation of other societies. The subsequent review of two groups of magico-religious practitioners serves to illustrate the likelihood of these processes. The simplest societies with Priests, those cases in which Priests are present in societies in which political integration is limited to the local community (Bribri, Zuni, Iban, Atayal and Pentecost), and some of those practitioner types which were inconsistently clustered with Priests and Healers and classified with the Healers (Ibo Oracles, Jivaro Healer/Priest, and Toda Healer) are examined. The societies with agriculture as a principal mode of subsistence, but without political integration, or without Priests are also examined in order to determine what institutions or magico-religious practitioners dealt with Priestly roles in societies lacking those types of practitioners or level of political complexity.

Among the Bribri of Central America, the *usegla* or *u-se-ka-ra*, was a hereditary political leader of a particular clan who exercise power over all of the society. The *usegla* would retire to the seclusion of a cave for days to communicate with his animal spirits and propitiate other spiritual beings. These activities were especially carried out on occasions of public calamity, like epidemic disease and when there was scarcity of food from drought.

The status of the Zuni Priest combined¹ the *pekwin*, the sun priest, with the other priestly leaders (Bow, Katchina and Rain) who served under his direction. These practitioners were selected on the basis of social inheritance and political appointment. Their principal

professional activities involved participation in a cycle of ceremonial events directed towards supplication of spiritual intervention to assure the well-being of the crops. A major importance of the *pekwin* lies in his astronomical observations which were used to determine the winter solstice, which set the starting point for a number of ceremonials which were used to determine the correct time for plant crops.

The Iban (Sea Dyak) in the Insular Pacific have a Priest is known as the *tuai burong*, *pun rumah* or augur. This political leader was principally selected on the basis of social inheritance, but the appointment was also subject to approval by the community. The Iban Priest engaged in divination to determine the advisability of many activities, ranging from warfare and house building to agriculture. This Priest was centrally involved in directing the annual planting and harvest activities.

Among the Pentecost, the position of the Priest was held by the participants in the *warsangul* or males graded society. Although the positions in this society were accessible to all males, the initiation into and progress though the graded ranks was begun earlier by the sons of the rich and powerful members of the society. These practitioners engaged in a series of ritual feasts of pigs, indicating the importance of this organization with respect to the production and consumption of one of the principal protein resources of the society.

The Atayal Priests were the individuals involved in ancestor cult worship. The Chief Priest was the chief (*saparanau*), selected from the cult heads. The *saparanau's* responsibilities included rituals designed to assure rain. The ancestor cult leaders selected to officiate in the annual ceremonies were the two individuals who had the richest crops the previous year; these individuals were appointed as Chief Priest and Assistant Priest and established the ritual sequence of festivals which must be completed before sowing of the fields by the members of the community could begin.

These examples indicate that even when political integration beyond the local community is not present, certain factors are associated with the Priests. The principal factors noted here are activities designed to assure agricultural success, and leadership positions based upon social succession, particularly within the clan. The leadership role in subsistence activities, particularly agriculture, is a crucial aspect of the Priest's status in the simplest societies with Priests. Examination of those practitioners who are inconsistently clustered with Priests and Healers revealed similar characteristics. The Jivaro Healer/Priest, the *whuea* or old warrior, was a military leader, a powerful headhunter. He carried out the series

of obligatory rites of purification and protection for the warrior recently returning from a successful head hunting expedition. His wife, the old woman (also *whuea*) engaged in agricultural rituals, and was considered to operate in the role of an assistant to her husband's activities.

The Ibo Healer (oracle) is also clustered with the Priest on occasion. This practitioner was unlike any other in the sample. The practitioners were the men from a certain village who operate an oracle. These villagers used the oracle to resolve disputes which were submitted to them by people from the surrounding areas; they also used the oracle to rob and extort the disputants who submitted their disputes to the oracle for divine adjudication, especially the guilty parties. This provided an important source of income for the operators, and constituted an important judicial mechanism in the area. The operators took great pains to assure the veracity of the oracles pronouncements since the reputation of the oracle would be at stake if there were errors. The British military destroyed the oracle when the British government colonized the area.

The Toda Healer was also been clustered with the Priests when the malevolent characteristics associated with the status were removed from the characterization of the Toda Healer. The Toda Healer (*ukoren*) was a problematic case in terms of identifying the practitioner and its characteristics. This practitioner was selected through social inheritance and engaged in healing and agriculture rites. It was not clear whether the Toda Healer engaged in malevolent acts or if the malevolent acts were carried by another practitioner type (*pilikoren*; note common root *koren*). It was finally decided to recognize the different specializations as a single type since there were no differences in selection (social inheritance) and since they both engaged in healing. When the malevolent characteristics were included with the *ukoren*, it was clustered with the Healers; however, when the malevolent characteristics had been excluded from the Toda Healer's characterization it was clustered with the Priests. This suggests that the major difference between Priests and Healers lies in the Priests avoidance of malevolent magic, or the Priests' social control which assures that their activities are not labeled as malevolent.

Priests have apparently developed as a response to leadership needs of agricultural and politically integrated societies. Since Priests are invariably associated with some form of social or political leadership, and since the Shamans are generally associated with leadership roles in the societies where they are present, one would expect that the Shamans or derived practitioners (e.g., the Sha-

man/Healers) would carry out the role activities of priests as the Priest status before the status actually develops. This is strongly suggested by the role of Shamans and Shaman/Healers as chiefs in some societies (e.g., the Hidatsa and Crow in North America; cf. Siikala 1978; Nadel 1952a). This is also illustrated by the data collected here. There are only two cases of political integration beyond the local community without the presence of Priests (Tupinamba and Nama Hottentot). In these societies we find a Shaman and a Shaman/Healer, respectively, in the position of political leadership. Several cases analyzed here and other literature are reviewed to illustrate the connection of the Shamans with the Priests of the simplest societies which have Priest present. Priests are generally present in societies with agriculture as the main subsistence activity, while the Shamans are generally present in hunting and gathering societies without agriculture. However, there were a few societies without Priests but with agriculture as a major subsistence activity. When we examine the Healer Complex practitioners which are present in these societies, it is clear that these practitioners are centrally involved in agricultural activities and rituals of their societies (e.g., Tupinamba, Cayua, Hidatsa, Kimam, Nama Hottentot and Lesu). Some of these practitioners of the Healer Complex also have a strong tendency for the status to be filled through inheritance from or succession to one's male relatives who are practitioners. This characteristic is atypical of Shamans, but typical of Priests, who are generally selected for their status on the basis of social inheritance, social succession or other political processes.

Since these Healer Complex practitioners are sociopolitical leaders who engage in magico-religious agricultural activities and selected through social processes, they have selection characteristic similar to those of the Priests. This suggests the possibility of a transformation of the Shaman or other Healer Complex practitioners to the position of the Priest. Since the Shamans are political leaders in their societies, they presumably persist as leaders in their societies as the societies developed agriculture and political integration (e.g., see Tupinamba). However, very different processes other than the specific evolution of a society from hunting and gathering to agriculture subsistence can cause the development of a Priest status. Agriculture and politically integrated social systems lead by Priest can be imposed upon a society from without and integrated into the social and cultural structure, as was discussed above with the Islamic Healers and exemplified in the Spanish/Catholic colonization of the Americas.

The Creek provide a clear example of the association

of the shaman and the priest², since the practitioner called the Chief Priest and Keeper of the Fire is clustered with the Shamans although this practitioner has agriculture rites, propitiation of gods, political powers, and selection through political appointment. The candidate for the position of Chief Priest must also be a shaman, and therefore is involved in extensive altered state training, just as the Creek Shaman, and also engages in most of the typical activities (healing, divination, malevolent acts) of the Creek shamans. Since the Creek are among the simplest of the societies with Priests and the most complex with a Shaman, it is suggested that this must be seen as a transitional stage. The expectation is that in the long run the Creek Chief Priest would become differentiated from the shamanic role and no longer have the altered state activities and other characteristics of the shaman. The Creek also have another practitioner, labeled the Creek Rain Priest, which although poorly covered in available literature, is thought to be related to the Shamans, and engages in propitiation of spiritual beings for control of rainfall vital to agriculture well-being; it was clustered and classified with Priests.

Nadel's (1952a) article on "A Study of Shamanism in the Nuba Mountains" illustrated the association of what is commonly perceived as or labeled a "shaman" with the role activities of a priest. Here the shamanic practitioner (*kujur*) was selected through possession by a spirit entity; dreams and altered states characterized by tremors, hysterical attack, and dissociation are characteristic of selection and training. During training, ASC were actively sought and thought to involve a dominance of the practitioner's personality by a spirit personality. Nadel's use of the term possession to characterize the ASC is consistent with the definition of possession suggested by Bourguignon (1976b; cf. Chapter 9 here). These characteristics all indicate a ASC based practitioner like the Shaman/Healer or Medium. However, there were priestly characteristics as well. Access to the practitioner status was restricted by the necessity of rites of consecration within the clan group. Nadel suggested that this mechanism served to restrict access on the part of females, who were seldom allowed to become shamans. This restriction was strengthened by the heavy expenditure necessary to acquire full status as a *kujur*. This indicates a process for limiting access to the shamanic status which is similar to that reported by Siikala as typical of the clan shaman, where the shaman is selected by the clan as a political leader.

Although the *kujur* engaged in divination to determine the nature of illness and may prescribe sacrifice to the *kujur's* spirits, no therapeutic manipulations were

performed by the *kujur*. Healing was the providence of another practitioner, the "medicine men proper". Instead, the responsibilities of the *kujur* involved leadership in war, as well as other political activities, since the chief and other headmen were frequently *kujurs*. The *kujur* was also involved in ritual activities related to agriculture, and was linked to a complex of hereditary priests involved in seasonal and communal rites and rainmaking.

The combination of political leadership and the priestly role activities with the ASC based activities of the shaman in a single type of practitioner is unusual, but is consistent with the hypothesis that shaman like practitioners develop into Priests. The Nuba were appropriately in this transitional state since they had stateless politically autonomous local communities with local political organization, indicating that they were not as complex and stratified/integrated as are the societies which typically have Priests present. Typical of societies limited to local level political organization, the political leaders among the Nuba were also magico-religious practitioners who utilize ASC, just as ASC based Shamans are leaders in their societies.

If the Shaman and Shaman/Healers do evolve into Priests, then the Priests in the simplest societies should be involved in ASC activities, but as the societies increase in political integration, the use of ASC among the Priests will decrease as hereditary and political factors become predominant. Examination of the Priests in this sample indicates that only about one half of the Priests have any indication of ASC induction techniques present during training. An examination of the Priests among the simplest societies to have Priests (e.g., Zuni, Aztec, Creek, Dyak, Pentecost, Marquesa) indicate that they have characteristics of training involving ASC which are quite similar to those of Shamans. Among the Marquesans, the Inspirational Priest undergo through training similar to the shaman's vision quest. Among the Pentecost, those seeking achievement in the graded society (classified as Priests) were aided in their progress with the power obtained through spontaneous spirit encounters in dreams or the forest. The Zuni Priests underwent ASC training and experiences in their activities which were like Shamans (extensive chanting and dancing, social isolation and apparently hallucinogens). The Aztec Priests were also noted for their use of hallucinogens; in fact, some of the hallucinogens (psilocybin) were considered to be divinities. The Creek Fire Priest was the ritual leader; this individual was selected through social processes, but must also be a Shaman.

However, with the exception of the Aztec, Zuni,

Creek and Marquesan Priests, the ASC induction techniques associated with the Priests tend to be minor, and generally do not involve the report of ASC by the ethnographer. The minor techniques involve brief periods of social isolation, sexual abstinence, limited percussion or chanting, sleep states, and alcohol use. The societal incidence of ASC associated with training among the Priests is negatively associated with all measures of social complexity except agriculture. The strongest Spearman correlation found between the incidence of ASC training for Priests and the social complexity variables is with the extent of political integration ($r = -.46$; $p < .004$). As political integration increases the tendency for the Priest type practitioners to have an involvement with ASC decreases, which is consistent with a slow change in shamanic practitioners over time. This supports the notion that some of the earliest Priests are the transformed Shamans of agricultural and politically stratified societies, who exercise the leadership role typical of Shamans. In simple societies these Priests utilize ASC, but as political integration increases, selection becomes hereditary and political, and the incidence and use of ASC among Priests decreases. This was confirmed by Jorgensen's (1980) analysis of Western North American societies. He found that societies with centralized political authority had no vision quests on the part of the lay, and limited use by magico-religious practitioners; less centralized societies show greater incidence of vision quests by both magical practitioners and the lay.

Although it appears that some shamanic practitioners do develop into Priest practitioners as a result of socioeconomic evolution, processes other than the transformation of the Shaman also apparently lead to the development of the Priest status. The practices of clan based ancestor worship also provide a basis for the Priest practitioner. Complex politically integrated societies also impose Healer and Priest practitioners upon the societies they conquer and incorporate. It is this process which is hypothesized to give rise to the Sorcerer/Witch practitioner from the Shamanistic Healers (Chapter 8).

7.4 PRIESTS AND THE SOCIOLOGY OF RELIGION

This proposed decline in the ASC based activities as a function of political integration has its parallel in Weber's (1904-05) differentiation of sects and churches. Neibuhr (1929) elaborated Weber's observations, suggesting a shift in religious activities from sects—involved in mystical experiences and satisfaction of spiritual/emotional needs of the lower classes—to churches or

denominations—filling the needs of middle and upper class adherents and their material values (c.f. Wallis 1975). These poles of religious behavior are part of a process of cyclic change, with churches producing sects as dissatisfied members leave when the more material and social orientations of the churches do not meet the emotional needs of some members; as the sect members become more successful socially and economically, their organizations are transformed into denominational like organizations. This distinction is also found in Malinowski's (1954) contrast of the origins of magic in spontaneous emotional experience and the subsequent traditional organizational structure into which magic becomes transformed as it is stripped of its emotional basis.

Major religious organizations such as Christianity, Islam and Buddhism appear to have undergone changes over time corresponding to the movement from sect to denomination or church. The formative periods of Christ, Mohammed and Buddha involved revelations, extended fasts, meditations and visions. Later these traditions gave rise to major bureaucratic organizations characteristic of Priests in modern societies. Even though these traditions do continue to have some aspects of ASC activity³ in the esoteric or sect aspects, they are primarily characterized as exoteric and denominational. The characteristics of Priests such as sociopolitical and economic leadership, responsibility for agricultural well-being of the community, and enactment of collective rituals stem from the organizational needs of these complex bureaucratic organizations and the societies they administer and control, beginning with the organizational, political and cultural psychodynamic needs which gave rise to the formation of clans.

Durkheim (1915) distinguished magic from religion in that the latter involved the existence of a church, a regularized social organization of believers. In more developed religions, members of the community are generally profane beings, with the group leaders or priests specializing in the sphere of the sacred. Durkheim's concern with religion is directly relevant to the activities of the Priest practitioners of this study.

Durkheim saw religion as stemming from societal needs, the practical demands of life, and serving as the principal source of social cohesion. The formulation of religious ideas is an expression of preexisting social sentiments, and symbolically represent the community social organization upon which humans depend. Durkheim noted the importance of periodic ritual and ceremonial in sustaining belief and commitment to society. It was in the context of ceremonial gathering that the

collectivity impresses itself most overwhelmingly upon the individual. These collective ritual activities generally present sacred objects and associated symbolic systems which represent the patterns of relationships in society, organizing experience into common forms, and reinforcing the social order by juxtaposing the social hierarchy and religious symbols.

Durkheim presumed the Australian totemic practices to be an example of the simplest form of religion. In these societies, the clan totem was the focus of community worship and provided the identity for the segmentary clan organization which is the organizational focus of collective activity. The manifest goal of totemic rites was to ensure the prosperity of the animal or plant which served as the totem. However since the clan, or society itself, is identified with the totem animal, worship of the totem is latent worship of society. In worshipping the clan totem, the clan and its organization is honored, and the community is created. Insofar as clan leaders are the ritual leaders in the totemic rites, their authority is reinforced by their role in community ritual. Totemism tends to produce an attitude of veneration towards ancestors as the source of religiosity with which members of the tribe are endowed; with the passing of generations these become treated as deities (Giddens 1978). This was supported by Swanson's (1960) finding that ancestor worship predominates in societies in which the descent groups are the largest decision making unit. In more complex societies, worshipping the gods, spirits or ancestors associated with a particular clan reaffirms the spiritual backing of temporal power of the ruling clan or

individuals. Such patterns are found in Frazer's discussion of the divine king, who combines secular and sacred power in a single position.

This brief review of Durkheim serves to illustrate that the institutional structure with which Durkheim was concerned in his study of religion corresponds to the activities and functions of the Priest practitioners in this study. As Durkheim pointed out, the practical needs of society, in particular the centralized leadership functions of politically stratified agricultural societies, motivate the formation of religious institutions. However, the findings of this study indicate that the activities identified by Durkheim as religious, insofar as they correspond to the activities of the Priest practitioners here, are not universal, but are largely restricted to and created by societies with agricultural subsistence and political integration beyond the level of local community.

Contemporary proponents of Durkheim's view (e.g., O'Keffe 1982) see magic as deriving from religion. As was illustrated in Chapters 5 and 6, shamanic practitioners clearly have origins and functions distinct from those identified by Durkheim. Insofar as shamanic practices are identified with magic (as opposed to religion), the theoretical derivation of magic from religion is erroneous (although it is clear that many so-called magical traditions do borrow from organized religious traditions). The activities of the Priest as a sociopolitical leader in society clearly correspond to Durkheim's conceptions of religion as the source of social cohesion and meeting society's practical needs, constituting one of the institutional bases of magico-religious phenomena.

CHAPTER 8

THE SORCERER/WITCH

This chapter addresses the characteristics of the Sorcerer/Witch, a magico-religious practitioner who is primarily involved in malevolent actions against others. Anthropologists have noted differences in cultural beliefs as to the ascribed activities and characteristics of those individuals believed to primarily or exclusively engage in magical activities thought to cause illness, death or destruction of personal property, exemplified in Evans-Pritchard's (1937) and Murdock's (1980) distinctions between the sorcerer and the witch. This section first provides a review of cross-cultural examinations on the nature of malevolent magico-religious practices, that is, those activities which are generally thought by members of the society to primarily involve doing evil or causing harm to others. This review establishes the context for the development of hypotheses about the characteristics, nature and origins of the Sorcerer/Witch Practitioners. The next section reviews the findings of the present study on the nature and characteristics of the practitioners in the sample which were classified as Sorcerer/Witch Practitioners. The data is then analyzed to determine the characteristics of the Sorcerer/Witch practitioners, and to assess the distinctions among them.

The final section addresses the question of the source of the beliefs which are attributed to Sorcerer/Witch Practitioners and the relationship of the activities of the Sorcerer/Witch Practitioners to those of other practitioners in our sample which engage in malevolent magical activities. This is used as a basis for developing a general model of the sources of belief and the social processes which give rise to the Sorcerer/Witch Practitioners. It is argued that the Sorcerer/Witch is originally a shamanic practitioner operating in a small community which is subjected to political integration, and that such local level political leaders are persecuted in the process of political incorporation of their societies into larger and more complex political organizations. The direct connection between the Sorcerer/Witch Practitioner and the practitioners of the Healer Complex can be seen in the presence of malevolent activities among Shamans, the use of magical and social power by practitioners of the Healer Complex to kill, and the similar pattern of malevolent characteristics among the Healer Complex practitioners and the Sorcerer/Witches. The complex of characteristics associated with shamanic practitioners (e.g., night

activities, animal association and transformation, eating body/soul of victim, flying, etc.) are later used in more complex societies in the processes of social persecution of individuals not necessarily involved in magical activities, but persecuted through an ascriptive labeling process in which these characteristics are attributed to them in order to justify their persecution.

8.1 SORCERY, WITCHCRAFT AND THE EVIL EYE

In this section previous anthropological considerations on the nature and differences among those magico-religious practitioners primarily involved in malevolent acts are reviewed to generate hypotheses which guide subsequent analysis of the data collected here. Evans-Pritchard's (1937) work among the Azande suggested the seminal distinction between witches and sorcerers. The Zande witches were believed to have a body substance, inherited from their parents, which produces a "psychic emanation", causing injury to health or property. The belief that this substance was acquired from one's parents implies a belief in a model of acquisition of the practitioner status which is labeled as belief in biological inheritance in this study. The Azande believed that this substance was restricted to members of the commoner class because if any member of the nobility had witchcraft substance it would implicate the king as a witch, since nobility and the king are related. Witches were thought to operate at night during sleep, when they transform themselves into animals. The Zande believed that the witches fly and communicate with other animals or animal spirits, during which they eat the body and/or soul of their victims. The witch was thought to use no spells or rituals, but to carry out actions directly as a result of jealousy or envy. The Zande conception of the witches' responsibility for their presumed acts appeared somewhat contradictory to Evans-Pritchard. The putative witch was thought to act willfully but unconsciously; one accused of witchcraft denies awareness of such an act, and ritually blows on a chicken feather disavowing the intention to cause harm to the victim if the accused witch had in fact acted unconsciously. These kinds of beliefs were coded here as indicative of unconscious acts and low control of power.

The sorcerers were a different type of Zande practitioner which presumably acted consciously, deliberately, and with awareness of their actions. The sorcerer was believed to use medicines and spells in magical rites or to administer presumed poisons. The sorcerer operated at night and in secrecy, also seeking to destroy health or property, or to perform love magic. One never admitted to being a sorcerer because a sorcerer was killed if discovered. Evans-Pritchard doubted that sorcery was actually practiced at the time of his field work, but indicated that sorcerers were probably rare, although presumably existent, in previous times.

Kluckhohn's (1944) systematic and long term study of Navajo beliefs about individuals capable of causing personal harm through magical acts revealed a structure of association among practitioners similar to Evans-Pritchard's distinctions. Kluckhohn suggested that there were four main categories of malevolent activities or practitioners among the Navajo.

Witchery: A skill learned from relatives, and usually employed by men motivated by envy, desire for wealth, or wanton motives. They acted at night, robbing graves in their animal forms, engaging in incestuous acts and killing kin.

Sorcery: Involved a class of individuals who used animal spirit powers and rituals involving spells and chants and imitative and exuvial techniques to cause illness or destroy crops. Kluckhohn suggested that perhaps it was a class of witchery, but that unlike witchery, he thought that sorcery was actually practiced.

Wizardry: Belief in the ability to magically project objects into victims. Kluckhohn suggested that this was probably a recent Navajo borrowing.

Frenzy Witchcraft: Frenzy witchcraft involved several sets of activities which Kluckhohn's informants were most reluctant to discuss, probably because the techniques were actually practiced and knowledge of such techniques would implicate one in their practice. Kluckhohn said that frenzy witchcraft was primarily involved in the use of magic for love and in trade and gambling. It was also associated with the Prostitution Way ceremonies.

The Prostitution Way ceremonies included a 5 day ritual for curing Frenzy Witchcraft, and involved the use of the sweat lodge, emetics, and datura. The Prostitution Way chants were also used in individual divinatory procedures involving the ingestion of datura. Frenzy Witchcraft was generally directed toward foreign women and the rich. Those practicing it were believed to acquire their power through incest and the killing of a sibling, and were also thought to directly administer poisons; how-

ever, belief in animal transformation was absent. Hunters were thought to have Frenzy Witchcraft powers to assist in their hunting, and the Navajo curing specialists, the singers and the diagnosticians, were thought to be in collusion with the Frenzy Witches.

Kluckhohn suggested that these varied practices constituted two major types of activities: the Witchery, Sorcery and Wizardry complex, and Frenzy Witchcraft. This division bears resemblance to the witch/sorcerer distinction, with the Frenzy Witchcraft activities more closely associated with sorcery and the Witchery activities more closely associated with the Zande concept of the witch.

Murdock's (1980) cross-cultural research on supernatural theories of illness used the sorcerer-witch distinction and sought to determine the social factors associated with each. Murdock defined sorcery as "the ascription of impairment of health to the aggressive use of magical techniques by a human being" who may use spells, imitative, contagious or exuvial magic, object intrusion techniques, the administration of presumptive poisons, send possessing spirits, or capture the victim's soul. Witchcraft is "defined as the ascription of the impairment of health to the suspected voluntary or involuntary aggressive action of member of a special class of human beings believed to be endowed with a special power or propensity for evil." Witches were thought to be especially prone to envy and include those using the evil eye technique. Murdock reported that theories of illness that invoke witchcraft as an explanation predominate in the Circum-Mediterranean region, and are positively associated with patrilineal or double descent, bride price, and societies with writing, social classes, or castes. Theories of illness that invoked sorcery predominate in North and South America, and are negatively associated with witchcraft theories and brideprice.

Another type of belief about malevolent magical acts which has received attention from anthropologists is the "evil eye" (e.g., see Maloney 1976). The evil eye complex generally includes the belief that someone can cause harm by looking at another's property or person. The evil eye power is frequently thought to emanate from the eyes (or mouth) of persons who may not know that they have the power but act as a result of envy. This belief is found in all of the major cultural regions of the world (Roberts 1976), but is concentrated in the Circum-Mediterranean region and least frequent in Asia and North and South America. Maloney noted that the distribution of the belief indicates that it originated in the Near East with the evolution of complex urban cultures. The main zone of diffusion is the area of the Indo-European and Afro-

Semitic linguistic phylum, and although found among Turkic and Dravidian speakers, is absent in the Sinitic, Malay, and Bantu speakers. Maloney suggested that the evil eye concept evolved in proto-historic Pre-Aryan peasant urban cultures of the Indus Civilization and spread to southeast Asia from the west.

Roberts (1976) carried out a cross-cultural study on the evil eye using the Standard Cross-cultural Sample (SCCS). He coded for the likelihood of presence or absence of the evil eye. Most of the cases are found in the Circum-Mediterranean region. Using the Goodman-Kruskal coefficient of ordinal association as a measure of relationship, Roberts found the incidence of belief in the evil eye to be positively and significantly associated with a wide range of previously coded variables in the SCCS. These included 7 of the 10 measures of cultural complexity (Murdock and Provost 1973), as well as bride price or bride wealth, high gods, judiciary, social inequality, descent groups, grain crops, patrilocal or virilocal residence, and a range of childhood socialization variables (sexual restraint, obedience, responsibility, low trust, punishment). His factor analysis indicated that several factors had strong correlation with the incidence of evil eye. Among the social variables, a factor loaded heavily on the presence of caste and dairy products showed the strongest correlation with the evil eye ($r = .66$). The infancy and childhood training variables showed the strongest correlation ($r = .75$) with evil eye on a factor heavily loaded on variables indicating lack of trust and high guilt. However, Roberts did not control for or determine the relationship between social variables and childhood training variables, the incidence of these variables in the Circum-Mediterranean region, or establish the validity of these correlations independent of the effects of diffusion. Therefore, while the belief in the evil eye is strongest in the Circum-Mediterranean region and associated with societies with higher levels of social complexity, it was not established that the relationship to social complexity was not an artifact of the higher levels of social complexity in the Circum-Mediterranean in comparison with the other regions of the world.

Summary. Previous research has suggested the potential cross-cultural utility of the sorcerer versus witch distinction. Furthermore, it has shown that many aspects of malevolent magico-religious practice, especially those labeled as witchcraft and evil eye, are associated with more complex societies. The research of this study reported below addresses these issues and the cross-cultural distribution of the major aspects of these practices.

8.2 THE SORCERER/WITCH CHARACTERISTICS

Analysis of the magico-religious practitioner data in the sample indicates a consistent clustering of practitioners which are labeled¹ the Sorcerer/Witch practitioner, combining the terms most frequently used by the ethnographers to refer to these practitioners. The Sorcerer/Witch is a magico-religious practitioner thought to be primarily or exclusively involved in malevolent magical acts against others. While all societies have magico-religious practitioners and practices involved in doing harm to other humans (e.g., Shaman and Shaman/Healers), the specialized role of the Sorcerer/Witch is not found in all societies.

The practitioners analyzed in this study which are classified as Sorcerer/Witch practitioners include:

Ovimbundu *olonganga* or *onganga*

Wolof *doma*

Fur *sahar* or evil eye

Kafa *qoro*

Amhara *buda*, a blacksmith

Tuareg blacksmiths with *etama* or *tezama*,
evil mouth or evil eye power

Babylonian witch or sorcerer

Garó *achicks*, *matchadu*, tiger men

Kurd *chawa zar*, evil eye people

Tanala *mpamosavy*

Alor *palua berka*

Japanese *kitsune-tsukai*, the "fox owners"

Creek *ishtabe* or *hoollabe*

Zuni sorcerer or witch

Aztec naualli (magician) *tetlachiuiiana*, *tlacatecolot*,
(witch or wizard)

Saramacca *wisi* or *wisima*

Mapuche *kalku*

The Garó *achicks* or *matchadu* is the only practitioner classified in this group which was not clustered in that group under all cluster analysis solutions. Several other practitioners (Roman sorcerer, witch or necromancer, the Creek Rain Priest and Ibo Rain Priest) were clustered with the Sorcerer/Witch practitioners under one measurement condition, in part likely a consequence of poor data coverage for these practitioners.² The following material provides a characterization of the Sorcerer/Witch practitioner based upon the data of this study.

Societal Conditions. The Sorcerer/Witch is found only in societies with agricultural or pastoral economies. The incidence of the Sorcerer/Witch Practitioner is sig-

nificantly ($p < .00001$) correlated with binary variables assessing the presence of both political integration beyond the level of the local community and social stratification (classes). In order to determine their joint predictive value and to control for diffusion effects, political integration and social stratification binary variables were entered into autocorrelation multiple regression with societal level data on the presence or absence of the Sorcerer/Witch Practitioner. Both political integration and the presence of social classes show independently significant contributions to explanation of variance in the incidence of the Sorcerer/Witch Practitioners, and contribute to a strong multiple $R = .70$ ($p < .001$). There are no significant autocorrelation effects, indicating that these relationships between social conditions and the Sorcerer/Witch Practitioner type is a result of the social processes associated with political integration and class formation.

The relationship of political integration to the development of a Sorcerer/Witch Practitioner type can be seen in the few exceptions to the rule that these practitioners are present only in societies with political integration. Only the Zuni had a Sorcerer/Witch Practitioner without political integration beyond local community. The only societies with two or more levels of political integration beyond the local community without the presence of a practitioner classified as a Sorcerer/Witch Practitioner were the Roman, Kazak, and Vietnamese. In the Roman case, the practitioner labeled as a sorcerer, witch, and necromancer is clustered with the Shaman/Healers. The Kazak had a belief in the evil eye according to Roberts (1976), but there was no indication that the belief was associated with a culturally recognized status or that the beliefs were of importance. Among the Vietnamese there were legal prohibitions on magical activities causing death, most of which were associated with the practitioner classified here as the Vietnamese Healer; most ethnographic sources labeled this practitioner as a sorcerer. Some of these practitioners were actively involved in resistance to the French occupation (political incorporation) of Vietnam. The social factors relevant to the effects of political integration in creating Sorcerer/Witch Practitioners may not have been in effect for sufficient time or with sufficient enforcement to create this practitioner type among the Romans and Vietnamese.

Magico-religious Activities. The Sorcerer/Witch Practitioners are generally considered to be involved in malevolent acts—causing harm to others—and generally little else. The principal activities of the Sorcerer/Witch are believed to involve causing sickness and

illness, destroying socioeconomic well-being, and engaging in activities such as eating the body and soul of their victims, killing their own kin, engaging in incest and cannibalism, eating feces or corpses, destroying crops or livestock, causing injury and death to family, friends and community, or transforming oneself into a (generally carnivorous) animal. Some Sorcerer/Witch Practitioners are thought to be able to heal indirectly through removing spells, confessing to actions, or engaging in some form of ritual action (e.g., disavowal of intention to cause magical harm), but this is not typical.

Sociopolitical Power. Sorcerer/Witch have no sociopolitical power; rather, the Sorcerer/Witch is subject to the sociopolitical power of other practitioners, especially that of the Priest and Healer. However, there are a few cases in which the practitioner is apparently believed to have some charismatic leadership roles.

Social Characteristics. The Sorcerer/Witch is generally thought to be both male and female, and is considered to be of low socioeconomic status. Their social reputations are generally very negative. The Sorcerer/Witch are generally viewed as having a highly immoral nature, being culturally evaluated as predominantly or exclusively malevolent, and thought to engage in the most objectionable activities.

Professional Characteristics. The Sorcerer/Witch practitioners are part-time specialists, not thought to receive their livelihood from their professional malevolent activities. However, although these practitioners generally do not gain remuneration for their activities, they might be paid by clients or benefit personally from their acts. Although Sorcerer/Witches may operate in conjunction with one another, there are generally no beliefs about formally organized groups. There is generally no belief about role specialization; all practitioners of the type are generally thought to have the same skills.

Selection and Training. The Sorcerer/Witch may be thought to have some deliberative involvement with magico-religious practice; however, in more complex societies they are generally considered to have malevolent powers or practices which are biologically inherited and unconsciously exercised. The Sorcerer/Witch is typically selected for the role in an involuntary process of social labeling in which they are attributed the role as being due to biological inheritance. The Sorcerer/Witch is generally given the label of Sorcerer/Witch by the Healers and Priests through a social process involving negative ascriptive labeling and social/religious persecution. This frequently leads to the Sorcerer/Witch being killed for actual or suspected activities. The Sorcerer/

Witches' ascribed characteristics of involuntary and unconscious action are used to justify the processes of social persecution in spite of the accused's denial. Although many of the Sorcerer/Witch practitioners are thought to acquire their skills from inheritance or innate tendencies, many are also reported to have learned their skills directly or incidentally from other practitioners. However, few ethnographers made direct or explicit references to the nature of the training of the Sorcerer/Witches.

Motive and Context. The Sorcerer/Witch practitioners are thought to act primarily on their own behalf, generally acting out of jealousy, envy, anger, greed or revenge; however, they sometime act for clients. They carry out their activities in private and with secrecy.

Supernatural Power. Sorcerer/Witches have both spirit and ritual power. The Sorcerer/Witches are generally thought to have power over spirits, particularly animal spirits, as well as access to personal or impersonal sources of power (such as manifested in exuvial, contagious or imitative magical techniques). Sorcerer/Witches may act deliberately and with a power under their control (sorcerers), or with a power that operates unconsciously and unintentionally (witches). Differences in conscious deliberate control of power versus unconscious manifestation of effects are major differences among the Sorcerer/Witch Practitioners (see below).

Special Abilities. Most of the Sorcerer/Witch practitioners are believed to be able to transform themselves into animals, as well as having the ability to fly.

Techniques. The Sorcerer/Witch utilize both control over spirits, as well as ritual manipulations to achieve their ends. The Sorcerer/Witch Practitioners utilize a wide range of techniques ranging from the unconscious psychic effects of jealousy, anger and envy to the active techniques of curses, spells, imitative, exuvial and contagious techniques, control of spirits and direct discharges of personal power or penetrating magical objects (e.g., object intrusion).

ASC Conditions and Spirit Relations. ASC are generally absent as conspicuous aspects of the training of the Sorcerer/Witch, although most of the Sorcerer/Witch practitioners have metaphorical or indirect references to ASC (e.g., animal transformation, flight).

8.3 HYPOTHESIS: DISTINCT SORCERER/ WITCH TYPES

Murdock's and Robert's research, the distinctions offered by Evans-Pritchard and Kluckhohn, and other ethnographic materials suggests some systematic cross-cultural differences in malevolent magico-religious prac-

titioners and practices, as well as systematic relationships between these differences and social conditions. The initial working hypothesis was that malevolent practitioners could be roughly divided into two major groups generally corresponding to Evans-Pritchard's distinctions. It was hypothesized that differences among Sorcerer/Witch Practitioners would be generally associated with the following groups of distinctions:

Witches: Believed by members of their societies to engage in animal transformation, eat the body/soul of their victims, and generally act unconsciously or inadvertently. These practitioners are predicted to be associated with more complex societies.

Sorcerers: Believed by members of their societies to engage in deliberate conscious acts of magic involving spells, rituals, imitative or contagious magic, or spirit techniques. These practitioners are predicted to be associated with less complex societies.

It is apparent that these two polar characterizations are not exclusive; for example, they appear to be combined among the Amhara. In this sample, there are cases of what might have been coded as evil eye, witchcraft and sorcery beliefs associated with a given practitioner, and there were malevolent activities associated with more than one practitioner type in a given society besides the practitioner classified as a Sorcerer/Witch Practitioner (e.g., Healers and Shaman/ Healers). However, there were no cases coded of two distinct types of culturally recognized practitioner types, both classified as a Sorcerer/Witch Practitioner, which were present in the same society in this sample. The notion of only a single type of malevolent practitioner in a given society is consistent with Evans-Pritchard's and Kluckhohn's findings. Evans-Pritchard reported that sorcery was no longer practiced at the date of his field work, although it was presumably present in earlier times. Similarly, Kluckhohn reported considerable differences between older and younger informants in the characteristics of the Frenzy Witchcraft; the older informants were more likely to recognize the socially positive aspects of the Frenzy Witchcraft activities. The use of hunting magic, datura, divination, and curing ceremonies, and associated activities likely declined during the life span of Kluckhohn's older informants.

In order to assess the similarities and differences among the Sorcerer/Witch Practitioners, the variables used for analysis of all of the practitioners were screened, and a subset of this larger group was selected. The variables chosen were those of theoretical interest in light of the discussion above and subsequent considerations, as well as those variables which indicated the potential

for differentiation among the Sorcerer/Witch Practitioners (e.g., not universal or extremely rare among the Sorcerer/Witch Practitioners). The variables used to characterize the Sorcerer/Witch Practitioners are listed below; further information on these variables is provided in Chapter 2 and Appendix 3.

*Variables Used To Characterize
Sorcerer/Witch Practitioners*

Social Status
Economic Status
Sex of Practitioner
Power Awareness
Power Control
Animal Relationship/Transformation
Spirit Relationship
Unnatural Acts (Kill kin, eat human bodies or souls)
Destroy Socioeconomic Well-being (Crops, Fertility)
Motivation— Client Request
Training by other Practitioner
Selection— Labeling/Biological Inheritance
Voluntary Selection
Killed (Practitioner killed for role activities)
Manipulative/Imitative Techniques
Exuvial Magic
Spells
Discharge of Power
Power from Ritual/Techniques
Love Magic
Active ASC Induction (but not passive experiences, e.g., involuntary experiences, sleep)
Positive Socioeconomic Activity (Heal, Divine, Protect, Agriculture, Propitiation)

Since the hypothesis was that there were distinct differences between Sorcerer/Witch Practitioners, the data were analyzed³ with cluster analysis and multidimensional scaling (MDS) techniques in order to determine whether the relationships in the data were best represented as discrete or continuous differences. If the differences are discrete, the cluster analysis solution should provide the best representation, since it separates into groups, while MDS provides the best representation if the data has the same continuous space. In order to assess the adequacy of these representations in accounting for the data, the Quadratic Assignment Program and related procedures were used (see Methodological Appendix 2.5). Both the two and three dimension MDS solutions were significantly better than the cluster analyses. The significantly better representation of the multidimensional scaling solution over the cluster analysis

representation indicates that the differences between the Sorcerer/Witch Practitioners are best characterized as continuous or overlapping rather than discrete, exclusive or non-overlapping groupings. This suggests that the working hypothesis of distinct types of Sorcerer/Witch Practitioners be rejected, and that further analysis of the data focus upon the MDS representations to determine the characteristics of, nature of, and relationships between the different Sorcerer/Witch Practitioners.

In order to characterize the differences in the MDS organization of the data, the Profit program of the MDS(X) series was used (see Methodological Appendix). Both the first and second, and the first and third dimensional representations are examined since the three dimensional representation is marginally significantly better ($p = .03$), and since the two dimensional representation has an unacceptably high stress (.20), indicating the need to assess the three dimensional representation (stress .12). The variables used as a basis for calculating similarities among practitioners and the social complexity variables were projected onto the MDS representations (first and second dimension, and first and third dimension representations) (Figures 5 and 6, respectively). Those variables of theoretical interest and those with the strongest correlations are placed on the MDS representations at their projection points; their measures of association ρ (similar to a correlation coefficient) are reported in the text.

The first and second dimension representation (Figure 8.1) shows that a number of variables associated with sorcery are closely aligned and strongly associated with the first axis (Manipulative/ Imitative Techniques, $\rho = .85$; Training $\rho = .79$; Power from Ritual Techniques, $\rho = .84$). Aligned slightly above the opposite axis are variables measuring Low Power Control ($\rho = .44$) and Selection through Labeling/ Biological Inheritance ($\rho = .37$). The second dimension has Unnatural Acts ($\rho = .67$), Animal Transformation ($\rho = .78$), and Spirit Control ($\rho = .74$) closely aligned with the axis.

The variables projected on the first dimension contrast the beliefs about voluntary status selection and the use of ritual techniques with beliefs that the practitioners use their power inadvertently and indications that they are selected by attribution of biological inheritance or other processes of labeling and scapegoating. These differences are core to the sorcerer versus witch distinction, and indicate that these characterizations are central to differences among the Sorcerer/Witch practitioners. The Biological Inheritance and Low Power Control variables are not directly aligned with the axis; however, orientation is arbitrary in MDS representations, and these

variables do project opposite the sorcery variables, confirming that these are the central characteristics of the other pole of the principal dimension.

The variables measuring Evil Eye, Sorcery, and Witchcraft which were reported by Roberts (1976) and Murdock (1980) were also projected onto the coordinate space; those cultures not coded by Murdock were coded by the present author. These variables were not included in the computation of similarity among practitioners. Murdock's Sorcery variable projects exactly along the first dimension with a substantial correlation ($\rho = .67$); its strong association and direct alignment indicates a common set of characteristics corresponding to the concept of sorcery. The Evil Eye ($\rho = .37$) and witchcraft variable ($\rho = .23$) project onto the right side of the first dimension, but the very low correlations indicate that the first dimension is not strongly associated with these distinctions. These vectors were also projected onto the first and third dimensional representations (Figure 6); the Evil Eye and Witchcraft variables align rather closely with the opposite ends of the third dimension with somewhat stronger associations (Evil Eye $\rho = .62$; Witchcraft $\rho = .50$). It thus appears that the measures provided by Murdock and Roberts relate with the Sorcerer/Witch practitioner data in a systematic manner, and serve to identify the opposite poles of the third dimension.

The social complexity variables from Murdock and Provost (1973) were also projected onto the MDS representation. In the first and second dimension representation, most of the social complexity variables were projected onto the upper right quadrant, indicating a systematic relationship between the social complexity variables and the organization of the Sorcerer/Witch Practitioner characteristics. The correlations are rather weak, but the strongest correlation is with the Political Integration variable ($\rho = .46$), which projects close to the first axis. It is surprising that the Political Integration variable is the strongest social predictor of differences among Sorcerer/Witch Practitioners, given that the incidence of the Sorcerer/Witch Practitioners is best predicted by the presence of Political Integration beyond the level of the local community. Not only does political integration strongly predict the incidence of Sorcerer/Witch Practitioners at the societal level, but it is the social variable most closely and strongly associated with the major differences among these Sorcerer/Witch Practitioners. The alignment of the political integration variable with the first dimension suggests that it is the central force responsible for the transformation of sorcery type practices/beliefs to those more characteristic of witchcraft. A transformation is

assumed since the differences are continuous, not discrete. The ways in which political integration and social stratification bring about the presence of and transformation of the Sorcerer/Witch Practitioner are explored below.

Several social complexity variables are closely and substantially associated with the Evil Eye pole of the third dimension (see Figure 8.2). The variables representing Technical Specialization ($\rho = .62$) and Written Records ($\rho = .46$) projected at nearly the same point as Robert's Evil Eye variable and the variable of Selection through Labeling/ Inheritance ($\rho = .67$). Social Stratification and Agriculture are also associated with the quadrant where the evil eye variable is projected, suggesting that these social conditions associated with greater cultural complexity are closely related to the differential incidence of these beliefs. It is noteworthy that the variables indicative of greater social complexity are associated with beliefs indicative of higher repression or denial. The evil eye is generally thought to operate in a largely unconscious or inadvertent fashion, since one only has to look, while witchcraft, following Murdock's definition, may be from voluntary or involuntary actions resulting from being a member of a particular class.

Further validation that this organizational contrast of the Sorcerer and Witch reflects basic principles associated with cross-cultural differences in malevolent magical practices as noted by other investigators is provided by data from several other cases not included in the main analyses here. Separate analyses were used to project the Zande and Navajo sorcerer and witch practitioners onto the first and second dimension representation. The Navajo distinctions are grouped together into two focuses, following Kluckhohn; they are labeled Sorcerer and Witch, corresponding to the groupings into: Frenzy Witchcraft (like Sorcery); and Witchery, Sorcery, and Wizardry (like Witchcraft). It was expected that the Zande and Navajo Sorcerers would be strongly associated with the cases in the left quadrant of the first dimension where the sorcery variables were projected, while the Azande and Navajo Witch would be associated with the opposite quadrant. The analyses (see Figure 8.1) bore out this relationship for all cases except the Navajo Witch, which is placed in the upper left quadrant, associated with sorcery (versus witch) like characteristics. However, this is consistent with the social differences in the incidence of the Sorcerer/Witch Practitioners. Whereas most Sorcerer/Witch practitioners are found in societies with political integration beyond the local community, the Navajo have a Sorcerer/Witch practitioner with political integration limited to the local level; as

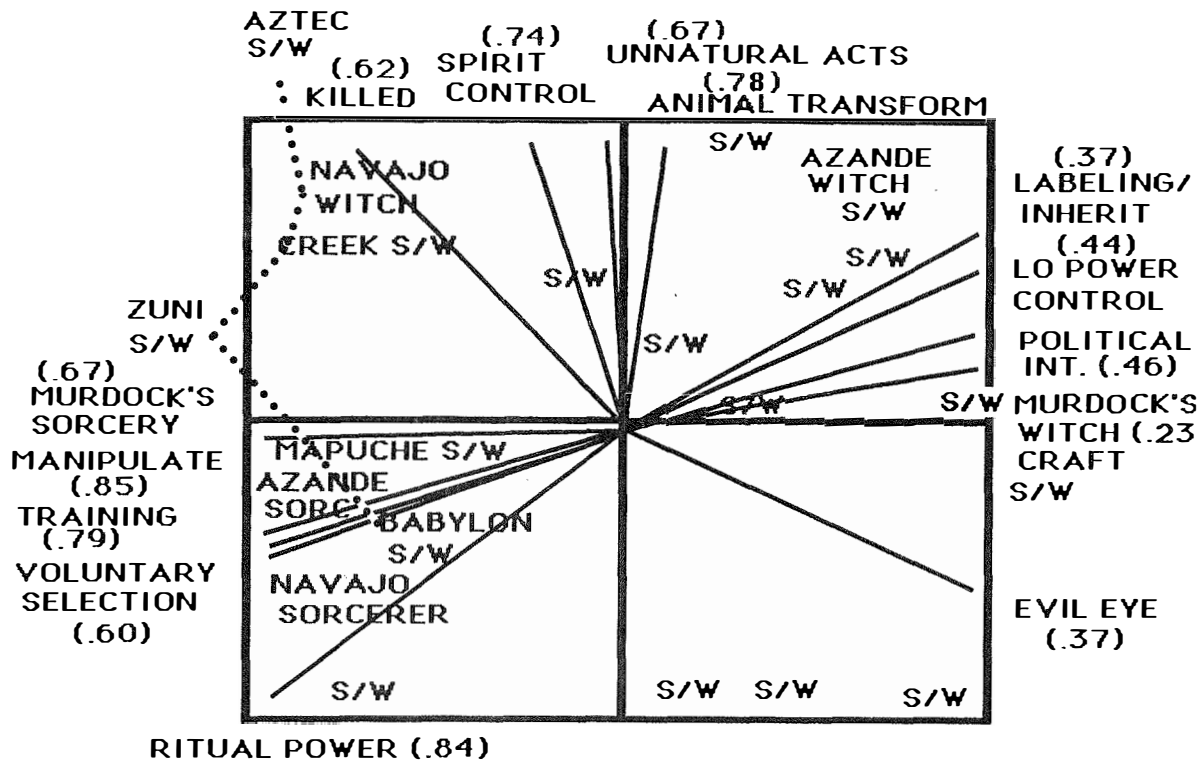


Figure 8.1 MDS (first and second dimensions) Sorcerer/Witch Practitioners.

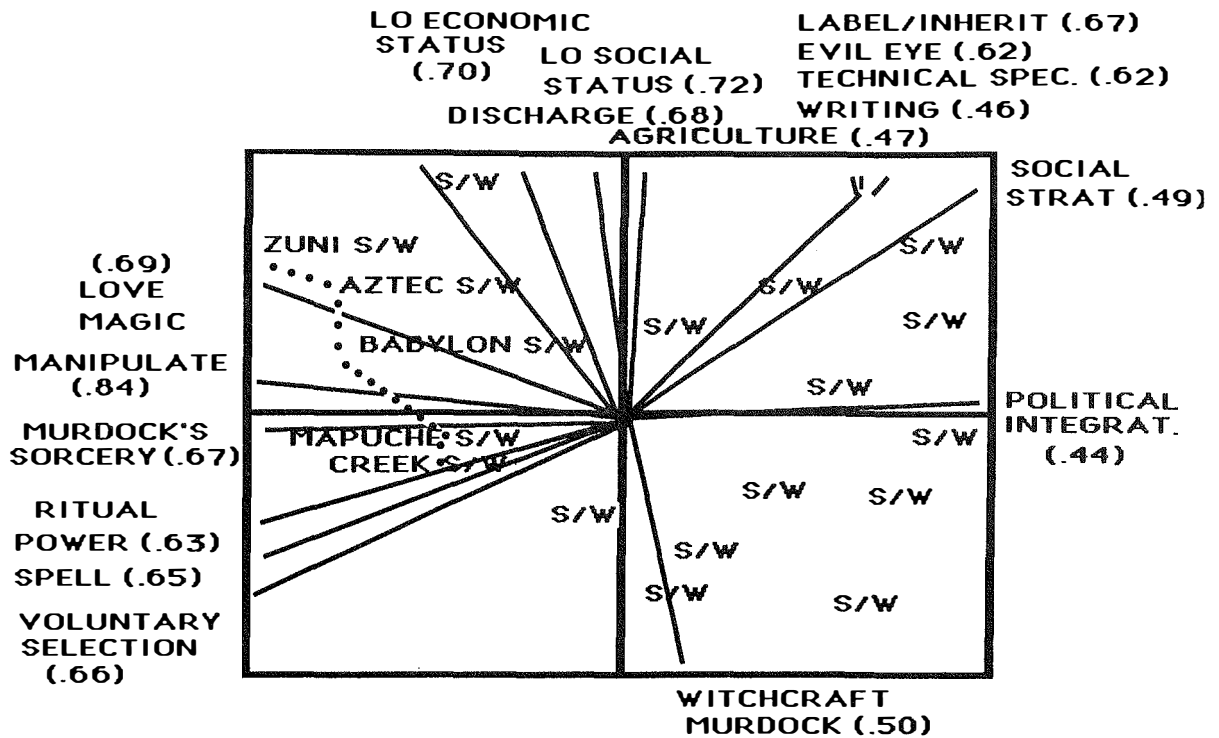


Figure 8.2 MDS (first and third dimensions) Sorcerer/Witch Practitioners.

such it should be more like sorcerers than witches since it must be in the initial stages of formation.

Summary. The analyses reject the concept of distinct types of Sorcerer/Witch Practitioners, but show that the distinctions among sorcery, witchcraft, and evil eye beliefs are substantially related to the structure of the data collected in this study. These differences in malevolent magico-religious practitioner characteristics correlate with different social conditions. The practitioners with the strong emphasis on sorcery related variables (deliberate action) are in societies characterized by lower levels of political integration than those associated with witchcraft (unconscious action). On the third dimension, the witchcraft versus evil eye distinction is associated with higher agriculture, social stratification, and technical specialization on the evil eye dimension.

8.4 SORCERER/WITCHES: ORIGINS AND ASSOCIATIONS

The analyses presented in 8.2 indicate that Sorcerer/Witch Practitioners are present almost exclusively in societies with political integration beyond the local level, suggesting that such social processes may be responsible for the production of such beliefs or statuses. The finding that political integration is the most important social variable distinguishing sorcerer like beliefs from witchcraft and evil eye beliefs indicates that political integration is central to the social conditions which lead to the creation and transformation of the Sorcerer/Witch Practitioner status. In this section, materials are reviewed which suggest how social conditions and processes associated with higher levels of political integration and social stratification lead to the development of the Sorcerer/Witch Practitioner statuses from that of other practitioners, in particular the Shaman and Shaman/Healers. There are limitations in the use of a synchronic data set to answer questions about a diachronic process; therefore these conclusions are offered tentatively, requiring substantiation with diachronic studies. Some diachronic case material is reviewed here to provide such substantiation.

Anthropologists' considerations of phenomena such as sorcery and witchcraft have tended to address how these phenomena reflect social tensions, frustrations, anxieties, serve as a means of social control, aid in social segmentation, and serve other social functions (e.g., see Nadel 1952b, Whiting 1950, Middleton and Winter 1963, Marwick 1970, and Walker 1970, to mention but a few). As Walker (1970) points out, the functional approaches have illustrated how these beliefs in practices broadly

labeled as sorcery and witchcraft serve adjustive functions (e.g., explanatory, instructive, and ameliorative), adaptive functions (social control, unification, and governance), as well as having dysfunctional aspects. The analyses undertaken here do not address the social processes of sorcery and witchcraft at this level, but attempt to address a more fundamental aspect of the complex of beliefs and events. The following discussion and analyses address the issue of the source of these complexes of cultural belief which serve as the basis and justification for the social processes, that is labeling and persecution. This is not to suggest that the functional level of analysis does not bear on this issue; clearly the social processes which utilize these complexes of belief are in one sense a source of the phenomena. The distinction emphasized here was suggested by Nash (1961), who pointed out that cultural beliefs define what characteristics are ascribed to a witch, while the social processes determine who is labeled as one. For instance, there are cultural beliefs that witches eat peoples' bodies or souls and fly at night, while social processes are involved in determining to whom the beliefs are ascribed, that is, who gets labeled as a witch. Since there are substantial similarities cross-culturally in the beliefs ascribed to sorcerers and witches, the investigation is directed toward why such similar complexes emerge in different societies. What is to be demonstrated here is how the elements associated with sorcery and witchcraft beliefs have a clear association with other aspects of the magico-religious complex, and how the differences among ascribed characteristics of Sorcerer/Witch Practitioners bear a systematic relationship to the social processes/functions served by the attribution of such activities.

The data analyzed so far have been on those practitioners classified as Sorcerer/Witch Practitioners, which are restricted to societies with higher levels of political integration. This leaves unaddressed the questions of 1) what practitioners are involved in malevolent activities in societies with lower levels of political integration and lacking practitioners classified as Sorcerer/Witch Practitioners, and 2) what is the relationship of the malevolent activities associated with the Sorcerer/Witch Practitioners status with those of other magico-religious practitioners statuses engaged in malevolent activities.

Beliefs about a major involvement by magico-religious practitioners in malevolent activities is restricted to those practitioners classified here as Sorcerer/Witch Practitioners and Healer Complex practitioners, particularly the Shaman. Malevolent activities are less frequently found and generally are of minor importance with the Shaman/Healers and Healers, and are almost entirely

absent among Priests and Mediums. The strong association of malevolent practices with these two types of practitioners and the fact that they do not occur together in the same society suggests an important similarity and link between the two practitioner types.

The association of shamanic practitioners with witches has been suggested by Harner (1973), who reviewed documents indicating the use of hallucinogenic plants by many of those persecuted as witches in Western Europe by the Inquisition. Harner also reviewed archival materials illustrating the frequent spontaneous experience of flight and animal transformation while under the influence of various hallucinogens. He suggested that the drug effects provided a basis for the beliefs in flight and animal transformation reported by some of those accused of being witches in Europe. The Inquisition's attack upon those accused of being witches can be seen in part as involving an effort to eradicate a competing religious ideology and practice. This is similar to Murray's (1921, 1933) argument that many of those persecuted as witches were members of a fertility cult religion which were persecuted by the Catholic Church and its representatives. Murray linked the alleged activities of the European witches to the fertility rites discussed by Frazer in his consideration of the sacrifice of the sacred King. Simmons (1974) similarly linked so-called witchcraft activities to the nature religions centered on Pan and Diana.

The argument that some witch persecutions are linked to earlier religious traditions does not imply that it is the basis for all of witch-hunting activities. It seems indisputable that different witch-hunting activities were linked to a variety of causes, including delusions on part of accused and accusers, economic and power seeking motives, and outright sadism (see Hoyt 1981, Currie 1974). However, Hoyt reviewed cases of European witchcraft which he pointed to as indicating a transition between witchcraft as sorcery (actual activities) and witchcraft as heresy (moral conflict with the Church). His review made it clear that some early well-documented cases of witchcraft trials involved individuals who were actually involved in the manipulation of substances in rituals, administrations of presumed poisons, membership in cults and other associations with magical activities. These and other magico-religious activities associated with the use of hallucinogens, indigenous herbal pharmacologies, and fertility rites were part of the indigenous traditions, a competing religious ideology which the Catholic Church faced in Europe. Hoyt reviewed evidence which clearly established that indigenous religious traditions in France and other parts of

Europe were ruthlessly persecuted by the Inquisition as witches, illustrating the pattern of ancient gods being classified as devils and their adherents persecuted as witches. It seems that these activities and the general cultural beliefs about these activities, including whatever distortions were fostered by the persecutions, provided the basis for witch beliefs in Europe. This mechanism would also account for the similarity of witch beliefs worldwide, given the similarities among indigenous shamanic-like magico-religious traditions and the presumed similarity of the processes of persecution of these traditions by those at higher levels of control in the political hierarchy of society.

The involvement of magico-religious practitioners labeled by ethnographers as shamans, healers, medicine-men, etc. with the aggressive malevolent use of magic is frequently encountered in the literature; all but one of the Shamans in this sample had involvement in malevolent activities. The Zande medicine men tend to be suspected of being both witches and sorcerers. The Zande medicine men were reported to have a body substance placed there by their teachers which is said to give them the power to detect witches, and they manipulate medicines in the same manner as a sorcerer both to heal, and in the socially approved use of retaliatory magic against sorcerers. Similarly, the Navajo curing specialists (singers and diagnosticians) were thought to be in collusion with those practicing Frenzy Witchcraft. Whiting (1950) reported that the Paiute sorcerer and shaman both acquired their power through familiar spirits which came to them in involuntary dreams. Although she reported that the two statuses were clearly distinguished at the time of her field research, sources for the Shoshoni and related groups which focused upon the culture at the earlier date for the SCCS (1880) indicated that the sorcerer is a shaman who used the shamanic power in a malevolent way (see Park 1938, Kelly 1939, Stewart 1943).

On the other hand, some sorcerers like Sorcerer/Witch Practitioners did engage in positive socioeconomic activities. The Babylonian sorcerer engaged in rites for longevity and agricultural fecundity. The Aztec Sorcerer/Witch Practitioner (*naualli*) actually engaged in a wide variety of such activities (e.g., see Ruiz de Alarcon 1984). Some passages of Sahagun refer to services performed by the *naualli* on adorned images made of bound pine torches; these represented warriors captured in battle (and presumably sacrificed) (Anderson and Dibble, Book 4 and 5, Chapters 11 and 19). Other passages make reference to activities such as recovering things for people, sweeping people's paths for them (indicating what sins they must confess), and provoking

and exciting the people. These statements are not easily interpretable in the context of the Inquisitions model of witchcraft in Europe; however, in the context of a Shaman/Healer, they make sense as *en absentia* burial services, divination, healing, and the exercise of informal political power or persuasion by the *naualli*.

The general theory suggested here is that Sorcerer/Witch Practitioners statuses are based on the characteristics of the practitioners classified here as Shamans, Shaman/Healers, and Healers. The Sorcerer/Witch status develops as a result of systematic persecution of some individuals or magico-religious practitioners by other magico-religious practitioners (or their representatives), who occupy more powerful statuses in the society, or who are trying to politically incorporate independent communities under the local leadership and control of Shamans or Shaman/Healers. This is consistent with the widespread judicial power (including deciding who's guilty of witchcraft, other crimes, etc.) which is found among Healers and Priests. As a result of persecution and projection, the actual characteristics of the practitioners become selectively shaped toward more despicable characteristics basically associated with the statuses, but distorted in the interest of furthering the persecution.

This perspective provides a basis for explaining why certain attributes such as animal transformation, night time activities, some form of projection of the self or flight, as well as soul/body consumption are commonly associated with witch like practitioners, as well as with Shamans and Shaman/Healers, but not any of the other practitioner types in the sample. The widespread belief in animal transformation associated with witches/sorcerers can be seen as either (1) an accurate attribution of such a belief to a shamanic like practitioner (or the subsequent developments as Shaman/Healer), since such practitioners are widely associated with such beliefs; or (2) the projection of such a belief, based upon the projection and distortion of the most grotesque and inhuman attributes of the witch to those being labeled and persecuted. The nighttime activities and soul flight of the Shaman and the associated soul loss illness provided the basis for the characteristics of sorcerers/witches in two ways: (1) these were the actual self-ascribed characteristics of Shamans (or their transformed types, the Shaman/Healers) who were being persecuted/removed in the integration of small scale societies into hierarchically integrated social systems; and (2) these were the inhuman characteristics later ascribed to those labeled as witches in a more general form of persecution.

These hypothesized connections between the Sorcerer/Witch Practitioners and the other magico-religious

practitioners suggests that there should be similarities between the Sorcerer/Witch Practitioner and the Shamans and other Healer Complex Practitioners in terms of the structure of the malevolent activity data. It was predicted that: (1) the general characteristics of the Sorcerer/Witch Practitioners and the other practitioners engaged in malevolent magic should have the same basic organization; and (2) those Sorcerer/Witch Practitioners more closely associated with sorcery like attributes should be more closely associated with the Shaman, Shaman/Healers and Healers, since the actual activities of the latter would have provided the basis for persecution and the subsequent projections of the former.

In order to assess these hypotheses, the practitioners which were engaged in malevolent activities but not classified as Sorcerer/Witch Practitioners were first subject to separate analysis. The variables used were the set specified above to assess the Sorcerer/Witch Practitioners. When that set was selected to address the issue of whether or not there were different types of Sorcerer/Witch Practitioners, only three variables were included as a consequence of the hypothesis of links between the Sorcerers/Witch Practitioner and the Shamans and Healer Complex. The variables included were: Positive Socio-economic activity (curing, divination, agriculture rites, etc.); Active ASC Induction; and Love magic. These were the only variables deliberately selected with the expectation that they would link the sorcerer like Sorcerer/Witch practitioners and practitioners of the Healer Complex; it was presumed that if there were in fact fundamental similarities, the other variables more directly associated with the Sorcerer/Witch Practitioner status would also provide a basis for establishing similarity.

The multidimensional scaling program was used since the previous analysis of the Sorcerer/Witch Practitioners had shown the MDS scaling program to be a better representation of the data, and allowed the two sets of analyses to be compared and combined. The two dimensional MDS representation of these other 39 practitioners (not including the Sorcerer/Witch Practitioners) is provided in Figure 8.3 and has an associated stress of .22. The cases are labeled with symbols representing the practitioner types (S=Shaman, SH=Shaman/Healer, H=Healer, M=Medium). The Shamans, Healers, and Mediums form rather cohesive groups, while the Shaman/Healers are more dispersed. The variables used to compute the similarity among practitioners were projected onto the representation with the Profit program. The variables with the strongest associations provide a pattern similar to the first and second dimension MDS

representation of the Sorcerer/Witch Practitioners (Compare Figures 8.1 and 8.3). Variables representing Power through Rituals/Techniques, Manipulative/ Imitative magic, Voluntary Selection, Exuvial, and Love magic fall near or below one side of the first axis, while variables assessing Unnatural Acts, Animal Transformation, and Spirit Control are strongly associated with the second dimension. Biological Inheritance and Training are absent from the projections because of their universal absence and presence, respectively, within the two groups. The social complexity variables were all projected onto the lower right quadrant, but were not strongly correlated (all $\rho < .5$).

The organization and structure of magico-religious variables are the same in the separate analyses of the Healer Complex practitioners and the Sorcerer/Witch practitioners, indicating that the same general domain of characteristics is involved with both groups. This was confirmed with combination of the Sorcerer/Witch Practitioner and Healer Complex data on malevolent activities in a single analysis. The stresses for the combined data and the separate data sets were quite similar, indicating that the same domain of characteristics was present for both practitioner groups.⁴

The first and second dimension representations of the combined data (not shown) maintains the overall organization of the Sorcerer/Witch Practitioners, but reoriented approximately 90 degrees, projecting into the third dimension the variable organization previously found in the second dimension. The second dimension does not correspond strongly to the previous variable configurations, but does contrast the Shamans and witch-like Sorcerer/Witch Practitioners with the Shaman/Healers, Healers and sorcerer-like Sorcerer/Witch Practitioners. The variable vectors were projected onto the first and third dimensional representation in a pattern quite similar to the previously recognized structure (compare Figures 8.1 & 8.3 with 8.4). The representation sharply separates the Sorcerer/Witch Practitioners from the other practitioners along the first dimension, with all of the Sorcerer/Witch Practitioners on the right side and almost all of the other practitioners on the left. The variable vectors illustrate a pattern quite similar to the previous analyses. The sorcery variables closely align with one pole of the first dimension with substantial correlations (Training $\rho = .73$; Motivation—Client Request $\rho = .76$; Spells $\rho = .70$; Positive Socioeconomic Activity $\rho = .84$), while the opposite pole of the first dimension is closely associated with Selection through Labeling/Biological Inheritance ($\rho = .75$). As was found in the separate analysis of the two data sets, the variables

assessing Animal Transformation, Unnatural Acts, and Spirit Control are associated with other dimension, in this case the third as opposed to second. The Sorcerer/Witch Practitioners which are most closely associated with the sorcery variables in the separate analyses are located near the center of the diagram, intermediary between the Healer Complex practitioners and the witch-like Sorcerer/Witch Practitioners. The practitioners which constituted this group have been connected by dotted lines in Figures 8.1-8.3 to illustrate their common location.

Summary. The series of analyses presented in this chapter establish several major points. One is that the sorcery versus witchcraft distinction is substantially related to differences in malevolent magical practitioners and to the practitioners in this data set, although these differences are continuous, not discrete. This is interpreted to mean that the Sorcerer/Witch Practitioners are of the same origin, but change as a result of social processes, particularly political integration and class stratification. Associated with this difference is the finding that although the relationship is only of modest strength ($r = .46$), political integration is the social variable which most strongly and most directly differentiates the differences in these Sorcerer/Witch Practitioners as represented in the first dimension of the representation. Other social variables associated with stratification and technical specialization are shown to distinguish Evil Eye from Witchcraft beliefs. A second major point is that the dimensions which underlie the Sorcerer/Witch Practitioners' malevolent characteristics are substantially the same as those which underlie the other magico-religious practitioners engaged in malevolent activities, indicating a continuity between the Sorcerer/Witches and the Healer Complex. The relationships between the Sorcerer/Witch Practitioners and the other practitioners engaged in malevolent acts indicates that sorcerer-like practitioners are intermediate between the Healer Complex and witch-like Sorcerer/Witch Practitioners. This is consistent with the hypothesis that practitioners like the Shaman and Shaman/Healers are the practitioners who are persecuted in the formation/creation of the Sorcerer/Witch Practitioner status. This research suggests that the Sorcerer/Witch Practitioner status derives largely from the persecution of one group of individuals by another. Given 1) that the Shamans engage in malevolent activities and function in the role of informal political leaders in the societies without political integration, and 2) that political integration is strongly related to the incidence of Sorcerer/Witch Practitioners and the differentiation of the sorcerer-like and witch-like practitioners, it seems that the processes of political integration of local communities into a hierar-

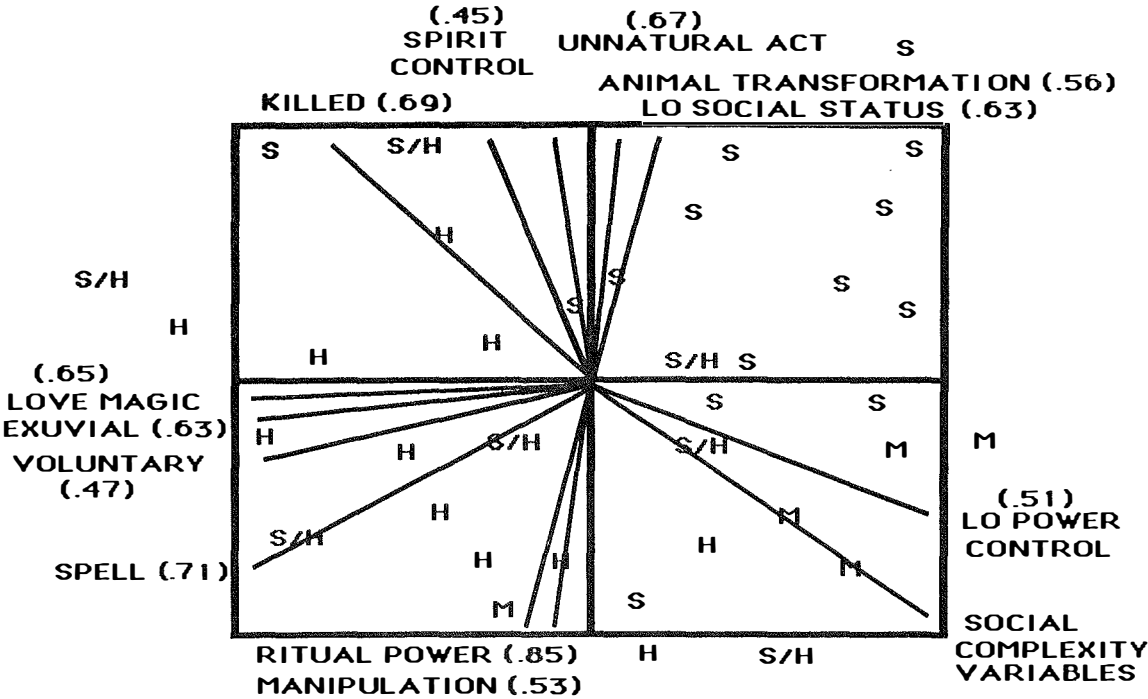


Figure 8.3 MDS Healer Complex and Mediums with malevolent activities.

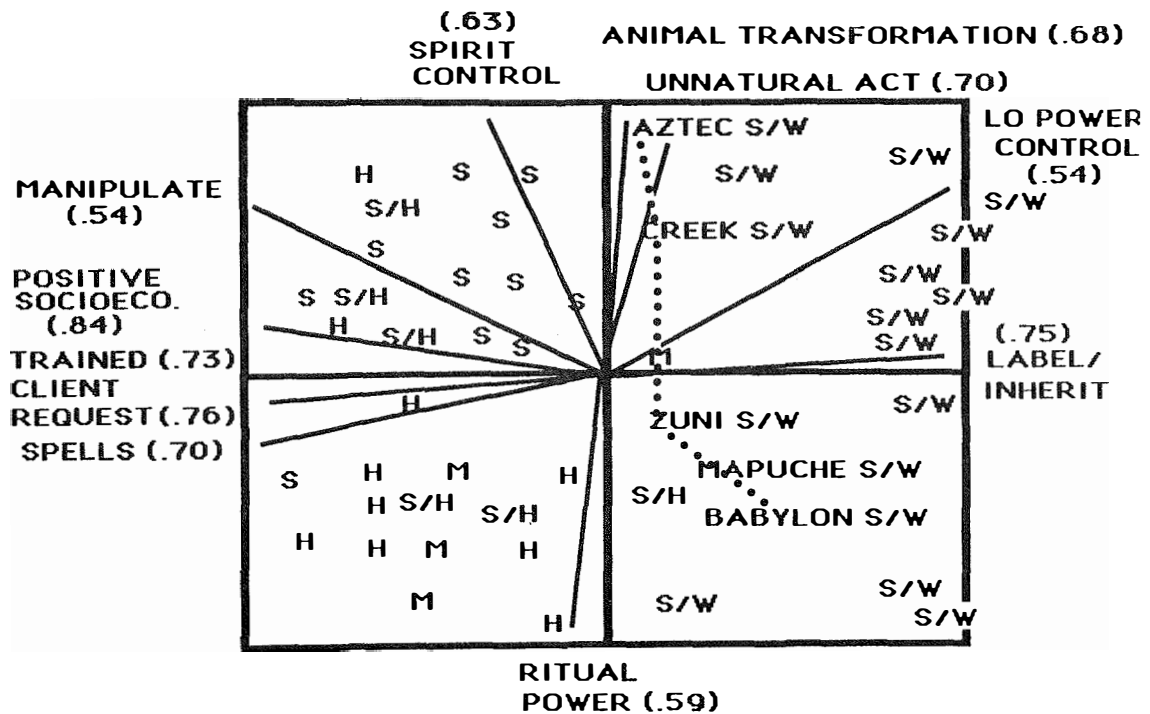


Figure 8.4 MDS all practitioners with malevolent activities.

chical political structure is responsible for the creation of the Sorcerer/Witch Practitioner status through persecution and elimination of competing magico-religious political leaders at the local level. The characteristics associated with such practitioners form the cultural beliefs used in the persecution of other individuals in the society by those who wield the social power to effectively carry out such scapegoating, persecution and elimination of enemies. Given the continuous relationship between the sorcerer-like and witch-like practitioners, and the similarity of their malevolent activities with those of Shamans, the shamanic type practitioners can be seen as the original basis for the characteristics ascribed to individuals generally characterized as witches.

Examination of the etymology and meaning of the term “witch” is illuminating and illustrates the point

made here. The Indo-European root of “witch” is “weik”, which has meanings associated with magic, religion, divination, and sacrificial victims. The ancient roots of the term and the actual practices of contemporary witches correspond neither with the attributions of witchcraft used by the Inquisition, nor with the characteristics subsumed under Evans-Pritchard’s and Murdock’s uses of the term. However popular usage of the term “witch” does connote the negative aspects, and contemporary political and social processes continue to persecute witches. The history of witches in Indo-European cultures clearly exemplifies the persecution of ASC based magico-religious practices through the attribution of negative characteristics by political and religious functionaries.

CHAPTER 9

ALTERED STATES OF CONSCIOUSNESS

The role of altered states of consciousness (ASC) or trance in human society has been an issue of concern among anthropologists (e.g., see Bourguignon 1968, 1976a, 1976b; Lex 1979, Peters and Price-Williams 1980, Prince 1982a, 1982b; Jilek 1982, Heinze 1983; Noll 1983, Kelly and Locke 1981, Locke and Kelly 1985). Although some anthropologists have addressed the psychophysiological basis of ASC or the relationship of ASC induction procedures to the psychophysiology of consciousness (e.g., Lex 1979, Prince 1982a, 1982b), most investigators have implicitly or explicitly assumed that ASC of different practitioners and in different societies are similar or identical without explication of the grounds for such assumptions.

This chapter presents a psychophysiological model of ASC and relates these changes to the basic structure and physiology of the brain. It is argued that a wide variety of ASC induction techniques lead to a very similar alteration in consciousness, characterized by a state of parasympathetic dominance in which the frontal cortex is dominated by slow wave patterns originating in the limbic system and related projections into the frontal parts of the brain. Psychophysiological research on the effects of a variety of ASC induction procedures is reviewed to illustrate that these procedures have the consequence of inducing this set of changes in psychophysiology. Clinical and neurophysiological research on the nature of human temporal lobe function and dysfunction is reviewed to illustrate that the physiological patterns of conditions frequently labeled as pathological are similar to the psychophysiology of ASC. Analyses of cross-cultural data on ASC induction procedures and characteristics are presented. The model of a single type of ASC associated with magico-religious practitioners is tested and shown to be significantly better than a model representing ASC as discrete types. This supports the theoretical position derived from physiological research that a common set of psychophysiological changes underlie a variety of ASC induction techniques. The differences which do exist among practitioners with respect to ASC illustrate a polarity between the deliberately induced ASC and those apparently resulting from psychophysiological predispositions towards entering ASC. The relationship of ASC type labeling (e.g., soul journey/flight, possession) to variables indicative of temporal lobe discharges and variables assessing

social conditions indicates that possession ASC are significantly associated with both symptoms of temporal lobe discharge and with the presence of political integration beyond the local community. The different types of ASC induction procedures are also assessed with respect to societal conditions. Assessment of evolutionary model of ASC induction procedures implicates political integration as the primary factor responsible for change.

9.1 A PSYCHOPHYSIOLOGICAL MODEL OF ASC

Ludwig (1966) pointed out that a variety of ASC have features in common, listing alternations 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, and hypersuggestibility. Although there clearly are psychological and physiological differences associated with different agents and techniques for entering an ASC (e.g., EEG differences between meditation and hypnosis [Kasamatsu and Hirai 1966]), there is evidence that a wide variety of these ASC share basic characteristics.

Lex (1979) suggested that ritual-induced altered states of consciousness have common physiological features in that they result in: (1) right hemisphere dominance; (2) cortical synchronization in both hemispheres; and (3) a dominant trophotropic (parasympathetic) state. A wide range of ASC induction procedures apparently result in a trophotropic pattern characterized by parasympathetic discharges, relaxed skeletal muscles, and synchronized cortical rhythms, creating a state more typical of right hemisphere dominance. Davidson (1976) also suggested that the common physiological mechanism underlying a variety of altered states of consciousness involve extensive ergotropic (sympathetic) activation leading to trophotropic (parasympathetic) collapse.

Mandell (1980) provided a more specific physiological mechanism for explaining the regularities observed by the previous investigators. He reviewed a large number of experimental and clinical studies which he argued indicate that a wide range of "transcendent states" are based in a common underlying neurobiochemical pathway involving a biogenic amine-temporal lobe interaction. This is manifested in high voltage slow wave

EEG activity which originates in the hippocampal-septal area and imposes a synchronous slow wave pattern on the frontal lobes. A number of agents and procedures invoke this pattern, including: hallucinogens, amphetamines, cocaine, marijuana, polypeptide opiates, long distance running, hunger, thirst, sleep loss, auditory stimuli such as drumming and chanting, sensory deprivation, dream states and meditation. Mandell suggested that there are two bases for temporal lobe hypersynchronous activities, the hippocampal-septal system and the amygdala. Spontaneous discharges originating in the hippocampal-septal system are referred to as interictal attacks. Spontaneous synchronous discharges originating in the amygdala are more common, and are generally labeled as temporal lobe epilepsy (see 9.3), or mistakenly schizophrenia (Mandell 1980).

The hippocampal-septal region, which is central to the focus of brain activity in ASC, is part of the phylogenetically older part of the brain. It includes terminal projections from the somatic and autonomic nervous systems, forming part of an extensive system of innervation connecting areas of the brain, in particular linking the frontal cortex with the limbic system. This area is central to basic drives, including hunger and thirst, sex, anger, and the fight/flight response; it includes the pleasure centers and is the area which Papez (1937) correctly hypothesized to be the center of emotions. The hypothalamus has direct control over the pituitary, which releases a wide range of neural transmitter substances, including those similar to hallucinogens and opiates. It also releases substances which act upon the reticular activating system and regulate the sleeping and waking cycles.

The hypothalamus is considered to be the control center of the autonomic nervous system, regulating the balance between the sympathetic and parasympathetic divisions of the autonomic nervous system, which regulate body functions in an interactive balance of activation and deactivation, respectively. The sympathetic nervous system is the activating system, responsible for the stimulation of the adrenal medulla and the release of hormones. Activation of the sympathetic nervous system results in diffuse cortical excitation, desynchronization of the EEG, and increased skeletal tone. Activation of the parasympathetic system leads to decreased cortical excitation and an increase in hemispheric synchronization. The parasympathetic nervous system is evoked by a number of chemical, hormonal, temperature, and other influences, including direct stimulation in the 3-8 cycle per second range. Relaxed states also lead to an increase in parasympathetic dominance; closing one's eyes leads to an in-

crease in synchronous alpha patterns in the EEG, while anxiety, arousal, mental effort, and sensory stimulation cause alpha to be replaced by desynchronized and mixed waves (Gellhorn and Kiely 1972). Parasympathetic dominant states normally occur only during sleep, but ASC frequently involve phases with a parasympathetic dominant state as evidenced in collapse and unconsciousness.

In normal states of balance within the autonomic nervous system, increased activity in one division is balanced by a response in the other. However, under intense stimulation of the sympathetic system, reciprocity breaks down and a collapse of the system into a state of parasympathetic dominance occurs. Sargent (1974) noted this pattern of parasympathetic rebound or collapse can lead to erasure of previously conditioned responses, changes of beliefs, loss of memory, and increased suggestibility. Gellhorn (1969) reported that a wide variety of conditions such as those reviewed below will evoke this collapse.

Although these ASC are characterized by the dominance of activity from evolutionarily earlier parts of the brain, these states of consciousness are not primitive. The hippocampal formation is an association area (MacLean 1949); it and associated structures are central to memory acquisition, storage, and recall. Mandell reviewed research which indicates that the hippocampal slow wave states are an optimal level of brain activity for energy, orienting, learning, memory, and attention. However, insofar as altered states of consciousness are associated with the right hemisphere and non-frontal parts of the brain, these states are in a way diametrically opposed to the ordinary state of awareness dominated by left hemisphere and the logical, rational verbal modes of experience and central nervous system activation of the skeletal muscle system.

As McConnell (1983) suggested, the functions of the left hemisphere and right hemisphere have striking parallels with Freud's conception of the conscious and unconscious, respectively; this links ASC to unconscious mental functioning, consistent with the tendency of ASC to involve parasympathetic dominance and a terminal state of central nervous system relaxation. ASC affect the brain/mind interface, permitting conscious control and regulation of what are typically unconscious organic bodily processes and conscious-unconscious integration through activation of unconscious material as well as reprogramming at these unconscious non-verbal levels (Budzynski (1986). The ability of a wide variety of procedures and agents to induce such changes are reviewed next.

9.2 PHYSIOLOGICAL ASPECTS OF ASC INDUCTION PROCEDURES

Review of research on the psychophysiological effects of different techniques and procedures frequently used for ASC induction in magico-religious practices substantiates that a common set of psychophysiological changes in brain functioning occur as a result of diverse techniques. These changes share the characteristics of leading to a state of parasympathetic dominance in which the frontal cortex is dominated by slow wave patterns originating in the lower centers of the brain.

Auditory Driving. The use of rhythmic percussion from drums, rattles, clappers, clapping hands, or other instruments is a central part of many magico-religious activities. In fact, the drum had been considered by some (Siikala 1978) to be a central aspect of Siberian shamanism. The widespread use of such percussive techniques reflects the direct effects that it has upon the brain on consciousness. Rhythmic auditory stimulation imposes a pattern upon the brain which is distinct from the normal asynchronous pattern (see Neher 1961, 1962 for reviews). This is referred to as "driving", since the stimulus imposes a pattern on the listeners' brain waves which can be measured with the electroencephalogram (EEG). Neher (1962) reviewed research indicating that driving creates visual sensations of color, pattern, and movement, as well as organized hallucinations, seizures, and general emotional and abstract experiences. Rogers (1976) found that chanting and music create a similar pattern characterized by widespread EEG coordination, producing a high index of common activity in theta and low alpha among the experienced chanters, and dominance in the alpha band for naive listeners. Vogel, Broverman, Klaiber and Kun (1969) found two patterns of response to photic driving: (1) driving at the frequency of stimulation, and (2) driving at alpha regardless of the frequency of stimulation. These findings suggest that the cortex is easily set into oscillation at the alpha frequency, and that a wide variety of percussion procedures produce or enhance this state of dominance of slow wave frequencies.

Fasting and Nutritional Deficits. Fasting induces in the body a hypoglycemic state which can cause seizures (Leukel 1972), and increases susceptibility to driving influences upon the EEG (Strauss, Ostow and Greenstein 1952). Food and water deprivation have a direct effect upon the pituitary and adrenal glands, which directly effect the hypothalamus and hippocampal-septal systems. Nutritional deficiencies can also contribute to the induction of ASC. Wallace (1961) discussed research and studies linking calcium deficiency to tetany, which is

characterized by emotional and cognitive disorganization and neurological symptoms ranging from muscular spasms to major convulsions and seizures. Kehoe and Giletti (1981) extend Wallace's calcium deficiency hypothesis, arguing that nutritional deficiencies lead to physiological imbalances which predispose individuals to ASC. They note that studies of dietary deficiencies indicate the presence of behavioral symptoms (e.g., tremors) similar to those noted in possession ASC, and that the predominance of women in possession ASC cults corresponds to areas in which women are restricted from adequate nutrition by cultural rules. Although dietary deficiencies cannot explain the incidence of possession ASC (see Bourguignon, Bellisari and McCabe 1983), it seems clear that both fasting and dietary deficiencies can contribute to changes in the central nervous system which facilitate the induction of ASC. Gussler (1973) reviewed a range of dietary and malnutrition factors which result in emotional disturbances, changes in cognitive and emotional functioning, and in some cases, production of symptoms culturally interpreted as possession.

Social Isolation and Sensory Deprivation. Sensory deprivation research clearly indicates that the lack of environmental stimulation leads to hallucinatory experience (see Zubec 1969 and Keup 1970). Gellhorn and Kiely (1972) reviewed research illustrating that sensory deprivation leads to a decrease in performance on intellectual tasks (e.g., left hemisphere skills) and a slowing of the alpha band with the emergence of delta waves. Gellhorn (1969) reviewed research indicating that a reduction or elimination of proprioceptive discharges or an increase in muscular relaxation leads to a parasympathetic dominant state with an increase in cortical synchronization. Social isolation and reduction of motor behavior likely lead to an increase in cortical synchronization and a greater sensitivity to parasympathetic stimulation. Mandell (1980) reviewed research indicating that reduction of sensory stimuli can lead to a loss of serotonin inhibition similar to the interference of hallucinogens in the serotonin synthesis and release (see below).

Meditation. Meditation has a direct effects upon brain psychophysiology (Wallace and Benson 1972). Gellhorn and Kiely (1972) point out that the overall effect is a shift towards parasympathetic dominance. However, the psychophysiological concomitants of meditative states are to some extent subject to the intents of the practitioner, since meditators from different disciplines provide quite different psychophysiological responses to stimuli while in the meditative states (e.g., see Kasamatsu and Hirai 1966; Anand, China and Singh 1961). However, in

spite of some differences, there are fundamental similarities in many respects (see also Walsh 1979, 1980, 1983). In general, the EEG shows an overall decrease in the frequency of the brain wave pattern to alpha and theta ranges, and an increase in alpha and theta amplitude and regularity in the frontal and central regions of the brain (Wallace and Benson 1972, Davidson 1976). Davidson (1976) reviewed studies revealing a wide range of changes in psychophysiology resulting from meditative states are also produced by relaxation or sleep (see also Schuman 1980).

Sleep and Dream States. Sleep is not only the basic pattern of shift to parasympathetic dominance, but shares basic characteristics with other procedures well recognized as ASC. Gellhorn and Kiely (1972;403) pointed out that there is a "remarkable parallel between the state of yoga ecstasy and that of REM sleeping and dreaming" in terms of cortical and visceral arousal, inhibition of skeletal muscle tone, loss of distinctiveness in sense of time, vivid perceptual imagery, and parasympathetic (trophotropic) dominance. Mandell (1980) cited research indicating that REM sleep evokes a pattern very similar to hallucinogens, evoking not only visual imagery, but the pattern of hippocampal-septal slow waves without amygdala spiking.

Sexual Abstinence. It appears that sexual restrictions associated with ASC traditions may facilitate ASC induction. Vogel, Boverman, Klaiber and Kobayashi (1974) reported research indicating that testosterone and estrogen reduce EEG response to driving stimuli, suggesting that abstinence from sexual activity may be designed to reduce testosterone production and its effect upon driving response. Davidson (1980) pointed out that sexual activity culminating in orgasm and ejaculation generally results in a collapse of the skeletal musculature and creates a state characterized by extreme parasympathetic dominance. Prohibitions on sexual activity may be designed to prevent such a collapse before the appropriate ritual period or until a sufficient tension is achieved in the sympathetic system.

Extensive Motor Behavior. Extensive motor behavior such as dancing results in hyperventilation and oxygen depletion; this coupled with hypoglycemia causes the appearance of slow wave activity (2-3 cps) and hallucinatory experience (Prince 1968), as do other forms of exertion, fatigue, and other stressors (Strauss et al. 1952). Antelman and Caggiula (1980) pointed out that prolonged periods of stereotypy (repetition of an invariant pattern of movements without an observable goal) may produce an increased rhythmicity and a general slowing of the EEG pattern. This suggests that extensive

dancing and percussion behavior produces a slow wave parasympathetic dominant state, especially when resulting in collapse.

Endogenous Opiates. Research on the effects of opiates indicates that they share effects similar to these other ASC induction procedures, and a wide range of procedures evoke the production and release of endogenous opiates. Fink (1978) reported that opiates (and marijuana) result in a rapid increase in delta/theta activities and a reduction of fast wave frequencies. Opiates directly effect the hypothalamus, producing slow wave activity (Henricksen, Bloom, Ling and Guillemin 1977). Prince (1982a) reviews experimental findings which suggest that a number of typical shamanic ASC induction procedures result in the release of endogenous opiates or endorphins. Endorphin levels are highest at night (Henry 1982), a typical time for many shamanic activities. Endorphin levels increase as a result of activities such as long distance running, stimulation of sensory endings associated with muscles and joints, and presumably in cases of extreme physical trauma and prolonged periods of high levels of stress (see Henry 1982, Pomeranz 1982; Gambert, Hagen, Garthwaithe, Duthie and McCarty 1981; Madden, Akil, Patrick, and Barchas 1977). The extensive stimulation of the nerve endings which results from dancing likely leads to the production of endorphins. Austerities such as flagellation, self inflicted wounds, exposure to temperature extremes, and feats of endurance should result in the release of endogenous opiates, and increase susceptibility to driving influences from other induction procedures, and contribute to the activation of the hypothalamic area, which receives projections from the pain receptors.

Hallucinogens. A wide range of substances induce hallucinatory experience and a slow wave parasympathetic dominant state. The active ingredients in many of these substances are closely related in chemical structure to neural transmitters and interfere with their normal functioning (see Hoffmeister and Stille 1982). The major common hallucinogens (e.g., mescaline, peyote, psilocybin mushrooms, morning glory seeds, LSD) are characterized by the presence of phenylalkylamine and indole alkaloids which are similar in chemical structure to the neural transmitter serotonin. These hallucinogens induce changes in the neurotransmitter systems such that serotonin uptake is blocked, resulting in a loss of the inhibitory effect upon the mesolimbic temporal lobe structures. This disinhibition of the temporal lobes leads to synchronous electrical discharges in the temporal lobe limbic structures (Mandell 1980). Through intervention in the serotonin mechanism, hallucinogens inhibit the

raphe cells' regulation of the visual centers of the visual cortex, leading to hyperactivity of the visual regions.

Although hallucinogens differ in chemical structure and their mode of action upon the brain and the endogenous transmitter substances, they share some common effects (Aghajanian 1982). One is the production of high voltage synchronous activity in the hippocampus, which may be maintained for days or weeks after ingestion (Mandell 1980). Hallucinogens have an overall effect of synchronization of the cortex (Fairchild, Alles, Jenden and Mickey 1967), and although they cause both sympathetic and parasympathetic excitation (Gellhorn 1969), they generally lead to a state of parasympathetic dominance. It is likely that all hallucinogens, known as such for their effects in producing the vision experience, have similar physiological effects in producing a state of hippocampal-septal slow wave dominance, although they may act through different chemical mechanisms. For instance, tobacco, a member of the Solanaceae family is pharmacologically related to the belladonna alkaloids (Grinspoon and Bakalar 1979), and experientially has hallucinogenic properties (Janiger and de Rios 1973). Belladonna and datura are classified as anticholinergic substances; however, they, like many other substances including anesthetics, can cause hallucinatory experiences, stupor and changes in hippocampal-septal activity similar to the indole compounds (Mandell 1980).

Alcohol. Although alcohol seems to produce a different type of ASC than the above mentioned procedures, it also induces a slowing of the brain wave pattern and a state of parasympathetic dominance. Okamoto (1978) reviewed studies indicating that the most consistent effect of alcohol upon the EEG is a slowing of the alpha frequencies. The appearance of slow wave spindles of theta and delta has been interpreted as a reflection of ethanol action upon the amygdala and hippocampus. Chrusciel (1982) noted that the general effect of alcohol is an improvement in the synchronization of the cortical discharges, a decrease in beta EEG, and an increase in the alpha and theta waves. The effects of alcohol are mediated at least in part by an action on central opiate (endorphin) receptors (Chrusciel 1982); alcohol may be transformed into or cause the generation of endogenous morphine like alkaloids (see also Davis and Walsh 1970).

9.3 TEMPORAL LOBE SYNDROMES AND ASC

The idea that magico-religious ASC are associated with pathological states has been frequently considered in the anthropological literature (e.g., see Ackerknecht 1943, Silverman 1967, Noll 1983). As Ackerknecht,

Noll, and others pointed out, there is abundant evidence to substantiate the point that shamans are not pathological from their own culture's point of view. Noll (1983) reviewed the literature on the relationship of shamanic states and schizophrenia in the context of shamanic states as "discrete states of consciousness" (Tart 1975) and clearly demonstrated in a detailed argument based upon descriptive clinical diagnostic criteria that shamanic activities and states of consciousness cannot be considered schizophrenic. This argument serves to reject most other pathological attributions as well.

However, several anthropologists have recognized the presence of symptomology readily labeled as reflecting some nervous system lability in the magico-religious practitioners, while at the same time explicitly rejecting a pathological interpretation of the condition. Noll suggests that the shamanic training involves a form of self healing, a regenerative process similar to several modern psychotherapeutic procedures. Ackerknecht (1943), whose article directly addressed the culturally defined nature of normality, suggested that the Chukchee shaman's calling involved a kind of mental disease during the preparatory period. Siikala (1978) also made the point that this nervous condition is thought to be central to the shamans ability to enter ecstatic states. Hultkrantz (1978) suggested that shamans are likely to be characterized by hysteroid or hysterical traits, and links the presence of tremors and convulsions during the ASC to the presence of a hereditarily transmitted labile nervous constitution. However, he argued that these traits are not evidence of mental disorder, pointing to studies indicating that the shamans have been frequently found to be among the best adjusted in their community.

Mandell illustrated that the physiological changes which result from certain kinds of central nervous system dysinhibitions associated with epilepsy involve the same basic psychophysiological changes as the ASC. This places in new light considerations of the relationship of ASC to psychopathological conditions, providing a basis to argue that the association between them lies in the increased facility for entering ASC which the psychophysiological conditions provide (cf. Locke and Kelly 1985).

Epilepsy is a term used to refer to a wide variety of symptoms and disorders associated with dysinhibition or electrical discharge pattern of any of the lobes of the cortex, most frequently the temporal lobe, it is generally considered to be a symptom of disorder rather than a disease in itself. Epileptic conditions share symptoms of excessive discharges characterized by the dominance of a slow wave pattern in the EEG with the presence of

spiking. Epileptic manifestations range from the "generalized seizures" involving both hemispheres and resulting in convulsions and loss of consciousness (e.g., grand mal seizures) through intermediate forms to the "partial seizures", generally involving only one hemisphere and not resulting in impairment of consciousness. Some temporal lobe seizures consist primarily of subjective experiences such as visual, auditory, tactile, or olfactory hallucinations, a consequence of the projection of diverse sensory systems to the temporal lobe, as well as a distorted sense of time, or feelings of intense emotion such as a fear or ecstasy (Adams and Victor 1977). These episodes are occasionally followed by decrease in awareness, motor automatisms, agitation, amnesia, and a need to sleep. Neppe's research (1981, 1983) links these temporal lobe phenomena to *deja vu* and subjective paranormal experiences.

Epilepsy may result from genetic factors or be acquired as a result of injury or disease. According to Glaser (1973), the genetically based epileptic syndromes occur early in life, with peaks at the age of two years and at puberty. Forster and Booker (1975) found a high incidence of seizures in certain diseases, and note that they are easily produced by electrical or chemical means. Epilepsy may be acquired as a result of hypoxia at birth, fevers in infancy associated with a wide range of diseases or injuries, metabolic imbalances such as hypocalcemia and hypoglycemia, endocrine disorders and many other diseases and central nervous system traumas (see Forster and Booker 1975, Adams and Victor 1977). The importance of epilepsy episodes and similar illness or other trauma lies in predisposing one to ASC. The seizure episode involves a "kindling", or a long lasting or permanently reduced threshold for neural excitability as a result of previous excitation (Mandell 1980). Once the convulsions or other major excitation has occurred there is a change in central nervous system "tuning" which makes the individual more susceptible to re-establishment of the central nervous system conditions (Gellhorn 1969).

Although there seems to be a general agreement that there is a link between temporal lobe syndromes and personality changes, there has been a problem in determining the degree to which changes in behavior and personality manifested in non-seizure periods are a result of the epileptic seizure (or its causes) as opposed to other factors, for example the long term consequences of the social and personal responses to the individual suffering the attack (e.g., mental institutionalization). Although the earlier studies of an epileptic personality were confounded by uncontrolled physical and social factors, later studies showed a consistent personality change associ-

ated with the temporal lobe syndrome. A number of neuroscientists suggested that the temporal lobe syndrome is associated with a distinct personality and behavioral syndrome characterized by emotional deepening, preoccupation with philosophical and religious interests, hyposexuality, hypergraphia (automatic writing), and an increased need for social affiliation (see Bear and Fedio 1977; Bear 1979a, 1979b; Bear, Schenk and Benson 1981; Schenk and Bear 1981; Bear, Levin, Blumer, Chetham and Ryder 1982; Geschwind 1979; Geschwind, Shader, Bear, North, Levin and Chetam 1980; Sachdev and Waxman 1981). Waxman and Geschwind (1974) argue that temporal lobe epilepsy results in direct and specific changes in the personality such as aggressiveness, changes in sexual behavior, and increased religiosity. These changes indicate a distinct behavioral syndrome involving a deepening of affective response with the preservation of intellectual function.

The relation of epileptic syndromes to deliberately induced ASC is illustrated in the report of Subrahmanyam (1972) and the subsequent research of Mani (Mani, Gopalakrishnan, Vyas and Pillai 1968; Mani, Mani, Ramesh and Ahuja 1972) on the hot water bath used in India as part of magico-religious ritual. Hot water, or hot water alternated with cold water, is poured over the individual's head at a rapid rate, resulting in a variety of temporal lobe symptoms, including generalized seizures. These episodes were reproduced under laboratory conditions in a substantial proportion (50%) of a group of patients who had a history of attacks precipitated by hot water baths, but who were without neurological disorder or mental retardation. Most of those with the experimentally induced seizures had EEG evidence of temporal lobe seizures. These findings suggest that other techniques such as sweat baths and exposures to temperature extremes would evoke similar synchronous discharges from the temporal lobe.

Summary. A wide variety of procedures used to induce ASC are shown to cause or contribute to the induction of a common set of psychophysiological changes involving discharges from the hippocampal-septal area, resulting in the induction of a slow wave synchronization of the frontal cortex and a parasympathetic dominant state. This model is extended to include the states precipitated by temporal lobe discharges, which are hypothesized to predispose induction of similar alterations of consciousness. The assumption of a basic similarity of ASC induced through a wide variety of techniques or resulting from predispositions caused by central nervous system conditions is consistent with the perspective taken by many anthropologists who assume a fundamen-

tal similarity among a range of ASC (e.g., Lex 1979, Siikala 1978, Peters and Price-Williams 1980, Heinze 1983). Although the ethnographic and phenomenological evidence strongly suggests the presence of temporal lobe discharges in some ASC activities of some magico-religious practitioners, it is clear that such symptoms can be faked or deliberately induced. Psychophysiological research on ASC practitioners is virtually nonexistent; however, the only study known to the author which has assessed these factors does indicate that some ASC practitioners do have evidence of epilepsy (see Jilek-aall 1965). While this hypothesis would be ideally tested with field studies of ASC practitioners who are monitored for EEG patterns and changes, this is not the only evidence. Analysis of internal evidence from the data collected here substantiates these associations.

9.4 ASC DATA ANALYSIS

Data from the ASC induction procedures and characteristics associated with training for magico-religious practitioners¹ was used to assess these theories about ASC. All societies in the sample have practices or practitioners involving ASC induction procedures or temporal lobe characteristics associated with role training, indicating that the presence of ASC in training for magico-religious practitioners is universal. The data used here was collected prior to the formulation of the hypotheses assessed here. The model of a single type of ASC outlined above was assessed by analysis of the similarities among magico-religious practitioners with respect to the following ASC induction procedures and characteristics:

ASC Induction Procedures and Characteristics

ALCOHOL- consumption of alcohol as part of training activities.

SEXUAL ABSTINENCE- explicit mention of sexual abstinence for twenty four hours or more, or long periods of isolation which make abstinence seem likely.

SOCIAL ISOLATION- elimination or radical reduction of normal social relationships and contact

SLEEP- deliberately induced periods during training procedures

SLEEP DEPRIVATION- avoidance of sleep for at least twenty four hours or more by end of training session.

AMNESIA- no memory for events transpiring during ceremony.

SPONTANEOUS ILLNESS- critical on-set of phenomena inducing ASC or leading to training (e.g., seizures,

possession, spontaneous dreams, etc.) initially occur outside of ritual context of training.

PSYCHOTROPICS- use of hallucinogens, opiates, stimulants, narcotics, tobacco and other substances with vision producing properties.

AUSTERITIES- exposure to temperature extremes (hot or cold), physical lacerations or other activities thought to cause extreme pain or trauma.

FOOD RESTRICTIONS- general reduction of food intake or complete fasts.

EXCESSIVE MOTOR BEHAVIOR- excessive body movements, including dancing, drumming, or other extensive motor behavior, including Compulsive Motor Behavior (below).

AUDITORY DRIVING- chanting, singing, or percussion engaged in by practitioner or others present.

TREMORS/CONVULSIONS- shaking, trembling, shivering, contorted limb movement, spasms, fits, etc.

COLLAPSE/UNCONSCIOUS- skeletal musculature enters state of extreme relaxation such as in meditation, or person enters state of immobility during which period there is no verbal or behavioral communication.

COMPULSIVE MOTOR BEHAVIOR- extensive motor behavior that appears to be beyond the direct control of the practitioner, including uncontrolled flailing of limbs, compulsive running about, stereotypy, or other excessive motor behaviors apparently not under control.

I predicted on the basis of the model of ASC presented above that these variables represent different means of inducing or arriving at a common set of changes in the brain psychophysiology and consciousness. Whether or not there are distinct types of ASC was assessed by comparison of two representations of the data, one which provides a continuous representation of the data (multidimensional scaling (MDS)) and one which provides a division of the data into discrete types (cluster analysis). If there is a single type of ASC the continuous representation should be more accurate than the discrete representation; since these different ASC induction procedures are functionally equivalent with respect to ASC induction, their use should be interchangeable and there will not be discrete differences in their use.

The different representations (MDS, cluster analysis) of similarity among practitioners with respect to ASC conditions were compared;² the two dimensional MDS was significantly better than cluster analysis. Since the MDS solution was significantly better than cluster analysis solution in representing the data, this indicates that differences in ASC induction procedures and characteristics are best seen as continuous gradations rather than discrete separations, confirming the hypothesis.

In order to determine the principal structure of the ASC data, the two dimensional MDS representation of practitioners' ASC induction procedures and characteristics was analyzed with the Profit program of the MDS(X) series (Chang and Carrol 1968; see Methodological Appendix 2.6). The Profit program takes the coordinate points from the MDS representation of the entities and a set of vectors representing the variables above, and projects the variable vectors onto the coordinate space, allowing for an identification of the major dimensions of the representation of the practitioners. Figure 9.1 provides the projections of the ASC variables and some other variables of interest, along with their measures of association. The variables shown are those which had strong correlations with the coordinate space ($\rho = .70$, accounting for approximately 50% of the variance). Variables representing selection through Spontaneous Illness, Compulsive Motor Behavior, Tremors/Convulsions, and Extensive Motor Behavior are projected together on the left half of the representation, along with a variable measuring Possession. The right quadrant has the projections of the variables assessing Fasting, Sleep Deprivation, Austerities, Social Isolation, and Sexual Abstinence. Neither of these groups of variables aligns closely with the major axes in this orientation (which is arbitrary), but do closely align with the axes in the first and third dimensional representations, indicating that the opposition between the two groups of characteristics is central to the distinctions along the first dimension. The only variable which aligns closely with the axis in the second dimension is the Composite ASC Induction measure, derived from a summation of the number of the ASC induction characteristics present for the practitioner. This Composite ASC Induction variable not only aligns closely with the second axis, but it has a very strong correlation ($\rho = .82$), indicating that the differences in the practitioners with respect to the second dimension is primarily with respect to the extent of incidence of ASC induction procedures and characteristics.

Types of ASC. Although these analyses have been used to argue that there is a single type of ASC occurring in the training of magico-religious practitioners, this does not preclude other differences between the ASC. Entailment analysis (see Methodological Appendix 2.7) indicated that not all types of induction procedures and conditions co-occur; that is, although the data are best represented as continuous, there are distinct patterns. Entailment analysis determines which variables co-occur, or have implicative relationships (see White, Burton and Brunder 1977 for discussion and application to cross-cultural study of sexual division of labor). Entailment

analysis indicates that if one variable is present, another is necessarily present (logical entailment), or present with minimal exceptions (material entailment). The ASC induction procedure and characteristics variables listed above were used, with the ordinal variables recoded present/absent. Variables assessing ASC labels of Soul Flight and Possession were also included. Figure 9.2 provides the entailogram; arrows indicate entailment relationships (If A then B), while broken lines indicate exclusion relationships (If A then not B and vice-versa). There are three main entailment chains present, all of which have exclusion relationships with the others (not shown in the diagram).

The first entailment chain indicates that if Sleep Deprivation is present, Austerities, Auditory Driving, Fasting, and Social Isolation are also present. Sleep Deprivation has exclusion relationships with Sleep States and Possession ASC.

The second entailment chain indicates that if Sleep States are present, the practitioner is Unconscious (by definition) and the ASC is interpreted as a Soul Flight. The Sleep States-Soul Flight implicative chain has an exclusion relationship with the Possession variable, but also implicates Excessive Motor Behavior (e.g., dancing).

The third entailment chain indicates that if Amnesia is present, Possession, Convulsions, and Spontaneous Onset of symptoms are also present, as is the variable Excessive Motor Behavior. The association of Amnesia, Possession, Convulsions, and Spontaneous Onset in the third chain and its exclusion with the other two chains indicates the temporal lobe variables form a distinct configuration. The empirical association of these varied symptoms supports the contention that the conditions associated with various temporal lobe discharges contribute to predispositions to ASC of some practitioners, and mitigates against the hypothesis that the temporal lobe symptoms are faked or imitated.

The three entailment chains correspond to three major types of ASC traditions. The first chain, with Sleep Deprivation, Austerities, Fasting, Social Isolation, and Auditory Driving, represents a yogic or meditative tradition. The entailment of Sleep, Unconsciousness, Soul Flight, and Excessive Motor Behavior (e.g., dancing) corresponds to the shamanic tradition. The Amnesia, Convulsions, Possession, and Spontaneous Onset correspond to a mediumistic or possession ASC tradition.

9.5 POSSESSION ASC AND TEMPORAL LOBE CONDITIONS

Bourguignon's work (1968, 1976a, 1976b) focused upon the different labels applied to ASC, in particular distinguishing possession trance (or ASC)³ and its incidence from other types of spirit relationships established during ASC. Possession trances involve "alterations or discontinuity in consciousness, awareness or personality or other aspects of psychological functioning" which are accounted for by possession, defined as a belief that a "person is changed in some way through the presence in or on him of a spirit entity or power, other than his own personality, soul [or] self" (1976a:8). Bourguignon has also defined possession trances in what can be characterized as a stronger sense as cases "in which the altered state is explained as due to a take over (possession) of the body by a spirit entity" (Bourguignon and Evascu 1977:198). In Bourguignon's research, ASC not explained by reference to possession beliefs were grouped together as non-possession ASC; here "the predominant explanation concerns soul absence, and ... is frequently linked to types of hallucinations or visions" (1977:198). Bourguignon's distinction of non-possession trance encompasses (but is not exhausted by) the ASC or ecstatic states referred to as soul flight. Soul flight (or soul journey) can be defined as a ASC in which some aspect of the experient—soul, spirit, or perceptual capacities—is thought to travel to or be projected to another place, generally a spirit world.

A number of recent works (e.g., Peters and Price-Williams 1980, Siikala 1978, Heinze 1983) have subordinated the differences between possession and soul flight to their commonality as ASC. Their point is well taken, especially in light of the model of a single type of ASC developed here. However, there appear to be good grounds for distinguishing the ASC characterized as soul flight from those labeled possession.

One of the arguments of Peters and Price-Williams (1980) for abandoning the classical distinction between shamanic flight and spirit possession is that the relationship of these distinctions to non-amnesic and amnesic states respectively, which presumably justified the distinction, is less than precise. They stated that memory does occur in some situations of possession, but they ignored the strong relationships found in the data that they presented (pp. 414-418) but did not analyze. My analysis of their data indicates that amnesia does not occur in circumstances labeled as involving soul flight. All of the cases of amnesia are associated with the ASC labeled possession and there is a significant association between possession and amnesia ($\text{Tau} = .43, p < .001$).

The fact that amnesia is associated with epilepsy,

coupled with the data of Peters and Price-Williams and the model developed above on the relationship of temporal lobe discharges to ASC, suggests that the differences in possession ASC and other ASC may be related to these psychophysiological conditions. This lead to the formulation of the hypothesis that possession ASC are associated with variables indicating temporal lobe discharges.

The data collected in this study are on slightly different variables than those used by Bourguignon and by Peters and Price Williams. Here the ASC associated with magico-religious practices were not always labeled as involving soul flight or possession, nor were those ASC which involved a manifestation of spirit personality via the practitioner always considered to be possession states. Examination of materials in different cultures indicated that there may be degrees of presumed relationships between practitioners and spirit entities during ASC. The variable differentiating among the different labeling of ASC types made the following distinctions:

ASC Type Variable

- (1) Soul Flight as defined above, or Vision Quest, involving active seeking of ASC with visions, but no possession or practitioner/spirit dialogue as defined below.
- (2) ASC without Soul Flight, Vision Quest, Possession, or Practitioner/Spirit Dialogue
- (3) Both Soul Flight or Vision Quest and Possession or Practitioner/Spirit Dialogue
- (4) Possession or Practitioner/Spirit Dialogue but no Soul Flight or Vision Quest

Possession is defined consistent with Bourguignon's usage. I did not rely upon the ethnographers' uses of the term since many have used the term possession to mean ASC, and not meaning the displacement of the personality of the practitioner. Possession (or Possession Trance in Bourguignon's usage) is defined here as a ASC interpreted by members of the culture as a condition during which the practitioner's own personality is temporarily displaced by the personality of another entity. A crucial indicator of possession was the presentation of a spirit personality without the manifestation of the normal personality of the practitioner. If presentation of spirit personalities had an interaction with a voice manifestation identified as the practitioner's normal personality, this was coded as practitioner/spirit dialogue, not possession.

The relationship of the ASC Type variable with Amnesia, Tremors and Convulsions, Role Selection Through Illness, Spontaneous Onset of Symptoms, and Compulsive Motor Behavior was assessed in order to

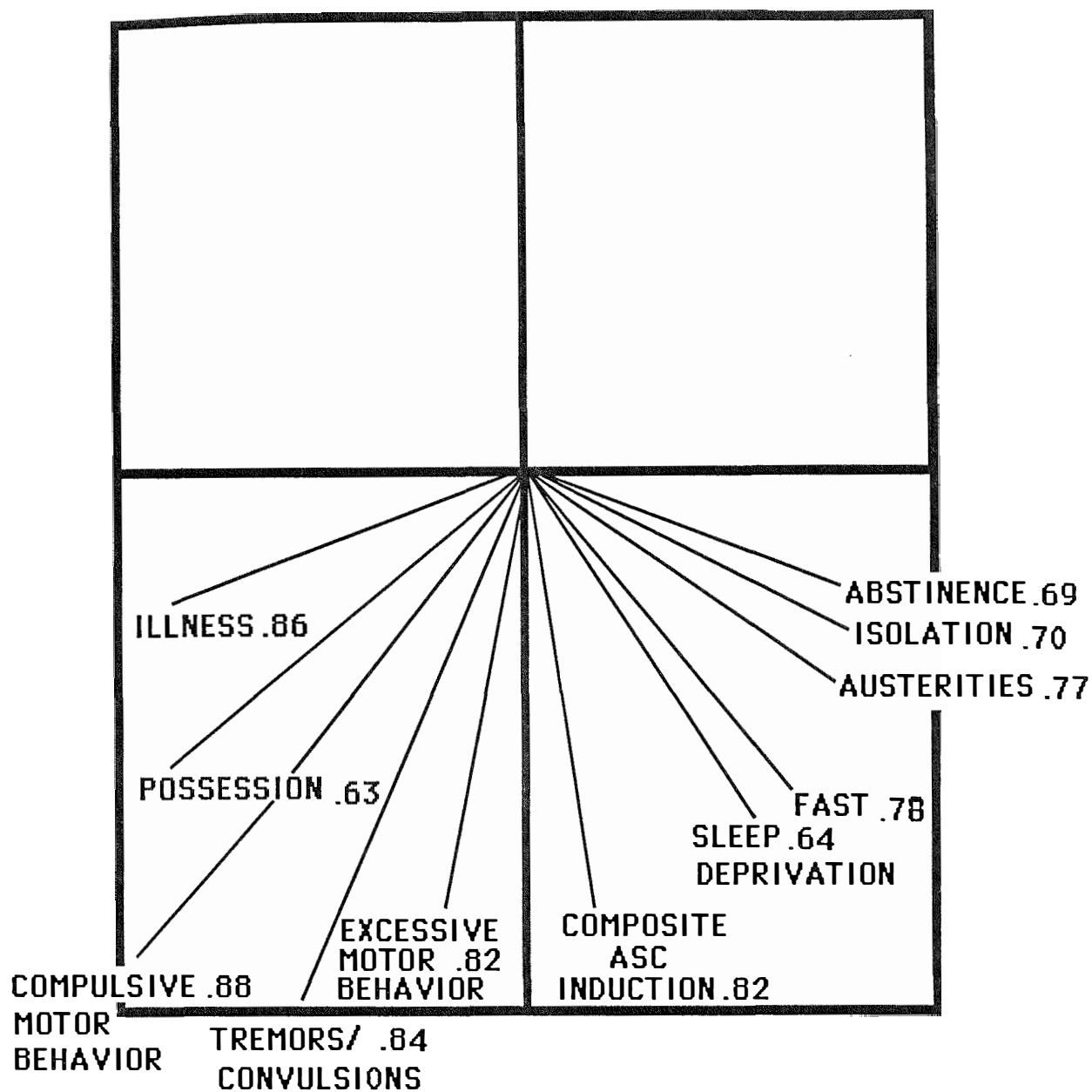


Figure 9.1 MDS of ASC procedures and characteristics.

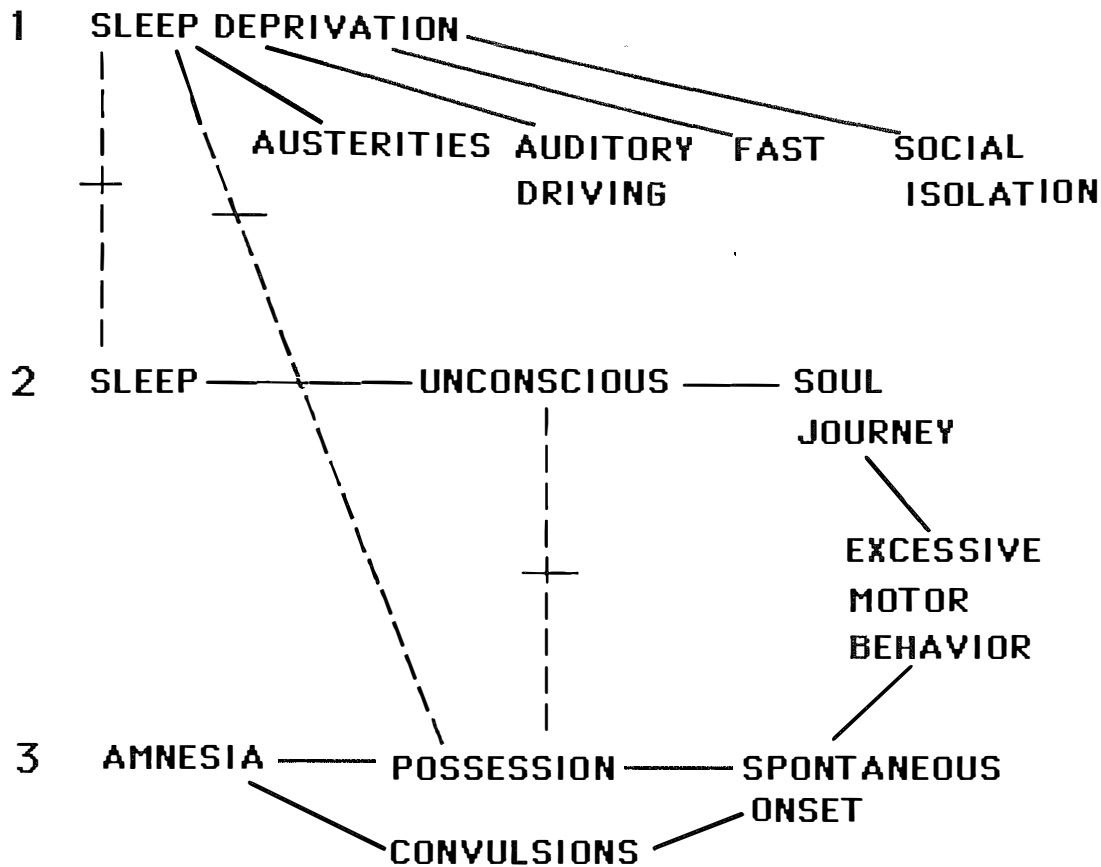


Figure 9.2 Entailment of ASC induction procedures and characteristics.

evaluate the hypothesis that there was a relationship between the temporal lobe syndrome and possession ASC.

Amnesia. Although the incidence of amnesia in this sample is very low, the relationship of amnesia to soul flight and possession is the same found in Peters and Price-Williams (1980) data; amnesia occurs in conjunction with possession, not soul flight ($\text{Tau} = .16$; $p < .005$).

Tremors and Convulsions. The presence of tremors or convulsions during the ASC training activity or the spontaneous experiences which led to selection and training was significantly related to the ASC Type variable ($\text{Tau} = .36$; $p < .0001$), with almost all of the cases with convulsions labeled as involving possession.

Illness. Since illness can lead to epileptic conditions, the variable assessing selection for the magico-religious practitioner role on the basis of illness was correlated with ASC Type. This variable is significantly related to ASC Type ($\text{Tau} = .21$; $p < .04$), with possession more prevalent when practitioners are motivated to seek the status because of, or in order to cure illness.

Spontaneous Onset. Selection for the status involving the spontaneous onset of conditions (e.g., seizures) leading to ASC training is strongly associated with possession ($\text{Tau} = .54$; $p < .0000$), with only one case labeled as possession which is not precipitated by some spontaneous onset of symptoms.

Compulsive Motor Behavior. The Compulsive Motor Behavior variable assessed the presence of excessive agitated motor behavior apparently beyond the control of the practitioner, with excessive and violent movements or uncontrolled running or flailing of the body or limbs that seemed independent of the practitioner's control or intention, or other behaviors labeled as hysterical. Deliberately induced dancing behavior was not considered to constitute Compulsive Motor Behavior. Compulsive Motor Behavior is strongly associated with ASC type ($\text{Tau} = .65$, $p < .0000$); all cases of Compulsive Motor Behavior are associated with practitioners who had possession experiences.

These variables were entered into SPSS ANOVA (Nie et al. 1975) as predictors of ASC Type. Because of

the intercorrelation of the independent variables, option 9 was used. This procedure assesses all factors, covariates and interactions simultaneously, and tests for the additional contribution of each variable beyond the main and interaction effect. This provides an assessment of the predictive value of a variable beyond that which it shares with the other independent variables in the analysis. These variables account for 60% of the variance in ASC Type ($F = 15.3$; 5,62 df; $p < .000$); the Compulsive Motor behavior variable is the only one which is individually significant beyond the main and interaction effects. Variables were systematically eliminated to determine which were the most significant. The Compulsive Motor Behavior variable and the Tremors/Convulsions variable provide the strongest prediction, accounting for 58% of the variance ($F = 17.6$; 2,65 df, $p < .000$). These two variables each have an independently significant contribution to explained variance beyond the main effect; the interaction effect is not significant.

This establishes that variables related to temporal lobe discharges are strongly and significantly related to the labeling of ASC. In particular, Compulsive Motor Behavior and Tremors/Convulsions, both clearly linked to temporal lobe discharges, strongly predict the incidence of possession ASC, confirming the hypothesis that temporal lobe conditions effect the labeling of ASC.

9.6 POSSESSION ASC AND SOCIAL COMPLEXITY VARIABLES

Bourguignon has presented analyses from her cross-cultural study of ASC (Bourguignon and Evascu 1977) which indicate that possession ASC occur in more complex societies. The study reports significant positive relationships of possession ASC to stratification, jurisdictional hierarchy, and variables measuring food production and agriculture, as well as significant evidence of diffusion, using Naroll's (1970) linked-pair test.

Consistent with Bourguignon's work, I hypothesized that the incidence of possession ASC beliefs associated with magico-religious practitioner ASC training would be positively associated with indices of social complexity. Each society in the sample was coded for the presence or absence of a magico-religious practitioner with ASC training labeled as a possession experience. Two possession variables were used. The Possession variable was a binary variable representing the presence of absence of possession in the strong sense (Possession in the ASC Type Variable). The Possession Scale variable was an ordinal variable which introduced the assessment of Practitioner/Spirit Dialogue as an intermediate

value between Possession present and absent. The Possession Scale variable was used in order to allow for the assessment of a weaker form of the possession ASC phenomena.

The Possession and the Possession Scale variables correlate positively with all of the social complexity variables from Murdock and Provost (1973), and significantly with most of them. The strongest correlations are with Political Integration, Population Density, and Social Stratification (Tau = .60, .45, and .35, respectively; all $p < .001$). The correlations of the Possession variable were of a larger magnitude than the correlations with the Possession Scale variable, although no determination was made to see if the differences were significant.

These three social complexity variables were regressed upon the Possession and Possession Scale variables, using the SPSS ANOVA program (Nie et al 1975) with option 9 because of the intercorrelation of the independent variables. Political integration and social stratification were represented as binary variables, assessing the presence of political integration beyond the local community and the presence of classes, respectively; the Population Density variable was used in its original five value form. When all three variables were included, a significant amount of variance in the Possession and Possession scale variables was accounted for (49% and 42%, respectively, $p < .001$). However, only political integration has significant predictive power beyond the main effects and interactions, and only in regression on the Possession variable. Regression of the political integration variable with each of the other two variables separately indicated that only political integration explained variance beyond that predicted by the main and interaction effects.

Bourguignon and Evascu (1977) reported a significant amount of diffusion of possession ASC beliefs. In order to control for the possibility that the relationship between the possession variables and Political Integration were a result of the diffusion of traits, the autocorrelation method developed by Dow, Burton, White and Reitz (1984) was employed (see Methodological Appendix 2.3). The autocorrelation methods measure the similarity among societies with respect to some known measure of relatedness, in this case both language and spatial distance. The residuals from the regression of these measures upon the independent variables provides measures which are free from contamination from diffusion. There are no significant diffusion effects under either model of relatedness ($z = .73$, -1.62 for Possession; $z = 1.54$, -1.13 for Possession Scale), and a very strong correlation with the political integration variable

(Possession $r = .62$; $p < .001$ and Possession Scale $r = .53$; $p < .001$). This indicates that the relationship between political integration and possession beliefs associated with practitioner ASC training is effected by social conditions, and is not a result of diffusion.

In order to assess the relationship of psychological effects and social effects to the Possession ASC variable, both sets of variables were included in analysis of variance. The Motor Behavior and Tremors/Convulsions were combined into a single variable, referred to here as the Temporal Lobe Discharge (TLD) variable. If a society had a practitioner present which had the TLD variable present, the society was coded for the presence of the TLD variable. The Possession and Possession Scale variables were regressed on the TLD and political integration variables, using the SPSS ANOVA program with option 9. Both the political integration and TLD variable account for significant portions of the variance of the possession variables, with the TLD variable accounting for substantially more variance (58% versus 40% and 53% versus 29% for Possession and Possession Scale, respectively). However, each of the variables accounts for significant variance beyond the main and interaction effects, and together account for 75% of the variance in the Possession variable ($F = 41.1$; 3,41df; $p < .000$).

The analyses indicate that both psychophysiological variables related to temporal lobe dysinhibition and social variables related to political integration have a strong predictive value in explaining the incidence of possession ASC. The considerably stronger prediction by the temporal lobe variables suggests that psychophysiological factors are central to the basis which motivate the development of beliefs in possession. The psychophysiological factors are however, significantly correlated with social stratification (Winkelman 1991).

In further analysis of the data on Shamans and Mediums it was determined that there were weakly significant differences (t-test $p < .05$) in the age at which the practitioners first become involved in training. Shamans begin significantly younger, generally in late childhood or by puberty, while Mediums are more likely to begin their involvement in training for the practitioner status in late adolescence or adulthood. Since the Shamans do have involuntary visions and dreams as indications of their selection for their positions, it is suggested that they, like the Mediums, may also have psychophysiological conditions and personality configurations disposing them to ASC experiences. As with those Mediums who apparently control temporal lobe discharges through their involvement in ASC training, the Shamans

may have avoided such conditions by their early ASC based magico-religious training.

Summary. ASC associated with magico-religious practices are based on varied manipulations of the organism, all of which lead to a parasympathetic dominant state characterized by the dominance of the frontal cortex by slow wave discharges emanating from the limbic system. In addition to a wide range of techniques and manipulations which induce this state, conditions related to temporal lobe dysinhibitions also predispose individuals to enter these states. The differences among ASC practitioners with respect to a variety of ASC induction procedures and characteristics supports the model of physiologically similar ASC. Although the differences among the ASC induction procedures and characteristics are continuous, the differences are strongly associated with the differences between those practitioners which have characteristics of temporal lobe discharges and those which utilize deliberate ASC induction procedures. Those ASC labeled as possession ASC are significantly associated with variables assessing temporal lobe discharges, and with societies with political integration beyond the local community. These findings about the psychophysiology of ASC need confirmation through field studies of psychophysiological characteristics and conditions of magico-religious practitioners using ASC.

9.7 ASC AND MAGICO-RELIGIOUS PRACTITIONER TYPES

The importance of ASC for some magico-religious traditions is well illustrated in the discussion of shamanism (Chapter 5). This section provides analyses to illustrate the differential role and importance of ASC with respect to different magico-religious practitioners, the universal incidence of ASC associated with magico-religious practice, and to suggest the reason for the importance of ASC in magico-religious activity.

The relationship of ASC to magico-religious practitioner types was assessed by determining if each practitioner had any of the variables listed above in section 9.4. If the practitioner had any of the characteristics present, they were generally considered to have ASC induction if these conditions or manipulations were present in a way that appeared that the intent or consequence was to induce ASC. Practitioners might not be considered to have a ASC even if the conditions were present, for instance when there was singing by others but it did not appear to the coders that it was intended to induce an ASC in the practitioner.

The relationship of ASC training to the practitioner

types was examined. The practitioners classified as Sorcerer/Witch Practitioners were excluded from these considerations since the coverage of these practitioners was seldom sufficient to provide unequivocal evidence of ASC. When evidence of ASC was available, it was usually indirectly through reference to transformation into animals or activity during sleep or nighttime.

All of the Shamans, Shaman/Healers, and Mediums have ASC induction procedures or conditions associated with temporal lobe dysinhibitions as a part of their training. Three cases of Shaman/Healers (Nama Hottentot, the Roman Sorcerer, and the Fur Magician) are without explicit coverage of training activities, likely as a result of poor coverage. However, all of these exceptions were involved in role activities explicitly or implicitly involving ASC induction (e.g., all night ceremonies of chanting, or beliefs in practitioner's ability to transform into an animal or fly). Therefore, all of the Shaman/Healers appear to have training utilizing ASC.

ASC induction procedures are present in the training activities of many of the practitioners classified as Healers and Priests. Although ASC procedures associated with training may be lacking for some Healers because of poor coverage, there are cases of Healers with adequate coverage and apparently without ASC training (e.g., the Ibo Healer (Oracle) and Tanala Healer). These Healers are found in societies where other magico-religious practitioners (Mediums) are involved in ASC activities. About one half of the Priests were coded for the presence of some ASC induction techniques during training. However, with the exception of the Aztec, Zuni, and Marquesan Priests, the ASC induction techniques associated with the Priests tend to be minor, and generally do not involve the report of ASC by the ethnographer. The minor ASC induction techniques utilized by Priests were periods of social isolation, sexual abstinence, limited percussion or chanting, sleep states, and alcohol use. The incidence of ASC associated with training among the Priests is negatively associated with all measures of social complexity except agriculture. The strongest Spearman correlation found between the incidence of ASC training for Priests and social complexity variables was with Political Integration ($r = -.46$, $p < .004$). As political integration increases the tendency for Priest type practitioner to have an involvement with ASC decreases.

In order to assess the differences among practitioner types with respect to the extent of ASC induction, a Composite ASC Induction variable was computed. This variable was the summation of the values for all of the ASC induction variables listed in 9.4. The apparently greater extent of use of ASC induction with the Shamans

and Mediums is confirmed using the SPSS t-test for pairs of groups (practitioner types) on the Composite ASC Induction variable. The Shamans are significantly higher (one-tail test) on the Composite ASC Induction variable than the Shaman/Healers ($t = 1.98$, 24 df; $p < .03$), Healers ($t = 4.2$; 30 df; $p < .000$), and Priests ($t = 6.4$, 46 df, $p < .000$); the Mediums showed near identical differences with respect to the Shaman/Healer, Healer, and Priest types. The Shaman/Healer was also significantly higher than the Priests on the Composite ASC Induction variable ($t = 2.95$; 44 df, $p < .003$), but the other pairs of practitioner types were not significantly different with respect to the Composite ASC Induction variable.

The incidence of ASC induction training for magico-religious practitioners was examined with respect to each society in the sample. This disclosed that all societies have ASC training associated with a magico-religious practitioner in the society or ASC induction techniques associated with their professional activities, making ASC training *de facto*. This data suggest that all societies have ASC induction techniques associated with the training of magico-religious practitioners. This generalization is apparently also valid for the societies without specialized magico-religious practitioner statuses present, since the Mbuti and Siriono have ASC induction techniques involved in performance of their non-professional magico-religious activities.

In the discussion of the social complexity hypothesis in the introduction, it was suggested that the incidence and intensity of ASC declined with increases in social complexity. The finding of a universal incidence of ASC training associated with magico-religious practitioners indicates that ASC are also present in the more complex societies. However, although the more complex societies have Priest and Healer practitioners, which have a much lower incidence of ASC induction procedures and characteristics, the hypothesis of a decline in the intensity of ASC in more complex societies does not appear to be substantiated. If we treat the Composite ASC Induction variable as a rough indication of intensity of ASC induction, it appears that ASC induction intensity does not decrease with increases in social complexity since the Mediums, present in the most complex societies, have average values on the Composite ASC Induction variable which are as high as the Shamans, present in the simplest societies. However, ASC traditions based upon *deliberate* induction ASC appear to decline in more complex societies.

Differences were found between the practitioner types with respect to the labeling of ASC experiences. Most considerations of shamanism (e.g., Eliade 1964,

Halifax 1979, Hultkrantz 1978) emphasized the importance of ecstatic states as a constituent characteristic of shamanism and argued that a ASC or ecstatic experience characterized as "soul flight" is an essential aspect of shamanic ASC. Although the criteria of ecstatic states or ASC seems to be a generally accepted necessary characteristic of shamans, the exact nature of the type of ASC associated with shamanism has been a subject of debate (Findeisen 1957, Hultkrantz 1978), with the former arguing that shamans are involved in possession. The data collected here refutes Findeisen and supports Hultkrantz.

A number of recent works (e.g., Peters and Price-Williams 1980, Siikala 1981, Heinze 1983) have subordinated the differences between possession and soul flight to their commonality as ASC. There is validity and usefulness to their point of view since there are commonalities in the psychophysiology of ASC induced by diverse means. It was found here, however, that the labels used to describe ASC (e.g., soul flight and possession) are differentially associated with the types of physiological conditions typical of temporal lobe discharges. In data collected here there are strong relationships between practitioner types and the incidence of these beliefs associated with ASC. The practitioners classified as Shaman in this study all were characterized by beliefs in their ability to engage in experiences labeled as Soul Flight.⁴ The practitioners classified as Shamans and Shaman/Healers are not coded for possession in training, although there are cases with weaker spirit relationships (practitioner/spirit dialogue—see 9.5) not characterized as possession. The practitioners coded for possession ASC training are primarily those classified as Mediums. All but three of the Mediums were coded for possession ASC training, and two of the exceptions are coded for an intermediate form of possession belief (practitioner/spirit dialogue). The incidence of soul flight among the practitioners classified as Mediums is limited to a single case. The distribution of types of beliefs in ASC training states with respect to the empirically derived practitioner types suggests that the distinction between soul flight and possession is important in assessing the characteristics of ASC associated with magico-religious practitioners. Shamans and Shaman/Healers are characterized by soul flight, not possession ASC, while Mediums are almost all characterized as having possession ASC experiences, with soul flight experiences being essentially absent among them. Thus, while ASC have a common physiological basis, there are differences in the specific types of characteristics which different types of practitioners use. The next section assesses societal differences in the types of ASC induction procedures utilized.

9.8 SOCIETAL CONDITIONS AND ASC INDUCTION PROCEDURES

De Rios and Smith (1977) pointed out that as societies grow in structural complexity, there is a change in the use of and access to plant hallucinogens. The case studies indicate that as societies change from egalitarian to hierarchical, drugs were eliminated from widespread use and were usurped by the elite segments. The analyses reported below do not precisely examine this hypothesis, but do examine the patterns of drug and non-drug ASC as a function of social complexity, and implicates political integration as a primary factor in different patterns of ASC induction. The extent of use of ASC induction procedures significantly declines from the Shaman of hunting and gathering societies to the Shaman/Healers and Healers of the agricultural and politically integrated and stratified societies.

The incidence of different types of drug and non-drug ASC induction procedures in training of magico-religious practitioners is examined at the societal level through the use of the data set of this study and the data of the social complexity variables of the Standard Cross-Cultural Sample (Murdock and Provost 1973). The relationship of social conditions to psychoactive drug use, alcohol use, psychoactive drug and alcohol use, and non-drug ASC is individually examined, and then assessed in a general model of evolutionary transformation of ASC induction practices.

Psychoactive Drugs. The use of psychoactive drugs is significantly related only to the absence of political integration ($r = -.25, p < .05$); other social complexity variables contributed no additional explained variance in multiple regression. The use of psychoactive drugs in ASC induction declines with increasing political integration.

Alcohol. The use of alcohol is positively and significantly correlated with agriculture ($r = .27, p < .04$), social stratification ($r = .30, p < .03$), political integration $r = .28, p < .04$) and technical specialization ($r = .32, p < .02$). Multiple regression did not show any variable to contribute significantly beyond the others. Alcohol use occurs in more complex societies than those with psychoactive drugs.

Psychoactive Drugs and Alcohol. The societies with the use of both psychoactive drugs and alcohol in their institutionalized ASC induction procedures were also distinguished by societal conditions. These societies were distinguished from all other societies by the presence of sedentary residency patterns ($r = .35, p < .01$) and agriculture as a primary source of subsistence ($r = .33, p < .02$); multiple regression did not contribute to signifi-

cantly increased explanation of variance.

Drug versus Non-Drug ASC. Although the use of specific types or combinations of drugs in ASC induction is related to social complexity, the use of any drugs at all (psychoactive and/or alcohol) was not significantly related to any of the social complexity variables. This analyses shows the presence/absence of drug-induced ASC has no significant relationship to social complexity variables. This is because both drug and non-drug ASC are found in both simple and complex societies.

This category of non-drug ASC was divided into two groups based upon previous research (Winkelman 1984, 1986b, 1990) and the findings here on different types of magico-religious healers:

(1) Non-Drug Shamanic ASC, found in those societies with practitioners whose ASC were labeled as involving soul flight, animal transformation or unconscious states; and

(2) Non-Drug Non-Shamanic ASC (i.e., possession), which included many practitioners classified as Mediums in the previous studies, characterized by possession ASC and evidence of Temporal Lobe Discharge conditions.

This previous research also shows the Non-Drug Shamanic ASC to be characteristic of simpler societies than those with the Mediumistic Possession. However, Non-Drug Shamanic ASC were found in more complex societies than were those induced with Psychoactive Drugs. Non-Drug Shamanic ASC were significantly and positively associated with political integration ($r = .39, p < .03$). This indicates, as predicted by other researchers, that the use of psychoactive drugs in ASC induction procedures declines with increasing political integration of the society. The Non-Drug Shamanic ASC then emerge as the predominate pattern of magico-religious and shamanistic healer training. Also present at this same level of social complexity are ASC practices involving both Psychoactive Drug & Alcohol ASC. Societies which use Alcohol Induction Only, in contrast to those which use both Psychoactive Drug and Alcohol ASC, are more sedentary ($r = -.63, p < .02$) and have denser populations ($r = -.43, p < .04$). However, Alcohol Induction Only ASC versus Non-Drug Non-Shamanic ASC are not distinguished by any of the social complexity variables. Alcohol Induction Only ASC versus Non-Drug Non-Shamanic (Mediumistic) ASC were not distinguished by any of the social complexity variables, nor by the variables assessing Temporal Lobe Discharges.

Based upon these distinctions between different types of drug induced ASC and the different types of non-

drug ASC, the following variable was created to represent different types of societies in terms of ASC induction procedures:

Drug/Non-Drug ASC Variable

- 1- Psychoactive Drug Shamanic ASC
- 2- Non-Drug Shamanic ASC
- 3- Psychoactive Drug and Alcohol ASC
- 4- Alcohol Induction Only ASC
- 5- Non-Drug Non-Shamanic ASC

This Drug/Non-Drug ASC variable represents a hypothesized evolutionary model assessing the assumption that shamanic altered states of consciousness originate in hallucinogens (Psychoactive Drug Shamanic ASC) and are eventually transform into Alcohol Induced ASC and Non-Drug Non-Shamanic ASC as a function of increases in social complexity. All of the social complexity variables (Murdock and Provost 1973) are positively correlated with the Drug/Non-Drug ASC variable, with the strongest correlations with political integration ($r = .50, p < .0003$) and social stratification ($r = .41, p < .003$). All of the social complexity variables (plus binary recodes representing the presence/absence of: agriculture, nomadic versus sedentary residency, two or more levels of political integration beyond local community, and social stratification with the presence of castes or slaves) were entered as independent variables in multiple linear regression to predict the Drug/Non-Drug ASC variable. Three variables were significant— political integration, writing and records, and social stratification with the presence of castes or slaves (Multiple $r = .69, r^2 = .47, F = 12.1, 3, 41 \text{ df}, p < .0000$) indicating substantial amounts of variance in ASC induction types are accounted for by social factors. Since the relationship of writing and records was not theoretically meaningful, it was eliminated from a subsequent multiple regression. This resulted in a regression equation in which political integration variable (original values) and the political integration recode (two or more levels beyond the local community) were the only significant contributors to the regression equation (Multiple $r = .56, r^2 = .31, F = 9.9, 2, 42 \text{ df}, p < .0003$). The Temporal Lobe Discharge variable did not add significant prediction of the ASC induction types. These correlations support an evolutionary model with political integration as a principal cause of change in ASC induction procedures; however, other social conditions, cultural factors, and/or their effect upon individual psychology must be responsible for the remaining unexplained variance.

Summary. The physiological effects of ASC indicate a biological basis for practices which utilize such alterations of consciousness. A wide variety of procedures induce such changes, suggesting that shamanism and other ASC traditions are a natural manifestation of the human mind, and that multiple independent inventions of such traditions have likely occurred. The persistent belief that ASC traditions involve pathological states or conditions is critically assessed. While rejecting pathological evaluations, it appears that a temporal lobe syndrome may be associated with some ASC practitioners and contribute to their selection and practice. The physiological data suggesting a common underlying basis for a variety of ASC induction procedures is confirmed by analysis of the cross-cultural data on ASC

induction procedures and characteristics. Nonetheless, we find distinct types of ASC profiles—shamanic, mystical and possession traditions. The association of possession ASC with both the temporal lobe syndrome and societal conditions (political integration) is found in this data set, confirming both physiological and social contributions to the incidence of possession ASC. The role of ASC in magico-religious practices in all cultures is confirmed, suggesting the functional basis of ASC in these practices. Societal differences in ASC induction procedures are assessed in an evolutionary context, showing political integration to be the primary social variable predicting changes in ASC induction traditions. The next chapter turns to a consideration of why these ASC are used and their functional role in human society.

CHAPTER 10

THERAPEUTIC ASPECTS OF SHAMANISTIC HEALING

This chapter addresses the therapeutic bases for the ASC used in shamanistic healing practices. A wide range of literature and studies suggest that ASC have therapeutic effects. Shamanistic healing practices are universal because of the interrelated physiological and therapeutic bases in the use of ASC. The theories of illness and therapies employed by Shamanistic Healers are examined with respect to the different types of practitioners, and their potential physical and psychodynamic effectiveness. Case studies of cross-cultural therapeutic use of ASC, particularly those associated with hallucinogens, illustrate cultural perspectives on effectiveness. The scientific bases for therapeutic effectiveness of shamanistic therapies are addressed through an examination of the clinical and psychophysiology evidence. Clinical and physiological evidence for the therapeutic effectiveness of ASC in general, and meditation, music therapy, hallucinogens, and social relations in particular, are reviewed to illustrate the therapeutic effects of these procedures and agents. Possession and the temporal lobe conditions are briefly examined in the context of the therapeutic aspects ASC and possession beliefs.

10.1 WHY ASC?

There has been little research on why people should actively seek to induce altered states of consciousness (but see Siegal 1989), or conversely, why people should avoid them. However, there appears to be a broad cultural resistance to these experiences in Western/Indo-European cultures (see Grinspoon and Bakalar 1979). As Noll (1983) pointed out, Western psychology and culture tend to consider shamanic type experiences to be pathological. This tendency to consider these states to be more primitive forms of cognition is manifested in the dominant psychiatric perspectives which consider meditative states such as *samadhi* to be regressions to infantile levels (see Wilber 1980 for discussion and critique).

Although these ASC are characterized by patterns from evolutionarily earlier parts of the brain, they are not more primitive. The hippocampal formation is an association area (MacLean 1949); it and associated structures are central to memory acquisition, storage, and recall. Mandell cited research by Block (1970) and Vinogradova (1975) which indicates that the hippocampal slow wave states are an optimal level of brain activity for energy,

orienting, learning, memory, and attention. Meditative traditions value these states as providing the basis for a more objective perception of reality.

Although shamanistic activities have been traditionally viewed negatively, the recent perspectives have presented the shaman as an individual of exceptional mental health, the community therapist, and an important stage in the evolution of human consciousness (Walsh 1990). In contrast with this pathological view of shamanism and ASC prevalent in the psychiatric literature, Walsh argued that the shaman is a model of health and psychological growth and transcendence, representing "a major leap for humankind, a leap in the evolution of consciousness" (Walsh 1990:242). He suggested that shamans were the first to enter into the transpersonal realms, being the earliest masters of the subtle realms of the Eastern religious traditions, and perhaps even entering the causal and absolute realms. Central to their training and development was the transformation of emotions, reduction of fear and anger, and development of love, joy and compassion, factors which all play a role in their healing activities as well. The therapeutic aspects of shamanic practices are seen as involving "active imagination..., visualizations, guided imagery, guided meditation, or waking dreams. Commonly patients are asked to create images of themselves going to meet people or entities that will provide insight, understanding, and healing" (Walsh 1990:153-154). Also found in shamanic therapy is the confrontation with the patient's deepest fears, images which "symbolize the shadow, those aspects of the psyche that have been disowned and repressed, ..[but]... when ... recognized and confronted...lose their compulsive terror" (Walsh 1990:209). Among the shamanic therapeutic approaches are "strategies for diagnosis and treatment... for breaches of taboo, and group confession .. and ...tests which foster confession and the expression of the patient's unconscious concerns... [which] may foster both psychological and physical healing" (Walsh 1990:180). "Confession and catharsis may play major roles" (Walsh 1990:186).

While shamanic therapies certainly involve more than ASC and their effects, the ASC are core elements of the shaman's therapeutic repertoire, and ASC have a central role in magico-religious selection and training as well. Not only is ASC based training for magico-religious practitioners found cross-culturally, but entail-

ment analysis of selection procedures and magico-religious activities suggests that ASC training has a functional relationship to specific magico-religious activities. The magico-religious practitioners who are trained through procedures which involves some form of ASC induction are involved in healing and divination as a part of their professional activities.

The universal and fundamental use of ASC in training of and treatments by Shamanistic Healers reflects the basis in human biology. The common psychophysiology of ASC involves induction of a parasympathetic dominant state characterized by synchronized high voltage slowwave discharges from the limbic system and related brain areas. This discharge pattern results in interhemispheric synchronization and coherence, and limbic-cortex integration, altering human functioning from neurophysiological to cognitive levels in ways which permit the emergence of therapeutic human potentials.

The previous chapters have established that institutionalization and use of ASC in community healing rituals is universal, and provided a general psychobiological model of ASC. It has been shown that shamanism is an ecological adaptation of this biologically based ASC potential in hunting and gathering societies, and that agriculture and political integration transform this potential into other types of magico-religious healing practitioners—the Shaman/Healers, Healers and Mediums of this study. These shamanistic healing practices represent such a fundamental feature of human psychobiology that when shamanistic practices are not institutionalized in special roles, collective ASC activities are undertaken by the community at large.

The importance of these practices lies in the functional effects of the ASC, which indicate that the physiological conditions and procedures associated with ASC have specific adaptive characteristics. These physiological changes associated with ASC facilitate the typical shamanic tasks of healing and divination, and improving psychological and physiological well-being through: physiological relaxation; facilitating self-regulation of physiological processes; reducing tension, anxiety and phobic reactions; inducing and eliminating psychosomatic effects; facilitating extrasensory perception and psychokinesis; bypassing normal cognitive processes in accessing unconscious information; interhemispheric fusion, coherence and synchronization; cognitive-emotional integration; and social bonding and affiliation. In order to substantiate these points, the following sections: (1) examine the use of shamanistic theories of illness and therapies; (2) provide case studies of hallucinogen based ASC therapies; (3) examine experimental, physiological

and clinical evidence for the therapeutic efficacy of ASC; and (4) examine the relationship of ASC therapies to possession and temporal lobe syndromes.

10.2 SHAMANISTIC THEORIES OF ILLNESS AND THERAPY

This section examines the cross-cultural similarities and differences in theories of illness and therapies employed by shamanistic and magico-religious healers. The theories and therapies considered are from the revised data set (see Appendix 3, or Winkelman and Winkelman 1991), and include: soul recovery; spirit, human, and natural causation of illness; protection and prevention of future illness; spirit invocation and ritual manipulations; use of amulets; physical manipulations; sacrifice; and altered states of consciousness. Both universal characteristics and cross-cultural differences in shamanistic healers and their theories of illness and therapies are found. The theories of illness and therapies are discussed together in order to link them in terms of their psychodynamic effects. The physical, psychological and cultural dimensions of these treatments are briefly considered.

All of the practitioners of the Shaman, Shaman/Healer, Healer and Mediums types are involved in healing activities, which were incidental to or absent for Priests and Sorcerer/Witches. The Priests are only incidentally involved with healing, generally as part of communal rites which propitiate gods and seek general well-being and protection. The theories of illness (but not therapies) are examined with respect to the practitioner's motivation for engaging in the healing activities and the context in which the treatments occur. Differentiation of context contrasts private, client family group, and public, while differentiation of motives contrasts personal reasons, client request, and social function (see Chapter 2.4). The primary motives and contexts characteristic of healing activities are client request as the motivation and the client's family group as the context. Less common are: (1) social function as motive and public ceremony as context; and (2) a combination of client request and/or social function as motivation, and client group and/or public as the context.

Soul Recovery (Loss)/Soul Journey. Soul recovery involves therapeutic acts designed to recover or restore a lost, escaped or stolen personal soul or spirit. Soul Loss is found among half of the Shaman, sporadically among the other Shamanistic Healers, and is absent for the Priests. Recovery of the soul is always done at a client request, and generally in the client group context,

although occasionally this is coterminous with public context (in band level societies). Soul journey (soul flight) is an infrequent therapeutic technique. Self-projection is associated with most Shaman, but it is not used as a therapeutic techniques among most of them, and is absent from the other shamanistic healers. This study did not find a direct link between Soul Loss as a theory of illness and Self-Projection/Soul Journey as a therapy.

Spirit Removal. This is the "spirit aggression" theory of illness (Murdock 1981), and involves therapeutic acts designed to remove a spirit entity or its manifestations which cause illness, acting independent of human agency. Spirit aggression theories of illness are essentially universal (Murdock 1981), and are nearly universal among the Shamanistic Healers, and frequent for Priests. Spirit aggression theories are generally employed when treatment is requested by the client, and although ceremonies are generally in the context of the client group, they are occasionally carried out in a public context. Spirit removal is differentiated into non-possession and possession. Spirit removal, non-possession is essentially universal among Shamanistic Healers. Spirit removal, possession is entirely absent for Shaman and largely absent for Shaman/Healers, but generally present for the Healer and Medium.

Spirit Techniques. This involves the manipulation of culturally defined spirit realities through either commands or propitiation. The use of spirit techniques is essentially universal among the Shamanistic Healers and the Priest. Shaman primarily command spirit entities; the Shaman/Healer shows an intermediate pattern of commanding and propitiating spirits, while propitiation is predominate for the Healers and Mediums. Virtually all of the Priests only utilized propitiation as a technique for manipulating spirits. Spirit manipulation has important psychodynamic implications, including a differentiation of the psychodynamics underlying propitiation of gods versus commanding spirits. Sociology and social anthropology have developed perspectives which suggest the functions of spirits be viewed in terms of their relationships to social behavior as non-physical actors in the social world. Swanson (1960), basing himself in Durkheim's (1915) ideas about the elementary forms of religious life, suggested that spirits and supernatural beings be viewed as a personification of society. Spirits can be viewed as representing social attitudes (e.g., morality), social relations, social experiences, and social purposes, particularly those of sovereign groups and persisting across generations. Ward and Beauburn (1980) suggested possession provides positive advan-

tages for the victim. This is achieved by projecting responsibility onto the spirits, allowing the patient to escape from conflict and reduce guilt. Furthermore, the treatment directs people toward proper behavior through reinforcing social norms (but see 10.5).

Remove Human Agency Effects. This involves therapeutic acts to remove the negative influences of other individuals upon the client's health, i.e., the effects of sorcerers and witches. These theories of illness reflect a distrust in others in the social world, to whom are attributed the cause of illness. These therapeutic explanations are used by the majority of all types of Shamanistic Healers, who act to remove the negative influences of other Shamanistic Healers, Sorcerer/Witches, or other individuals who used spells, rituals, or spirit allies to cause illness. Human agency theories of illness are almost always applied in contexts where the client solicits services from the healer and the treatment is provided in the client family context. Removal of spirits which act under human direction to cause illness to clients is found with most Shamans, but is only sporadically present among Shaman/Healers and Healers, and almost entirely absent for Mediums and Priests. Removal or nullification of the effects of spells or ritual acts of humans which are believed to cause illness is carried out by about half of the Shaman and Shaman/Healers and by the majority of Healers and Mediums. Priests do not remove spells.

Remove Taboo/Pollution. These are illnesses occurring as a result of an individual's violation of taboos or norms, contamination, or failures in ritual obligations. This is only sporadically present for Shaman and Priests, but is frequently associated with Mediums and Healers, who generally removed taboos effects at the request of a client and in the context of the family group. When Priests remove taboo effects, it is generally in a public context during a social function.

Establish Human Fertility. These acts are designed to overcome barrenness and infertility. They are associated with most Healers, but are largely absent for all other Shamanistic Healers and the Priests. These therapeutic acts are generally done at a client's request, and in the context of the family group, although some cases involve social functions and public events.

Prevent Future Illness. This involves therapeutic acts to protect against illnesses that may occur in the future. Prevention of Future Illness (both spirit and human caused) is absent for the Shaman. Prevention of Future Illness of spirit causation is used by most of the Shaman/Healers, Healers and Mediums, who provide therapeutic services at the request of and in the presence

of a client (group). The Priests generally provide protection against future spirit illness in public social functions which protect the community at large. Protection against future human caused illness is the concern of most Healers, but is largely absent for the other Shamanistic Healers and the Priests.

Invocations. This includes the use of spells or other utterances with a belief in their ability to heal. Invocation is another magical technique found to be essentially universal among the Shamanistic Healers. Healers generally use exact invocations, apparently reflecting their control over knowledge. The effect of invocations in healing should be examined in the context of neurolinguistic programming and the functions of metaphors (cf. Levi-Strauss 1963, Dow 1986).

Amulet/Object. These therapies involve providing an object which is worn or carried by the client, such as an amulet or charm. These therapies are frequently associated with Shaman and Shaman/Healers, but predominant only among Healers. The psychodynamic functions could include reminding the client of the treatment and its intents, and providing a goal oriented focus which would reinforce psychological commitment and hope (cf. Winkelman 1982 on other effects of goal oriented focus). The reinforcement of belief in the efficacy of the healer and a reminder of the therapy would also serve to reinforce belief in cure, and reduce anxiety and tension.

Sacrifice. Sacrifice as a therapeutic technique involves ritually offering an object or its essence to a spiritual being or an individual. Sacrifice is largely absent among the Shaman, but present for the majority of the other Shamanistic Healers and Priests. In the majority of cases, the sacrifice consists of both animal and non-animal substances, and is both partially destroyed and consumed by the participants. Sacrifice always occurs in a group/community context, and the manipulation of social relations is central to the therapeutic applications of sacrifice.

Ritual Manipulation. This involves manipulation of substances or ritual acts apart from sacrifice. Ritual manipulation includes exuvial acts (Law of Contagion), manipulation of personal objects, and imitative magic (Law of Similarity), the latter which is most frequent. Ritual manipulation is another healing technique which is virtually universal among Shamanistic Healers. Imitative magical techniques are predominantly associated with Healers. Ritual manipulations, especially imitative techniques, can be viewed as having potential therapeutic efficacy in terms of evoking a psychology of hope and expectation, and goal-oriented visualization and expecta-

tations which may directly affect physiological functioning (Winkelman 1982).

However, the primary implications of both ritual manipulations and spirit beliefs in the context of shamanistic therapies probably lies in the relations of cultural symbols to psychobiological functioning. The mind-body dualism underlying Western conceptions of reality are united in ritual therapies which use beliefs to manipulate physiological functioning (e.g., see Levi-Strauss 1963). Spirit beliefs and rituals play an important role in mediating psychocultural, cognitive and biophysiological aspects of human functioning; Dow (1986) suggested that it is through emotions that self and body are linked and integrated. Kleinman's (1987) and Dow's (1986) "symbolic model" of medical reality provides a context for understanding the psychophysiological function of these traditional medical beliefs and practices. Linkages of cultural symbols to human physiology are created through psychosomatic and sociosomatic processes evoked by cultural beliefs and their manipulation in ritual practices. The symbolic systems of traditional medical beliefs represent social and cultural norms which are internalized. Psychophysiological reactions and affective/emotional responses are evoked by the ritual enactments. The universal aspects of symbolic healing (Dow 1986) involve the healer's particularizing for the patient a cultural mythic view through manipulation of healing symbols and processes. The attachment of the patient's emotions to transactional symbols of healing allows the healer to transform the patient emotionally (and physically) since the symbol systems correspond to the internalized cultural symbol systems of the patient. These mechanisms are reinforced through ASC, psychodrama, suggestion, and catharsis. Thus, the importance of healing rituals and spirit beliefs lie in their relationship to internalized cultural beliefs and their manipulation to produce psychophysiological change.

Illness of Natural Causation. These are illnesses thought to result from natural factors, e.g., diseases, accidents, wounds, etc. Natural causation is presumed if there is use of herbal materials in treatment of illness without a specific supernatural explanation. Natural theories of causation are present among essentially all of the Shaman and Shaman/Healers and most of the Healers, but are largely absent for Mediums, and entirely absent for Priests. Natural causation explanations are always used in a context in which the client (group) requests treatment.

Physical Manipulations. These involve a range of activities, including: massage or rubbing of the patient's body; the application of the hands of the practitioner on

or near the body of the client with the intent of transferring healing energies; blowing or fanning on the patient's body; sucking on the patient's body; sleight-of-hand in which the practitioner produces illusions, e.g., presuming to extract objects from body; surgery, including any incisions into the body; washing and cleansing with water or other liquids; and extensive herbal treatments through the use of a wide range of plant materials or other natural substances. Physical manipulations are employed by the majority of all Shamanistic Healers. The Shaman, Shaman/Healer, and Healers specifically use herbal remedies, massage, and washing, while the Shaman primarily utilizes techniques such as blowing, sucking and sleight-of-hand. The Shaman/Healers and Healers frequently employ some form of surgery. The Priest do not use physical manipulations except for washing.

The physiological and psychodynamic implications of the physical manipulations are numerous. Ample evidence exists that the herbal remedies are efficacious in the treatment of physical diseases, as would be the simple surgical interventions. The use of rubbing, massage, blowing, sucking, washing and cleansing can be expected to induce a parasympathetic relaxation response. Sleight-of-hand can facilitate therapeutic manipulations through increasing suggestibility and psychosomatic or placebo effects, through integrating visual and psychophysiological systems (cf. Winkelmann 1982).

ASC Induction. The use of ASC as therapies is employed by nearly all of the Shamanistic Healers. Although Priests do not generally appear to employ ASC therapies, the activities at which they preside frequently involve communal rituals which had some evidence of ASC induction procedures: singing, chanting, dancing, and alcohol consumption. Not only do these varied ASC induction procedures have physiological effects which are reviewed above, they also have general and specific therapeutic effects addressed below.

Summary. The Shamanistic Healers found cross-culturally share common therapeutic approaches. Some of these appear to be universal, including the use of: altered states of consciousness; spiritual dimensions to therapy; spirit entities as projective mechanisms; verbal programming through spells; ritual manipulations; and the removal of illness caused by spirits or other humans. Other theories of illness and therapies vary cross-culturally, related to the psychosocial dynamic of the society. Theories of illness and therapies which vary across Shamanistic Healers include: prevention of future illness; removal of the effects of taboo violations; natural causation of illness; ritual causation of illness; provision of amulets; physical manipulations of the body;

and sacrifice. These shamanistic therapies serve important psychodynamic and biocultural functions as culturally relevant therapies, as well as important sources of physical and social treatments.

10.3 TRADITIONAL ASC THERAPIES

The use of ASC as therapies in non-western societies, particularly hallucinogen use, has been long recognized. But the basis for their effectiveness as therapeutic agents has not been assessed. However, the universal presence of beliefs about the effects of hallucinogens as mystical, spiritual and therapeutic agents (see Schultes and Hoffman 1979, de Rios 1984), and the similarities in the effects of hallucinogens across humans and animals (see Jacobs 1984) suggest an important physiological basis for their uses and effects. The following examples illustrate the traditional use of hallucinogens in therapy, while the following section considers the physiological and clinical evidence for their modes of effectiveness, and those of ASC in general.

Wasson's work with Maria Sabina (Wasson 1980, Wasson et al. 1974; cf. Estrada 1981) revealed and popularized knowledge about the survivals of ancient pre-Columbian Mesoamerican psilocybin mushroom healing ceremonies. Mushrooms are considered to be the source of curing diverse maladies. The mushrooms are ingested in a ceremony which also involves singing, whistling, humming, chanting, percussive artistry, ventriloquistic effects and dancing. Other activities associated with the healing ceremonies may include sacrifice, the use of incense and flowers as a way of "cleansing" the body, as well as the application of herbs and massage. The healer's ventriloquistic performances and patient's emotional responses suggest the elicitation and catharsis of feelings, and indicate the healer's role in bringing about cathartic experiences in patients. The chants also have a content which suggests that they play a therapeutic role in establishing belief in Maria Sabina's power (1981), in stating and establishing attitudinal postures, and in encouraging positive motivation and expectation. The conditions healed include a wide range of physical ailments, as well as psychological problems.

Andritzky (1989) showed that *Banisteriopsis* (*ayahuasca*) use involves both individual psychodynamic and psychotherapeutic functions, as well as collective therapies of the group and community, facilitating social integration. In the Amazon, *Banisteriopsis* is used to help people deal with the problems of acculturation by mediating the Euro-American and indigenous worlds, creating a synthesis of the traditional and new through the

use of emotionally relevant images of culture change from the indigenous point of view. The treatment and practices provide a symbolic confrontation which serves psycho- and psychotherapeutic mechanisms. *Banisteriopsis* apparently gives the user conscious access to the process of symbolization. The effects of hallucinogens are shaped by other elements, particularly the songs which serve to structure visions and evoke culture specific patterns of experience. The hour long stories about the mythological worlds prepare the patients for the experiences which they will have in the ASC. This enables the individual to experience the collective motifs rather than being flooded with unconscious personal material. The use of stories and their interpretations allow the healer to control the level of anxiety and the depth of regression of the individual.

Aberle's (1966) work on the modern Navajo involvement with the use of peyote in the Native American Church illustrated it serves many different purposes—religious, miraculous curing, transcendence, knowledge, incentive to work, release from guilt, and other reasons. The majority of cases had initial recourse to peyote to be cured or when a family member is sick. They stayed or returned later for healing, for maintaining good health and mind, for relief from feelings of aimlessness and helplessness, to overcome misfortunes, for future guidance and future good fortune, to access knowledge about causes of illness or misfortune, to foretell future occurrences, and to provide security against witches and ghosts. "Peyotism appeals to the [sick], disorganized and unhappy, to the alienated and marginal, to the philosopher, to the mystic, and to the person who seeks guidance and a sense of purpose and sustaining motive in the situation that faces Navahos today" (Aberle 1966:194).

People continued with the Native American Church because of both the personal and social aspects of the experiences. The personal experiences involved the "revelations of the utmost importance for the individual. . . a feeling of personal significance of internal and external stimuli. . . [O]ne's self, one's aims, one's relationships, and one's ethics have become matters for reflection and have somehow taken on a new dimension of meaning." (Aberle 1966:8). "[M]any Navahos who have felt unhappy and lost have gained a feeling of purpose in life and a remarkable serenity through their membership in the Native American Church, their participation in its meetings, and their use of peyote" (p. viii). Aberle suggested that peyotism provides a reference group with close relations which meet needs for approval and esteem, an ethical code which fostered adjustment between Indian values of

collectivism and the individualism of the broader society, and status to those who do not have it in the outside society. "It is an effort at personal integration, achieved through a ritual and symbol system which is self-consciously not that of the dominant culture, and not that of the peyotist's native culture" (Aberle 1966:340).

Shamanistic healing through ASC provides an alternative to the current personal state of consciousness, producing changes in the individual's perception of self, the world, and their social relationships. In the context of visionary experiences, the shamanistic ASC involves the re-experience of powerful memories and symbols which re-present emotionally important material for abreaction, insight, catharsis and release. The transcendental and unitive experiences associated with these ASC reflect the individual overcoming dualistic perceptions of self and conscious ego/unconscious self separation, thereby achieving psychological integration and growth (Schultes and Hoffman 1979).

The shamanistic healer utilizes set (psychological expectations) and setting (physical location) factors as integral parts of the therapeutic system (Bravo and Grob 1989). ASC and hallucinogenic assisted therapies are usually employed by individuals who are knowledgeable of the client's personal situation. The therapeutic session may be preceded by meetings between the healer and the patient, patient's family, or community. Various ritual procedures may precede the therapeutic interaction, and a variety of factors serve to guide the patient's expectations of the therapeutic outcome. The treatment session itself is usually formalized in the context of a traditional ritual procedure. Not only is the therapy implemented in a carefully protected setting, but the ritual procedures continually guide and shape the patient's experience, particularly through singing and chanting. Mythological and symbolic elements are present in the ritual and used as a means of eliciting and shaping the patient's emotions and personal experiences. The shamanistic healer not only guides the immediate context of the therapeutic experience, but also frequently follows the patient through subsequent days in order to assure a successful therapeutic outcome by integrating the experiences of the treatment session with the continuing life context of the patient (Bravo and Grob 1989, de Rios 1984).

Why should hallucinogens be used in healing ceremonies? Why should such substances, as well as shamanistic healing in general, appear effective? An understanding of the potential modes of effectiveness of these therapies is indicated by examination of the physiological and psychological effects of these substances, as well as the clinical evidence for their efficacy.

10.4 PHYSIOLOGICAL AND CLINICAL BASES OF ASC THERAPIES

A number of studies suggest that ASC may in general have healing effects or facilitate them. While the data on the use of ASC in shamanistic healing as opposed to training have not been formally analyzed here, the implications of ASC might be extended to the patient/clients as well. Insofar as the ASC induction techniques induce ASC in the patients (e.g., through drumming, chanting or singing, hallucinogen ingestion, exposure to temperature extremes in sweat baths, etc.), the apparent therapeutic effects of shamanic training would be extended to the patients as well. Noll (1983) points out the similarities between shamanic experiences and some recent psychotherapeutic techniques. He reiterates the frequently suggested notion that the shaman is somehow healed in the process of training. A review of the meditative traditions (e.g., see Walsh 1979, 1980) indicate that these procedures have the effect of improving individual psychological well-being. Sargant (1974) suggested that states resulting in parasympathetic collapse are based in a common psychophysiological pattern which can lead to erasure of previously conditioned responses, changes of beliefs, loss of memory, and increased suggestibility. Beneficial effects might be generally expected of ASC which lead to a parasympathetic dominant state (see Finkler 1983). Since ASC increase suggestibility, this may also increase placebo or other psychosomatic effects, resulting in physiological improvement for the patient. The widespread use of sleight-of-hand and "object extraction" among shamanistic healers also likely contributes to inducing psychosomatic and other symbolically induced physical changes (e.g., see Levi-Strauss 1963). These symbolically induced therapeutic mechanisms are examined by Dow (1986) in his discussion of the symbolic model of healing.

The notion that ASC are functionally related to healing and divination activities is supported by a wide range of experimental laboratory studies indicating a functional role of altered states of consciousness in eliciting psi¹ abilities (see Honorton 1977, Palmer 1978, Braud 1978). Honorton's (1977) review of 87 parapsychological laboratory studies indicates that a wide range of altered states and procedures (meditation, hypnosis, induced relaxation, sensory deprivation) significantly improved ESP (extrasensory perception) and PK (psychokinesis—direct effects of mind on matter) (see Winkelman 1982). This suggests that magico-religious healing practices are universally associated with ASC

induction procedures because they are effective in facilitating extrasensory awareness and healing. The use of ASC in divination and diagnosis is functional, circumventing the normally employed cognitive processes to seek novel solutions to problems. Even if ESP abilities are not involved in divination, ASC may still facilitate divination procedures by providing access to normally unconscious information which is revealed in dreams, visions, or other manifestations of primary process cognition (Blacker 1981). However, a wide range of experimental laboratory studies have demonstrated that humans do have the ability to affect and heal a variety of biological systems through psychokinesis (Krippner 1977), suggesting that such effects may also play a role in shamanistic healing ceremonies.

Many of these specific instances of therapeutic effects from ASC may derive their effectiveness from the common psychophysiological features which ASC share, including right hemisphere dominance, cortical synchronization, and a parasympathetic dominant state. This is the common underlying neurobiochemical pathway involving a biogenic amine-temporal lobe interaction which Mandell suggests underlies ASC or "transcendent states". The high voltage slow wave EEG activity which originates in the hippocampal-septal area and imposes a synchronous slow wave pattern on the frontal lobes results in increased interhemispheric integration, synchronization, and coherence, a synthesis of thought and emotion (Mandell 1985).

A wide variety of procedures are used by Shamanistic Healers in the context of healing rituals to induce ASC. These include: the ritual use of music, both vocal such as singing and chanting, and instrumental, especially drums, rattles and similar percussive activity; extensive repetitive motor behavior such as dancing and percussive activity as well as other stressors and activities which involve exertion and fatigue; night time activities when endogenous opiates are highest; austerities, physical torture, and temperature extremes which cause the production of endogenous opiates; fasting and water restrictions; sensory manipulations, both overload and well as deprivation; meditative and internal states of attention; and use of a wide variety of hallucinogens and psychoactive substances. The preceding chapter has covered the physiological basis of these shamanistic ASC induction techniques which serve as therapeutic procedures.

The general physiological aspects of ASC—parasympathetic dominance, interhemispheric integration and limbic-frontal synchronization—can be seen as having therapeutic effects *sui generis*. The predominance of

slow wave discharges in the frontal cortex emanating from the limbic system and the hippocampal-septal area, and the synchronization of the hemispheres of the frontal cortex result in a parasympathetic dominant state. The parasympathetic dominant state is the basic relaxation response, and has inherent benefits for the functioning of the human system. The parasympathetic collapse induces relaxation with therapeutic effectiveness against a range of stress induced and exacerbated maladies. ASC can cause erasure of previously conditioned responses and increase suggestibility (Sargent 1974), which would have therapeutic benefits in facilitating reprogramming via chants, songs, myths, psychodrama and direct suggestion, as well as placebo or other psychosomatic effects. ASC can be expected to have beneficial effects in treatment of psychosomatic tension states, anxiety and phobic reactions, given the parasympathetic dominant state (Finkler 1985).

ASC affects the brain/mind interface, permitting conscious (mental) control and regulation of what are typically unconscious organic bodily processes. ASC involves conscious-unconscious integration through activation of unconscious material which permits abreaction and the resolution of conflicts. Traditional healing practices suggest that recovering and giving expression to repressed aspects of the self and conflicts is achieved through ritual ASC activities. Budzynski (1986) suggests that repressed material is released by reducing critical screening by the left hemisphere through ASC procedures which move cortical arousal outside of the normal range, releasing control to the right hemisphere. This then permits expression of the normally repressed side of the brain, as well as reprogramming at these unconscious non-verbal levels. The ritual interactions elicit the emotional events, resolve contradictions and present a new message. The therapeutic role of ASC derives in part from the common physiological changes underlying ASC which are inherently therapeutic. Further evidence of therapeutic effectiveness is found in clinical research on meditation's effectiveness as a therapeutic modality, studies of music therapy, and in laboratory and clinical studies of the effects of hallucinogens as therapeutic agents.

Many Shamanistic Healers use yogi, meditative or mystical type ASC, involving fasting, sensory deprivation, sexual restrictions, and internal attention, instead of the classic soul journey of the Shaman. Meditation practices improve individual psychological and physiological well-being (Shapiro 1980; Walsh 1979, 1980, 1983). Meditation practitioners have established their ability to alter and control a wide variety of physiological

activities of their bodies, suggesting that ASC experiences in general may lead to a greater control over the physiological aspects of the body. Gellhorn and Kiely (1972) suggest mediation may be effective in treatment of psychosomatic tension states, anxiety and phobic reactions. Meditation serves as a self-regulation strategy and produces a number of beneficial effects (Shapiro 1980). Shapiro suggested that meditation is a promising clinical intervention technique for several stress related dependent variables, including fears, phobias, personal integration and control, tension management, and high blood pressure. Meditation's therapeutic effects are in part derived from the general effects of ASC through the relaxation produced by parasympathetic dominance, although other factors are undoubtedly involved as well.

Music therapy has been explicitly linked to shamanistic therapies by individuals in the field of music therapy (Winn, Crowe and Moreno 1989), and numerous other studies have suggested therapeutic effects from music therapy (Hanser 1985, Rider 1985, Rider, Floyd and Kirkpatrick 1985; Davis and Thaut 1989). Music therapy has been thought to counteract many of the effects of stress, which serves as major catalysts in the development and progression of a variety of illnesses and diseases, both physical as well as psychological and psychosomatic (Hanser 1985). While it has been long established that music can produce significant favorable changes (GSR, muscle tension, heart rate, blood pressure, mood and attitude), more recent studies have failed to find consistent confirmations; this likely reflects intervening variables—the individual differences in response to music and its potential effects in increasing arousal and information processing.

However, music therapy has shown consistent decreases in verbal reports of state anxiety, and increases in relaxation (Davis and Thaut 1989). Other studies have shown that music conditions can decrease electromyographic responses (EMG), affect brainwave responses, and facilitate childbirth (Rider 1985). Rider's (1985) study compared various forms of music and entrainment in their ability to affect pain, EMG, and imagery. All treatment conditions were found to reduce reported pain, with the entrainment condition providing the greatest effects in reducing reported pain. Similarly, the entrainment condition was most effective in lowering EMG. He suggested that potential audioanalgesic mechanisms include: endorphin production from thrill response, dissociation through distraction, and autogenic conditioning. Other studies (Rider 1985; Rider, Floyd and Kirkpatrick 1985) have found improvements in entrainment of circadian rhythms and body temperature.

Winn, Crowe and Moreno (1989) suggest that the effectiveness of music therapy be understood in terms of the ways in which music, singing, drumming and related procedures affect access to unconscious information. Music apparently facilitates access to unconscious material in ways which facilitates integration of materials into consciousness. Health is then achieved by the integration of unconscious and repressed internal conflicts which create emotional illness and exacerbate physical problems. Other functions of songs in shamanistic and music therapy would include their ability to elicit confidence and positive expectations from the patient.

Hallucinogens affect humans systemically from the levels of neuronal transmission and physiological integration to the highest levels of emotional and cognitive functioning. A thorough consideration of their physiological and therapeutic effects are beyond the scope of this chapter (but see Hollister 1984, Hoffmeister and Stille 1982, Freedman 1984, Aghajanian 1982, and Jacobs 1984). Nonetheless, a few major points will be summarized to illustrate some of the probable mechanisms of effectiveness of shamanistic healing. Hallucinogens affect perceptual habits, reducing the stability of habitual perceptions and response patterns, and increase arousal and responsivity to the environment. The disinhibition creates an increase in the coherence of brain discharges and the oscillatory rate between the hemispheres, improving the connection of feeling and thoughts, and creating greater balance, integration and insight.

The biomedical use of hallucinogens as therapeutic agents includes psycholytic and psychedelic applications (Bravo and Grob 1989, Yensen 1985, Zanger 1989). The psycholytic approach uses hallucinogens as "mind dissolving" agents which alter the relationship between the conscious and unconscious in ways which facilitate psychoanalytic psychology. This facilitates psychoanalytic therapy through making the repressed feelings and memories more accessible by heightening emotional responsiveness, weakening psychological defenses, releasing unconscious material and promoting catharsis, thereby shortening the course of therapy.

The psychedelic approach recognized that hallucinogen induced peak, transcendent or mystical experiences were likely to produce long-term benefits. These powerful experiences lead to a dissolution of self into a mystical union, a feeling of being at one with the universe, an experience which is in some aspects similar to regression. The peak or mystical experiences bring about major personality changes, suggesting that the mystical insights are responsible for the therapeutic outcomes. Case studies and clinical experiences suggest that they

create a sense of personal significance, charge relationships with importance, and provide personal integration and a profound sense of interconnectedness, unity and meaningfulness. Outcomes include feelings of well-being, changes in values, increased spirituality, and a greater appreciation of life's possibilities. The dramatic effect of LSD in psychotherapy lies in that it provokes a resolution of psychosocial conflicts, giving the patient a greater sense of self-control, and the opportunity to make use of these insights for life changes (Kurland 1985).

Mandell's (1985) article on "Interhemispheric Fusion" provided some generalizations about neurophysiological links to macrolevel phenomena, including in the interrelationship of psychopathology and ASC. Mandell suggested that psychoactive drugs and other ASC induction procedures alter hemispheric dominance through differential changes in biogenic amine inhibition and by influencing the amount of coupling (bilateral coherence) that exists in hemispheric oscillations. Interhemispheric relations serve as a biological matrix for interpersonal style and are reflected in neurochemical and neurophysiological processes. LSD effects the time oscillations of catalysts in serotonin biosynthesis, making the frequencies more coherent, faster and random. This creates an equilibrium state resistant to both disturbance and emergent order, allowing a more intimate intermixing (a oneness) of all component parts (Mandell 1985:259). This allows a more thorough integration of the two hemispheres, which Mandell argues are specialized in cognition and affect (thought and emotion). LSD's increase of coherence and the oscillatory rate would improve the connection of feeling and thoughts, creating a greater degree of integration and balance which then leads to insight.

In summary, hallucinogens and other ASC change ordinary experience, breaking up the habitual experiences of the world, dissolving ego-centric fixations, and altering the relationship between the conscious and unconscious. This makes the patient more open to therapeutic intervention through stimulation of memories and bringing them to consciousness. Hallucinogens also have a depatterning influence, creating an extraordinary state of emotional lability, and increasing the individual's suggestibility and susceptibility to reprogramming through the healing ritual. The physiological effects include limbic-frontal and interhemispheric brain integration and synchronization, and a concomitant integration of conscious and unconscious, as well as thought and emotion.

In addition to the procedures previously discussed, other aspects of shamanistic healing procedures have

related effects in the context of our ASC model. Communal activities and the reestablishment of positive community relations are another fundamental aspect of shamanistic healing which are indirectly tied to ASC. Frecska and Kulcsar (1989) argue that shamanic healing practices are "neurobiologically mediated, complex forms of attachment. . . which result in deep psychobiological synchrony between adults" (Frecska and Kulcsar 1989: 71). Fulfillment of social expectations facilitate ASC through identification with the community and social attachments. Community ASC rituals promote psychobiological synchrony between individuals which is essential for integrated social functioning, and reinforce internalization of social relations.

Healing rituals also release endogenous opiates through a variety of stressors, which reduce emotional and somatic complaints and improve immune system functioning. Frecska and Kulcsar reviewed research which illustrates that brain opioid systems provide neurochemical mediation of social bonding. "[T]he social connotations and activation of the endogenous opioid system become cross-conditioned during early ontogenesis, so that later in life whenever the opioid system is activated by stress and pain, social connotations could arise together. . . [R]egression promotes endogenous opioid mediation while endogenous opioids mediate affiliation, and help depersonalization by loss of ego boundaries. . . [R]itually induced endogenous opioid activity supports social activity" and vice versa (Frecska and Kulcsar 1989: 79). Expressions of this innate drive for affiliation related to opioid levels have been shown to: control social processes; affect mother-infant attachment; alleviate, mediate and moderate separation distress; help elaborate the positive affective state of social comfort; and mediate the pleasurable qualities of social interaction (Frecska and Kulcsar 1989). Ceremonial opioid release emotionally charges cultural symbols, cross-conditioning cognitive and endocrine systems, and linking the mind and body.

10.5 POSSESSION, ASC THERAPY AND TEMPORAL LOBE SYNDROMES

Possession is a phenomena frequently associated with shamanistic healing. Although possession is not associated with the Shamans of hunting and gathering societies, it is associated with the Shamanistic Healers of more complex societies, such as the Mediums. The term "possession" is used here consistent with the definition of Bourguignon (1976a, b; cf. chapter 9), as a situation in

which an individual's personality is taken over or replaced by a foreign spirit entity which dominates and directs the individual's behavior. As was shown in the previous chapter, possession is associated with both indices of greater social complexity (political integration), as well as with psychophysiological factors frequently considered to be pathological (temporal lobe discharges and related central nervous system discharges). A number of conditions associated with the temporal lobe syndrome are also associated with possession: spontaneous illness and seizures; amnesia; tremors and convulsions; and compulsive motor behavior involving excessive, violent and uncontrolled movements. This suggests that the beliefs and phenomena of possession may result from temporal lobe syndromes or other biologically based seizure phenomena.

The temporal lobe conditions are also significantly predicted by and negatively associated with traditions of deliberately sought ASC and hallucinogen use (Winkelman and Winkelman 1991). This shows that shamanistic healing traditions may affect the incidence of possession and temporal lobe symptomology through the deliberately induced ASC. The induction of ASC may inhibit or prevent the incidence of possession experiences, as well as the spontaneous onset of organically based seizure phenomena. The psychodynamic of possession as an illness must also be assessed in the context of social conditions and relations. Spirit possession beliefs are associated with societies with evidence of considerable repression (Greenbaum 1973), and as such, spirit possession beliefs can allow for expression of repressed aspects of the personality. Ward and Birnbaum (1980) suggested that possession provides positive advantages for the victim by allowing an escape from conflict and a diminution of guilt by projecting responsibility onto the spirits.

Goodman (1988) addressed the phenomena of possession and exorcism in various cultures, showing that such beliefs are a vital and dynamic parts of psychological functions for many in the modern world. Goodman pointed out that possession and exorcism need to be understood in cultural context, and in relationship to personal experiences and physiological processes that accompany these experiences. Rejecting an explanation of possession in terms of the hypotheses of role playing, faking, acting, autosuggestion and self hypnosis, she suggested that there are "parallel physical processes" and information of relevance in the multiple personality disorder (MPD). The presence of several discrete personalities or alternates in the MPD patient has obvious

similarities to the possession experience, although there are differences in the cultural perception of the two phenomena.

ASC and traditional shamanistic therapies may be relevant in both cases. Goodman reports laboratory research showing important neurophysiological correlates of the different MPD personalities. Different evoked potential of the EEG are found with different personalities of the same individual, findings not created by role playing. Different personalities had different diseases, allergies, and drug reactions. Goodman admits that there is no physiological literature on those undergoing spirit possession to compare to those with multiple personality disorder, but suggests that there are ample behavioral similarities, especially in terms of ASC and alternate personalities. Goodman speculates that at the neurophysiological level we are dealing with two different manifestations of the same human capacity in the phenomena of possession and MPD. These phenomena are seen as lying at opposite ends of a continuum, with the major differences found in the lack of ritual control exercised by the MPD patient.

Goodman pointed to the general failure of Western type psychiatry and biomedical treatment of the MPD, suggesting that the best that has been done is to make the patient more capable of accepting the condition and coping with it. In contrast, work she reviewed which views the MPD in the context of possession shows that exorcism rituals apparently cured a number of MPD patients (cf. Krippner 1987). Goodman suggested that exorcism rituals may be an appropriate avenue to pursue therapeutically even in cases where the MPD profile does not correspond to possession characteristics, since the rituals are designed to give the patient control over the molesting entities. Goodman points out that the differences between scientific ideology and the reality of possession experience leads to internal conflict. Societies without rituals for dealing with these experiences

produce inner conflict between the views of prestigious authorities and the powerful inner experiences, thwarting inner adjustment. In contrast, the rituals of exorcism provide the clients with a means of controlling these powerful experiences. Her material pointed out that not only are these experiences culturally real, but that there are strong cross-cultural similarities which suggest both a common basis for possession and related experiences. The potential effectiveness of such therapies has been shown in the research of others (Krippner 1987).

However, such therapies are not widely utilized. Several interrelated findings indicate that more complex societies repress the deliberate induction of ASC. Individual and/or societal use of ASC decline with increasing political centralization and integration (De Rios and Smith 1977, Jorgensen 1980, Winkelman and Winkelman 1991). This suggests that there are important therapeutic utilizations of ASC which are ignored by contemporary societies, but which perhaps would be very useful. Krippner's (1987) examination of the treatment of Multiple Personality Disorder by Brazilian Espiritistas exemplifies this kind of therapeutic application of ASC and spirit belief, as does Jilek's (1982b) examination of the Coast Salish spirit dance.

Summary. The traditional biologically based shamanistic therapeutic modalities associated with ASC find their modern survivals in psychoanalytic and other therapies. However, major utilization of the therapeutic potentials of ASC has not yet been achieved. In fact, utilization of these potentials appears to be negatively evaluated by many sectors of our society. The veritable universal presence of ASC therapies, combined with their general absence in our society, suggests that we examine the personal and societal consequences of the lack of this psychobiologically based therapeutic modality, and determine what roles ASC based therapies might play in contemporary treatments and society.

CHAPTER 11

CONCLUSIONS

This chapter integrates a general summary of the primary findings of this study within the broader context of studies on the form, nature, and origin of magico-religious practices. The institutional bases identified in this study are used to infer a general model of changes in the nature of magico-religious practices as a function of social change within societies. The nature and variation in magico-religious practices can be explained as arising as a result of the interaction of social conditions with the nature of human psychophysiology (altered states of consciousness) and social needs (hierarchical control in politically stratified societies). The initial hypothesis that systematic differences in magico-religious practitioners occur as a function of social complexity is refined to suggest that agriculture, political integration, and the presence of social classes are the specific conditions responsible for creation of the different types and functions of magico-religious practitioners.

Three main aspects are found to underlie the complex of magico-religious phenomena found cross-culturally. This is illustrated in the entailment relationship between selection procedures and magico-religious activities, which indicate three main selection processes responsible for magico-religious recruitment: ASC experiences, social succession and political action, and social labeling and persecution. These selection procedures are related to activities of the practitioner types. The Healer Complex practitioners and the Mediums are universally present ASC based practitioners engaging in healing and divination. The Priests are social leaders of agricultural and politically integrated societies engaging in religious activity—propitiation and rites for protection and agriculture increase. The Sorcerer/Witch Practitioners have their origin in the Healer Complex, and emerge as a result of their persecution (social labeling) in the incorporation of their communities into hierarchically stratified political systems. Similar characteristics and practices are also involved in scapegoating and persecution of individuals not involved in magic, but labeled as so, in politically integrated class societies.

While this study cannot conclusively address the question of the universals of magico-religious practice, a number of features identified in previous studies are confirmed. A variety of features first manifested in shamanism, and transformed with the sociocultural evolution of society, are identified. Many of these features

persist in beliefs today. The shortcomings in the social or symbolic approach associate with Durkheim are illustrated by these features. The shortcomings in Durkheim's approach are a consequence of his use of samples of convenience, problems overcome by the systematic cross-cultural approach utilized here. Durkheim, however, did recognize a fundamental feature of magico-religious practice, one involving the linkages of religious power with politics, economy and the social order. The reasons for the emergence of these types of secular-sacred integrations in the political structures of more complex societies are briefly addressed.

The intellectualist or psychological traditions of explanation originating with Tylor and Frazer are also critiqued. The pathological attributions of early anthropology are replaced with a new perspective which see shamanism and related "magical" practices as reflecting processes of psychological growth and states of advanced mental health. The importance of ASC in human consciousness and therapeutic capabilities are only partly understood. However, they clearly represent a true frontier in understanding human nature and the practices labeled as magical. The virtual universal institutionalization of these biologically ASC practices as therapeutic modalities raises the question of the functional equivalents in our modern societies.

11.1 THE INSTITUTIONAL BASES OF MAGICO-RELIGIOUS PRACTICES

One of the hypotheses generated early in the research process was that there should be a relationship between selection processes for the magico-religious practitioners and the magico-religious activities in which the practitioners engaged. These analyses (see Chapter 4.3) prove to be material to the general theoretical perspective developed here, as they indicate a functional relationship between selection procedures and magico-religious activities which corresponds to the different practitioner types, reflecting the functional and institutional bases of magico-religious phenomena.

These analyses indicate the following institutional and functional bases of magico-religious practice:

- (1) Training involving ASC induction, and activities of healing and divination;
- (2) Selection based upon social succession or political

action, and related activities involving political powers, agriculture fertility rites, propitiation, and rites for protection; and

(3) Selection on the basis of attribution of biological inheritance of the role or other forms of social labeling, associated with attribution of exclusively malevolent activities.

The fact that these three sets of entailment chains represent the institutional structure of magico-religious practices is supported by the strong relationship of these factors to the different practitioner types. The first basis of ASC training and the healing and divination activities is strongly associated with the Healer Complex and the Mediums. Selection and training through altered states leads to the universally distributed healing and divination activities of the Healer Complex and Mediums. The second basis of social succession or political action associated with sociopolitical power and propitiation is entailed by the Priest type. These activities of Priests can be viewed as universals of complex agricultural and politically stratified societies. The third basis involving selection through social labeling and the attribution of biological inheritance as the basis for selection to the role. This and the resulting attribution of malevolent activities is entailed by the Sorcerer/Witch Practitioners. These practices of the Sorcerer/Witch are universals of politically integrated and socially stratified societies.

The practitioners in the Healer Complex (Shamans, Shaman/Healers, and some Healers) and the Mediums are grouped together on the basis of common training and selection procedures based in the use of ASC. The ASC basis of magico-religious practices is a psychophysiological basis, corresponding to that which was referred to as "religious sentiment" by Hultkrantz (1966) and the spontaneous basis of magic by Malinowski (1954). This psychophysiological basis, as manifested in a complex of events centered around the use of altered states, is universal. This basis is manifested in hunting and gathering societies as the Shaman. Several sets of findings support the argument that the transformation of hunting and gathering societies to those with an agricultural basis, sedentary lifestyles, and political hierarchies transforms the shaman's position, providing a different manifestation of the ASC practitioner in the role of the Shaman/Healer and the Medium. The supportive evidence includes: (1) the common training and functions (ASC training, healing and divination); (2) the exclusion relationship of the Shaman with the Shaman/Healers and the Mediums; and (3) the different relationships of these practitioner types to the socioeconomic variables with the independence of these practitioner/socioeconomic

relationships from diffusion effects.

A second major institutional aspect of the magico-religious phenomena is the control of social power in sedentary agricultural societies, particularly those with hierarchical political integration beyond the local community. This provides the basis for the Priest practitioners, whose roles involve the exercise of social and political power, and leadership in communal activities, particularly propitiation and agriculture rites. Priests are generally the heads of extended kinship groups or more complex social organizations, and their selection generally involves social inheritance or social succession and the exercise of political power. Priests exist only in contexts where there are other types of practitioners who are responsible for the magico-religious functions related to the altered state basis. While shamanism apparently provided a basis for the practices of Priest, the development of clan structures also gave rise to such developments, independent of or in conjunction with the shamanistic basis.

The third basis of the magico-religious complex originates in the conflict between the hierarchical sociopolitical power and the local level ASC practitioners, and later functions as a mechanism of persecution of lower classes through magico-religious activities and functionaries. As agriculture and political integration gives rise to changes in the shamanic role and the development of priests, there is conflict between magico-religious and socio-political practitioners at different levels of the hierarchy of political integration, as well as conflict between equivalent Healer Complex practitioners at the same level. This leads to the development of the Sorcerer/Witch Practitioner role, based upon the persecution of individuals by magico-religious practitioners (Healer Complex or Priests) or their representatives. This conflict serves to differentiate roles which were previously filled by the Shaman, in particular separating the malevolent activities, the healing role, and the altered state divining activities (Sorcerer/Witch, Healer and Medium).

Several findings substantiate that the Sorcerer/Witch Practitioner role has its basis in persecution of practitioners of the Healer Complex, particularly Shamans and Shaman/Healers—who are the local level leaders, by the Healers and Priests—who are the political leaders of societies politically incorporating local communities. These findings include: (1) that political integration strongly predicts the presence of Sorcerer/Witch Practitioners and the absence of Shamans; (2) that political integration is central to the differences among Sorcerer/Witch Practitioners, with witch-like practitioners in societies with higher levels of political integration; (3) the

continuous relationship between sorcerer and witch like practitioners; and 4) the greater similarity of sorcerer-like Sorcerer/Witch Practitioners than witch-like Sorcerer/Witch Practitioners to practitioners of the Healer Complex. Although the Sorcerer/Witch Practitioner role originates in persecution of actual magico-religious practitioners, the role receives further development in the projection of particular beliefs associated with these practitioners in the process of persecuting people of lower status, class and power.

11.2 UNIVERSALS OF MAGICO-RELIGIOUS PRACTICE

While the specific data collected here cannot conclusively address the issue of all of the universals of magico-religious practice, it does provide a minimal point of departure. The institutional bases identified here indicate that one of the universal bases of magico-religious practice derive from biologically based altered states of consciousness and their associated potentials. Other universal features can be identified as well.

The following universal features of magico-religious practice are associated with the original ASC basis and its subsequent developments:

- 1) ASC based supernatural practices
- 2) ASC based supernatural healing and divination
- 3) Spirit beliefs (animism)
- 4) Spirit aggression theories of illness
- 5) Emotional bases for practices
- 6) Physical medicine integrated with spirit beliefs
- 7) Malevolent magico-religious powers and actions
- 8) Collective/community practices
- 9) Shamanism as a hunting and gathering ecological adaptation
- 10) Priest as an adaptation to advanced agricultural and political integration
- 11) Declines in deliberate ASC with increasing political integration
- 12) Sociopolitical magico-religious power
- 13) Supernatural weather control
- 14) Magico-religious training through ASC
- 15) Supernatural power from spirits
- 16) Protection against malevolent magico-religious practices
- 17) Protection against spirits
- 18) Use of spells and rituals

While these are not all of the likely universals, these are the factors which are suggested by the present study, focusing on the professional magico-religious roles. Studies of the individual lay practices would also be necessary

to determine whether other practices and beliefs are universal as well.

11.3 MAGIC AND RELIGION

The categories of magic and religion, which are frequently used to refer to the types of phenomena under consideration, do bear a relationship to the general findings of this study. Altered states provide the basis for the activities commonly referred to as magic, particularly "white" magic. The practitioners classified here as Shamans, Shaman/Healers, Healers, and Mediums have strong associations with what is conventionally understood as magic. The Sorcerer/Witch Practitioner, to whom malevolent activities are attributed, is associated with "black" magic. The Priest practitioners, whose selection and activities are closely involved in the exercise of sociopolitical power, are involved in activities which closely correspond to those associated with religion (e.g., propitiation, as well as Durkheim's notion of fulfilling societal needs). The characteristics of the Priest illustrate the link between religion and the structure of society which had been a central focus of the traditions associated with the symbolists, structuralists, and Durkheim, and recently promulgated by O'Keefe (1982) as the social theory of magic. These anthropological traditions emphasized that magico-religious rituals function in maintaining community structures, and constituted what Skorupski (1976) referred to as the symbolist tradition in magic. The perspectives focused upon magico-religious traditions as symbol systems, and see magic as derived from religion or a part of religion.

The notion that religion (as opposed to magic) has its origin in society, societal needs, or social expression is consistent with the findings here. This study shows that the Priest role arose as a consequence of the demands of social and economic conditions (agriculture, political integration, and fulfilling leadership needs). However, the activities of the shaman and related ASC practitioners cannot be seen as arising out of this aspect of religion, although magical practices and rituals may on occasion borrow elements from organized religious traditions (see O'Keefe 1982 and discussion of Healers in Chapter 6). The activities of the shaman have their origin in the selection and training experiences involving the induction of an altered state of consciousness and the activities of healing and divination involving ASC. These activities can be seen as based in society (and therefore be considered religion) in as much as any human activity is based in and filtered through social experiences. Although these ASC based experiences are shaped by social conditions (e.g., political integration, which predicts the

incidence of soul flight versus possession), the basic altered state which gives rise to the position and capacity is not determined by social experience, but by human psychophysiology. The ASC based activities (shamanism) are distinct from sociopolitical power (religion), although they may give rise to sociopolitical magico-religious organizations. Similarly, the status of the Witch/Sorcerer Practitioner emerges out of the conflict between ASC based charismatic power and socially based religious power. This study suggests the two independent bases for magico-religious traditions (ASC and social power), with the conflict between them giving rise to a third aspect (persecution of individuals accused of malevolent practices).

While Durkheim was not ignorant of the magico-religious activities which involved ASC, his recognition of them was such that he did not appreciate their nature or importance. These ASC activities were viewed by Durkheim as "a negative cult with ascetic practices" (1961:462), a set of practices which borrowed from the collective forces and practices of religion. Durkheim was not unaware of the problems caused by this perspective: "But if religion is the product of social causes, how can we explain the individual cult and the universalistic character of certain religions? If it is born *in foro externo*, how has it been able to pass into the inner consciousness of the individual... If it is the work of definite and individualized societies, how has it been able to detach itself from them, even to the point of being conceived as something common to all humanity?" (p.472)

Durkheim responds that he has "shown how the religious forces which animates the clan particularizes itself by incarnating itself in particular consciousness. Thus secondary sacred beings are formed; each individual has his own, made in his own image, associated to his own intimate life, bound up with his own destiny; it is the soul, the individual totem... Thus the existence of individual cults... are only the individualized form of collective forces" (p.472). Durkheim thus places the origins of the individual cult, the ASC based practices, in the collective forces represented by totemic clan worship. These are the types of activities found under the term religion, and represented in the activities of the Priest of this study.

The empirical error of Durkheim's theory is revealed in the systematic cross-cultural research undertaken here. If the ASC activities, or individualized cults as Durkheim labels them, are derived from the collective religious practices, the latter would have to also be universal. But the ASC activities are universal, while the religious activities proper are not. The collective reli-

gious activities cannot be the source of a universal phenomena when it is not universal itself. Durkheim's 'sample of convenience' allowed him to draw conclusions which would not hold up in a systematic cross-cultural sample such as that which is utilized here.

Nonetheless, these types of activities involving the integration of sacred and secular power are fundamental to understanding the origins and role of *religion* (as opposed to magic) in society. The activities of Priest and religion clearly provide a means of organization for increasingly hierarchical and centralized control of society, and apparently provide the mechanisms for sociocultural evolution. Friedman's (1975) and Netting's (1981) work discusses the adaptive characteristics of such sacred-secular integrations.

Friedman's analysis of the Kachin economy shows that "the dominant place of religion in economic life... integrates the supernatural world with that of living lineages and organizes the material processes of reproduction" (Friedman 1975:47). The Kachin religious cycles involve interrelated religious and economic activities which focus upon productivity. In fact, even the circulation of cattle, trade items and foreign goods are subordinated to or integrated with a production-feast cycle. The material accumulation and feasting activities serve as a means of control over and integration of prestige, labor and affinal exchange in relation to the supernatural. The ability to give feasts demonstrates the power of one's lineage, establishing one's prestige, while patently demonstrating the fact that one's benevolent spirits are assuring abundant agricultural production.

Netting's (1981) article on "Sacred Power and Centralization" shows that the kinds of institutional organizations provided by practitioners like Priests serve important social leadership roles. These practitioners and activities have functions both in terms of providing psychological assurance for the masses, and in terms of providing a basis for broad based appeal to sociopolitical ritual action spanning many kinship groups. He suggests that chiefs/priests occupy crucial roles in developing and integrating new concepts of leadership. The concept of religion provides a focus which overcomes the critical structural weaknesses in stateless societies. Such overarching symbol systems enable cultures to expand their organization frameworks beyond that provided by kinship. As such, religious systems undoubtedly contributed directly to the evolution from clan societies towards the state level systems.

The present study also provides new perspectives on the activities traditionally called magic, the psychological aspects of magico-religious practices and supernatu-

ral beliefs. These were denigrated by early anthropology and subordinated by the social functional approach of Durkheim and many other social scientists. This study has shown that these biologically and emotionally based practices are not cognitively deficient, but represent an evolution and integration of human consciousness which provides therapeutic and adaptive potentials (cf. Walsh 1990).

The universal and functional role of community based ASC found in the cross-cultural sample of this study raises the question of what institutions and practices serve such functions in our society. The growth in the U.S. of sects and cults of "Eastern" (Asian) origins reflects a similar patterns found in the Roman society of this sample. This kind of religious change reflects the same kind of revitalization of religious experience, providing an experiential alternative not found in the state religions. The lack of ecstatic experiences in mainstream contemporary churches and denominations is undoubtedly one factor contributing to their decline.

What are other sources of community ASC in contemporary society? Recreational drug use must be seen as one of the modern alternatives to or manifestations of this biologically based drive to experience ASC. Does

our society use alcohol, barbituates and a variety of psychoactive substances as a means of meeting this biologically based drive to alter consciousness, as is suggested by Siegal (1989)? Do the hordes of people frequenting bars represent current attempts to achieve ASC, community relations and transcendent integration found in traditional healing practices? The lack of culturally recognized and positively appraised institutional forms for the utilization of this therapeutic ASC potential may be the underlying cause of a variety of cultural malaises.

Summary. The general model of magico-religious practices and their evolution is represented in Figure 11.1. The original basis of magico-religious practice is in the potentials provided by ASC. This original basis manifested in shamanism provides the basis for a subsequent differentiation of magico-religious practice. The original ASC basis persists in all societies, and provides one of the bases for the Priest. As this sociopolitical basis develops, it ultimately comes into conflict with the local level ASC based practitioners, represented by Shaman and Shaman/Healers. This ultimately manifests itself as the Sorcerer/Witch practitioner, the conflict of magic and religion, and the manifestation of black magic.

	SOCIOECONOMIC CONDITIONS SOCIAL COMPLEXITY			
	LOW			HIGH
	Hunting & Gathering	Agriculture Subsistence	Political Integration	Social Classes
INSTITUTIONAL BASES				
SOCIAL LEADERSHIP		Priest	Priest	Priest
CONFLICT			Sorcerer/Witch	Sorcerer/Witch
ASC	Shaman	Shaman/Healer	Medium Healer Complex	Medium Healer

Figure 11.1 Practitioner types, institutional bases and socioeconomic conditions.

Table 11.1
Societal Practitioner Configurations and Socioeconomic Conditions

**SOCIOECONOMIC
CONDITIONS**

CLASSES PRESENT (2-4)

POLITICAL INTEGRATION
BEYOND LOCAL LEVEL (2+)

AGRICULTURE OR PASTORAL

POLITICAL INTEGRATION
BEYOND LOCAL LEVEL (2+)

PRIEST & SHAMAN/HEALER
ROMANS

AGRICULTURE OR PASTORAL

NO CLASSES (0-1)

HEALER
LESU

PRIEST & SHAMAN/HEALER

BRIBRI
PENTECOST
IBAN

POLITICAL INTEGRATION
ONE LEVEL OR LESS

SHAMAN/HEALER
HOTTENTOT
KIMAM
HIDATSA

PRIEST & MEDIUM
ATAYAL

AGRICULTURE OR PASTORAL

SHAMAN
TUPINAMBA
CALLINAGO

HEALER/PRIEST & SHAMAN
JIVARO

HEALER & MEDIUM
TRUKESE

NO CLASSES (0-1)

SHAMAN
KUNG
SAMOYED
SEMANG
CHUKCHEE
MONTAGNAIS

KASKA
TWANA
PIAUTE
CAYUA

NO POLITICAL
INTEGRATION (0-1)

AGRICULTURE
MINOR OR ABSENT

1 PRACTITIONER TYPE

2 PRACTITIONER TYPES

Table 11.1, continued

PRIEST, SORCERER/WITCH
HEALER COMPLEX & MEDIUM
 WOLOF
 BABYLONIA
 AMHARA
 TANALA
 JAPAN

PRIEST, HEALER COMPLEX
& SORCERER/WITCH

OVIMBUNDU

FUR

TUAREG

KURD

GARO

CREEK

AZTEC

MAPUCHE

PRIEST, MEDIUM &
SORCERER/WITCH

ALOR

KAFA

PRIEST, MEDIUM & HEALER

MARQUESA FULANI

IBO VIETNAMESE

TODA KAZAK

PRIEST, SORCERER/WITCH
HEALER COMPLEX & MEDIUM

SARAMACCA

PRIEST, SHAMAN/HEALER
& SORCERER/WITCH

ZUNI

The qualification that synchronic data is being used to address diachronic issues is important, but the limitations imposed by such data are largely unnecessary, since correlation in synchronic data can be used to infer functional processes if controls for geographical propinquity, environmental similarity, language relatedness and time have been applied (Jorgensen 1979). These criteria have been met by the autocorrelation controls based upon language and distance. While the societies of this sample are not contemporary, they span thousands of years and well represent cultural variation, not only in terms of levels of social complexity, but also in terms of the variation in human cultures found at the beginning of the twentieth century. As such, the sample provides broad coverage of human societies, indicating what is true not only in history, but also in the immediate past and presumably the present. The universal application of the findings of this study is emphasized by the findings of common patterns across time, and the concordance of these formally derived patterns with the previous research findings in the anthropology of magic and religion.

The individual societies of the sample and their practitioner configurations are arrayed with respect to the socioeconomic conditions present in the respective societies in Table 11.1. The spatial organization provides an intuitive and spatial view of the evolutionary processes formally demonstrated in the quantitative analyses. While a single profile is found at the extremes of social complexity (simplest and most complex), there is considerable variation in the practitioner configurations found at the mid-range of social complexity. While social factors have been identified as central to the incidence and social transformation of magico-religious practitioners (agriculture, political integration and social stratification), there are apparently other aspects of these processes or other social factors which explain the variations in practitioner configurations and their development. The findings presented here represent the preliminary analysis of a large data set. This expanded and revised set of variables (Winkelman and White 1987) are available to other researchers who wish to confirm, expand or refute the findings of this study.

APPENDIX 1

MAGICO-RELIGIOUS PRACTITIONERS

The material in this appendix covers the societies considered in this study and the magico-religious practitioners in those societies. The practitioners listed below are those coded for in the final phase of the study, and therefore has some difference from prior publications (Winkelman 1984). The numbers associated with the practitioners are case numbers identifying the practitioner in data set available in Winkelman and White (1987). Sources referred to and not listed in the supplemental bibliography are the main sources for the SCCS as found in Murdock and White (1969), Barry and Schlegel (1980), and White and Murdock (1985).

NAMA HOTTENTOT

001) The *Gai Aogu*, including the apparent specialization as a seer—*gebo aob*. Although the Hottentot are pinpointed for the 1860's all sources are from the 20th century. Best coverage is Schapera's compilation of others' work; he and Hoernle point out the poor coverage of the practitioner. Murdock (1981) states the Nama were detribalized in 1652 and mixed with the Indonesians to form the group known as the Cape Coloreds.

!KUNG BUSHMEN

002) *N/um* master or *n/um kxao-si*, whose practices focus mainly upon healing through trance dancing. Description is excellent given the special coverage of the practitioner provided by Katz (1973, 1982) and Lee (1967) in addition to Marshall. The !Kung are a hunting and gathering group, and one of the few Khoisan speaking peoples who have survived the migrations of the Bantus and Europeans into southern Africa.

OVIMBUNDU

003) The *ochimbanda*, *chongombo* or *chouti*, the operator of the divining basket, is covered primarily by Tucker (1940). Tucker also refers to the *citue cosoma*, the royal diviner, which may be a different practitioner, but it is not coded here. Tucker also refers to a special rain doctor but Hambly indicates that the rainmakers (*upuil*) are a specialization of the Ochimbanda status, and are included with it.

004) The Chief or king (*osoma*, *sova*) and headmen (*sekula yimbo*). The Ovimbundu do not have centralized political organization, but are divided into a number of chiefdoms, the smaller ones tributary to the more power-

ful. The Ovimbundu have a magico-religious practitioner status in the head of both the male (*oluse*) and female (*oluina*) kinship groups; the head of the *oluse*, which forms the nucleus of the village group, is the village headman (*sekulu yimbo*). The role and magico-religious activities of the *oluse* are in most respects identical to those of the chief (*osoma* or *sova*), who is the head of many competing kin groups. The *oluse*, *oluina* and *osoma* are all involved in agricultural rites, have political powers and are all succeeded from father to son or elder to younger brother. The final decision as to the chieftainship is frequently decided by military means, but generally subject to a "democratic tendencies" found in the normal approval of or disposal of the chief by a group of counselors. These statuses are combined into a single status, the Ovimbundu Chief. Loeb's (1962) research on the Ambo, another Bantu group in the same province, was used to supplement information of the magico-religious activities of these practitioners, which were reported but only incidentally and weakly covered by major sources.

005) The *olonganga* or *onganga*, a witch or sorcerer, is incidentally and weakly covered by Tucker.

MBUTI

No magico-religious practitioners are reported for the Mbuti. Putnam mentions a witch (*lozi*), but Turnbull clearly indicates that the belief is subscribed to only when temporarily imposed upon them by their Bantu hosts during their stays with them. However, there were two focuses of magico-religious activity coded and analyzed in previous assessments of the data. Although no data is provided on these other focuses here, their general characteristics are briefly presented since the Mbuti society was part of the sample originally selected. One focus of magico-religious activity was the *molima*, a group formed by all adult males. These gatherings excluded females and children, and were directed towards food acquisition and curing. There were also magico-religious activities accessible to the populace at large in the society. Although both of these focuses have characteristics somewhat different from other practitioners in the sample, cluster analysis indicates that they are similar to one another, to the general access to magico-religious activities among the Siriono (see below), and to some of the healers in this sample (see Chapter 6).

IGBO

006) The *dibea* is weakly covered in the major sources, but coverage is supplemented by Arnize (1970).

007) The sacrificial priest, the *eye-alusi*, is not well covered by the major sources, but is considered in depth by Arinze (1970), who apparently spent some time among the Ibo as a missionary. Included with this status is the family priest and the *Nri* priest, all involving statuses occupied only by males who acquire their statuses through social inheritance or succession, and offer sacrifices to spirits.

008) The *ora-nili*, or rain priest, is covered very weakly by major sources and no supplemental sources were found. The weak coverage likely results from the secrecy which surrounds their activities and training.

009) The oracle, known as the *aghara*, *igwe*, *kamalu*, and *ibini kpabe* is a practitioner which on the surface appears unlike any other in our sample. These practitioners are men from a particular village who provide the supporting acts for an oracular mechanism. These villagers used the oracle to resolve disputes and conflicts, as well as to rob and extort the disputants from other areas who were willing to submit their disputes to the oracle for divine adjudication. This practice was eliminated by the British Army some 35 years prior to the pinpointed date for the society.

WOLOF

010) The *M'Deup* or *lefohar* is covered primarily by Balandier (1949) and Gorer (1962).

011) *Ya bopa* or "wide heads", the canonical magician or sorcerer-diviner, is weakly covered by Ames (1958, 1959). The magico-religious activities of the hunter are included here since the hunter must be a diviner (Ames 1958:25). The *ya bopa* was not coded for in prior analyses because of lack of available coverage. It is clearly a member of the Healer Complex, based upon selection and training procedures, ASC activities, and healing and divination functions.

012) The *Murid*, the Islamic priest, also referred to as the *marabout*, *eliman*, *waliu*, spiritual shiek, and Mohammedan priest and learned man. Coverage is weak, and is supplemented by Marty's (1913) coverage of Islamic activities in Senegal. The followers of the Murids engage in ecstatic experiences and may be eventually allowed to join the order. However, their ecstatic experiences are not considered as part of the Murid's training since the experiences are not involved in the status selection.

013) The *doma* or witch is weakly covered by major sources, but supplemented by the reports of Gorer (1962/1935, 1944) and Ames (1959).

FULANI

The codings of Murdock and Provost (1973) for political integration and classes may be in error, since there is evidence for both political integration and slavery being present. There was some uncertainty in deciding how to treat this society since they have in the recent past imposed themselves as kings upon their neighbors, but having been disposed, have returned to their nomadic lifestyle.

014) The *mo keni* or *kenado*, the followers, devotees and those possessed by the spirits, are reported only by St. Croix (1945). Although these practitioners are certainly not present in all of the local living groups, they do form a part of the larger nomadic culture of the Fulani. There is very limited coverage on these practitioners; the information about the use of ASC is included together in characterizing training and activity ASC.

015) The *bokajo* or *ndarnowo*, one who practices magic or spell binding, is weakly covered by St. Croix (1945). The *bokajo* status is linked to the general inheritance of spells from maternal and paternal relatives. Included with the role activities of this status were all magico-religious activities present, but not explicitly attributed to the other recognized practitioner statuses. This practitioner was not recognized in the original codings, but classified as a Healer Complex practitioner.

016) The *moodibbo* or *modibbe*, the Islamic holy man. This practitioner apparently displays a wide variety of manifestations, from the Islamic norm to a healer/sorcerer/diviner using some similar techniques but with little direct Islamic influence. On variables pertaining to divination and propitiation, there was evidence of activities, but without sufficient detail for coding. Since these Islamic practitioners were part of regional activity, some variables were coded from Marty (1913) and treated as arbitrary coding errors in the data quality assessment.

017) The guardian of the Fulani Way, the *maudo laawal pulaaku*, also known as the *ardo*, chief of the camp. The guardian is a hereditary ceremonial leader involved with protection of animals. Stenning refers to activities on the part of the guardian which he presumes to be fertility rites. Since none were described by him, the rites of initiation described by Dupire were also coded as fertility rites since they involved such activities.

FUR

Coverage at the pinpointed period (1880) is weak, and major SCCS sources are for later periods. Coverage is augmented by O'Fahey and Spaulding (1974), Anderson (1908) and Beaton (1939).

018) The magician is weakly covered by Felkin, who

provides limited coverage of what he reports as an ancient belief at the time of his observation in the 1880's. Beaton's fieldwork in the 1930's provides no mention of this practitioner.

019) The *puggee* is an Islamic practitioner also referred to as a *fakir* and priest by Felkin.

020) The rain priest, or *tôgôny*, is well covered by Beaton (1939).

021) The Sultan, the *aba kuwri*, the lord of obeisance, including the chiefs, who form the hereditary upper class rulers of the Fur. Coverage is supplemented by the historical research of O'Fahey and Spaulding (1974).

022) The *sahar* or evil eye. Neither Felkin nor Beaton report on the presence and characteristics of a practitioner engaged primarily in malevolent activities. Beaton does make a brief mention of a belief in some people with the ability of metamorphosis into an animal, but he does not report this as a belief in a practitioner type. However, Anderson (1908) does report on beliefs general to Kordofan, and reports a belief in the *sahar*, which appears to constitute a stereotypical belief in the evil eye. The beliefs held about people accused of being *sahars* are coded as a practitioner type.

KAFA

The coverage of the Kafa is weak given the very short periods of field research by the major sources, Cerulli and Beiber. Huntingford provides a very useful compilation of these and other sources, but good overall coverage is lacking. Huntingford refers to sacrifice performed by the heads of families, but no further information was found to substantiate this as a practitioner type. The Monophysite Christianity has been present among the Kafa since the 16th century, but the people were "merely nominally Christians" according to Huntingford. Similarly, although the Christian Catholics entered Kafa in the mid 19th century, they still only numbered 6000 in 1940. Islamic religion was present almost exclusively among the foreign (Moslem) traders. Magico-religious practitioners have not been coded for any of these traditions because they were not indigenous and not prevalent.

023) The *ekko*, *eqqo*, or *eqo* is weakly covered by Bieber, and augmented by Gruhl (1975). The king is considered to be the greatest *eqqo*, but the King's ceremonial relation to the *eqqo* is an annual festival, and the selection, activities, powers, etc. of the king and the *ekko* are quite different. The king is therefore coded as a separate practitioner.

024) The king and the activities of his attendant priests. Although the king is no longer functioning by the pin-

pointed date (1905), the presence of the king as sovereign power a decade before is used as justification for including it here.

025) The *qoro*. Very weak coverage of a practitioner which is linked to the practice of lycanthropy. Huntingford indicates that this practitioner is similar to the Amhara *buda* (coded below), which may be an appropriate substitute for the data presented for this practitioner.

AMHARA

The Muslim and Fulani religious practices are not coded since they are not part of Amhara of the Gondar district, the focal group. The *woggesha*, a surgeon-herbalist reported by Messing is not coded here because the practice is thought to be based in an empirical tradition not involving magical beliefs. The *tanquay* reported by Messing as a practitioner being replaced by the *debtara* is considered to be a specialization of the *debtara* status by Young. This latter perspective is adopted and the *tanquay* is not coded as a separate practitioner.

026) The *zar* or *balazar*, a possession trance healer cult group predominantly involving women.

027) The *dabtara* (*debtera*) or scribe appears to combine an indigenous magico-religious activities with a status within the Catholic Church which was distinct from the priests. The *dabtara* includes the *tonkway* or *tanqway*, referred to as a witchdoctor and diviner.

028) Priest, including the *keys*, *abune*, chief monk, bishop and upper clergy of the Ethiopian Church, are considered to constitute a practitioner type.

029) The *buda* is referred to as a sorcerer or a witch, and is restricted to the blacksmith class and inherited from one's father. Coverage is augmented by Young (1970).

TUAREG

Fuchs and Campbell provided some amplification of coverage, but the major improvement was provided by Nicolaisen (1961).

030) The practices of the "Friends of the *Kel Asouf* (spirits) involves elements of pre-Islamic religion and primarily focuses upon women, their divination activities, and their presumed role in organizing the public functions for the cure of those possessed by the *Kel Asouf* spirits. The patients in these ceremonies are coded as practitioner trainees for this status. Men are also involved in activities focusing upon evocation and propitiation of the *Kel Asouf* spirits, offering them sacrifices when initiating the hunt and upon capture of game; these activities are included as part of the role.

031) The *marabout*, an Islamic practitioner, also referred to as *shofra*, *shereef*, *amekelleou* and *Inisilman*. This

practitioner appears to utilize indigenous practices of long standing, combined with considerable Islamic borrowings, and an integration of immigrant/itinerant Islamic practitioners into prior status.

032) The Supreme Chief, drum chief or the nobels (*ettebel*, *arazou*) including the Sultan (*amenokal*). This practitioner was not included in the original analysis, but classified as a Priest based upon principal selection, training and function characteristics. These different focuses of activity are recognized as a single magico-religious practitioner status based upon the fact that all are male political leaders who are hierarchically related, acquiring the status through succession and political action, and involved in the propitiation of ancestors and other spirits.

033) The sorcerer is a status attributed to the blacksmiths, who are outsiders to the Tuareg. They exhibit the power of evil mouth or evil eye, called *etama* or *tezama*. The blacksmiths are in some respect outside of Tuareg society, but live in symbiotic relationship with the Tuareg. The power of *etama* or *tezama* is thought to be present among the Tuareg as well, but they are not treated (persecuted) as magico-religious practitioners.

BABYLONIA

Babylonia is surprisingly well covered given that all the sources are reconstructions from ancient tablets. The physicians referred to as *asu*, *a-zu* and *ria-zu* have a practice based in non-magical empirical knowledge and are not coded here. Scaggs refers to an omen interpreter, the *sha'ilu*, who may be the same practitioner as the soothsayer or oracle. There is not sufficient data to code for this possible practitioner. Since the information available is that produced by a literate class, it tends to be about the activities related directly to that class. Therefore there is good coverage of the priests, but very little material on the practitioners in the lower or commoner classes, the oracle and the witch/sorcerer.

034) The Oracle, (*ragintu*) is also referred to by Skaggs as *muhhum* or *apilum*, a frenzied person, and described as *immahu*, referring to an ecstatic state. Coverage on this practitioner is weak.

035) The Exorcist, the *ashipu* or *mashmash*, including the *kalu* assistant.

036) The soothsayer, called the *baru* priests, *pa-aza* or *abkalla*, who function as consultants to the king.

037) The king, the high priest (*enu*) and the assistants, the *kalamah*.

038) The witch or sorcerer is weakly covered. This practitioner also engages in activities such as healing and hunting magic and may have had considerably different

characteristics if fuller coverage had been available.

ROME

The Roman culture is pinpointed for 110 A.D. at the zenith of the Imperial Period. Given the literary tradition of the Romans, the material available for reconstruction is remarkably broad, although not provided in the major sources for the SCCS. The excellent works of Cumont (1911/1956, 1912/1960), as well as Bailey (1932) and Folwer (1911/1972) have supplemented coverage. Although Christian communities were present at this time, they were not coded for. Their essential features may be well represented by the Eastern Cult code (see below).

039) The terms sorcerer, witch, necromancer, wizard and magician were applied to those engaged in a variety of overlapping activities. This status of magico-religious practitioner may be a synthesis of a variety of conceptually distinct activities rather than a single culturally recognized status. These varied practices have been coded as a single practitioner since they seem to constitute a set of conceptually linked activities from the point of view of the major sources on Roman religion (Bailey and Cumont). Some references indicate the use of spells and rituals, while others refer to the use of divination procedures, healing practices and the employment of spells for improving agriculture. There is no question that these activities were actually practiced (e.g., see Cumont 1911:193), and that the practices were at times adopted by powerful members of the upper class of Roman society.

040) The Eastern or Oriental cults were a recurrent phenomena in Roman culture. The entrance into Roman society of a variety of new cults (e.g., Baal, Cybele-the Great Mother, Isis, etc.) which originated in the "Orient" (Phrygia, Asia Minor, Asia, Egypt) provided an alternative to the state religion. These Oriental or Mystery religions were likely the religions of pastoralists or simple agriculturalists, part of the culture of the lower strata of Roman society which became integrated into the Roman Empire (Angus 1928). These beliefs started as private religious associations among slaves, soldiers, and other groups and were later transformed and adopted into the Roman State religion. Cumont and others suggested that there is a fundamental similarity among these Oriental religions, partially because these cults have a broad overlap, and because they were first "processed" through Greek culture before they arrived at Rome. They appealed to the senses and passions and "taught men how to reach that blissful state in which the soul was freed from the tyranny of the body and suffering" (Cumont 1911:29). They filled emotional needs not met by the prosaic, dry,

verbose and notarial religion of the state cult. The cults also appealed to the intellectuals since they were involved in the dissemination of mathematics, astronomy, medicine, ect. (The augurs included below with the state cult, are descendants of an Eastern cult, the Chaldeans). These cults provided an assurance of immortality, purification involving severe asceticisms and the induction of altered states of consciousness, as well as a social group which provided a spirit of "fellowship". Self-selected adherents to the cult were frequently motivated by illness and psychological crises brought about by the civil wars, tyranny and anguish resulting from rampant lawlessness and injustice (Cumont 1911). The Eastern Cults have been coded for, based upon the most extensively described practices; these are Cumont's characterizations of the *galli* priests of the Great Mother Cult of Phrygia.

041) The *paterfamilias*, master of the house or family priest. Although Bailey insists that there is no ancestor worship in Roman religion, there is clearly ancestor spirit propitiation (see Bailey pp.98-99).

042) The *Pontif, rex sacrorum*, the kings, and magistrates, and the priests of the state cult and assistants, who were responsible for the maintenance of the state cult. Included here are the activities of the Vestal Virgins, who function as assistants to the pontifs. Also included here are the augurs, the astrologers or mathematici, whose function was to determine the will of the gods and advise the pontifs and magistrates. Previous analysis (Winkelman 1984) had treated the augurs as a separate magico-religious status, but they were included with the *Pontif* in the final codings. According to Cumont, the augurs are the Roman institutionalization of the ancient Chaldean astronomer priests. Although they appear to use an altered state based divination procedure, they rely largely upon the interpretation of signs.

SAMOYED

043) The Shaman, referred to as *budtode*, '*dano* and *sawode* by Hadju but as the *tadebey* or *tadibey* by Englehardt, Kopytoff and Struve. The major sources have very sketchy coverage, but an article by Lehtisalo (1924) translated in the Samoyed file of the HRAF provides reasonably good coverage. Lehtisalo refers to the practitioner as a sorcerer, magician and *ngannuunturjuutsi*.

KURD

044) The *dervish*, including the *shaikh* leader and the *sayyid*. The primary difference between the *shaikh* and the *sayyid* appears to be that the latter is an itinerant

practitioner. The *dervish* is linked to the Islamic tradition, but forms a distinct tradition which has frequently been in conflict with the mainstream Islamic tradition. The development procedures coded are for the *dervishes*, the followers of the Shaikh, rather than the Shaikh himself, who may not undergo such experiences according to Barth's descriptions. The Encyclopedia of Islam was used to augment coverage on the *dervishes*.

045) The *mulla*, an Islamic practitioner.

046) The *Chawazar* or evil eye people, but not including the beliefs in people thought to undergo transformation into animals.

TODA

Overall coverage of the Todas is weak since the major researcher (Rivers) spent only about four months carrying out his studies. Limited supplemental coverage is provided by Walhouse (1874). Prior analysis had treated the sorcerer (*pilikoren*) as a separate practitioner type but is combined here with the *utkoren*. Both the *palol* and the *teuol* are almost exclusively from one clan, the Teivaliol. 047) The *teuol* or *teuodipol*. The altered state conditions surrounding the divination performance are assumed to be an accurate characterization of the training altered state conditions.

048) The *utkoren* or *utpol*, including a specialization called *pilikoren* or *piliutpol*, which was treated as an independent practitioner type in the previous codings. The characteristics and activities attributed to the *pilikoren* were combined with those of the *utkoren* because they appear to be specializations of the same status, since the *pilikoren* may be paid to remove his malevolent effects. Unfortunately the weakness of the coverage makes it ambiguous as to whether there is one or two practitioner types in this case.

049) The *palol*, or dairy priest, has included the activities of the lower rank assistants (*kaltmikh* and *wursol*).

KAZAK

The Kazak have weak coverage on all practitioners. Islamic priests had penetrated the area in the 19th century or earlier, and are coded here even though the people were only superficially Moslem in the 1950's. Although HRAF files and Roberts (1976) indicate the presence of a belief in the evil eye, no evidence was acquired to substantiate this as a practitioner type and was not coded.

050) The *baqca*, *baksi* or *bagsha*, referred to as a shaman, sorcerer, magician, and priest.

051) The Islamic practitioner referred to as *molah*, *iman*, conjurer, doctor and probably *arbauuchis*, *douanas*, *djulooutchis* and *tabibs*. This practitioner was not coded

in previous analysis for lack of available information. Its principal selection, training and functions indicates that it is a member of the Healer Complex.

052) The *aksakal* (*aqsaqal*) and *bij*, who presided over the religious life of the people as hereditary political leaders. Coverage is very weak.

GARO

053) The *kamal* is referred to as a priest, but the primary responsibilities involve healing.

054) The *nokma* or headman is a ceremonial leader whose position is acquired through social succession or political action.

055) The *achicks*, *matchadu* or tiger men, who have the ability to transform themselves into animals and travel about. These activities appear to have been actively learned in the recent past, but folklore includes accounts of these animals eating humans.

VIETNAMESE

Coverage by the major sources was augmented by Dumoutier (1897), Coulet (1926), Landes (1881), Cadiere (1929), Lusteguy (1935) Nguyen van Khoan (1930) and Thien-An (1974). Hickey (1961) was also used as a source for Buddhist ancestor worship and the activities of the cult committee, since it is listed as a major source; however, it is not focal time nor place. The *ngoi kinh* is an apparent magico-religious practitioner who functions as a medium, but only in the capacity as an assistant to the *thay phap* (Healer). It is therefore not coded here. The somewhat lower initial agreement on the reliability assessments is a result of using training codings as the initial coding.

056) The *dong* includes the practitioners referred to as *thay dong*, *ong dong*, *phu dong*, and *ba dong* (but not *ba cot*, usually associated with Buddhist and Taoist temples). This practitioner is a medium who engages in propitiation activities, healing and divination. Although it appears that some specializations of the *Thay* (see #57) is engaged in some *dong* activities (e.g., chanting and playing drum; see Dumoutier 1898:16), the *thay* never engages in the "cult of the Faires", the *badong* ceremony. It appears that the training ASC experiences are the same as those involved in healing and divination; they are coded as a single ASC since poor coverage prevents distinctions.

057) The *thay* includes a variety of specializations referred to as the *thay phap*, *thay phu thuy*, *thay nagi* and *thay boi*. All of these practitioners are involved in curing or divination, including specializations in palmistry, physiognomy and phrenology. The *thay phap* was founded by

Lao-Tse (Landes 1880-81:4); some have close relationships with the Buddhists while other *thay* cults were founded by Taoist monks (Dumoutier 1897:2).

058) The Buddhist priest or *bonze* is weakly covered. The reports provided by the anthropological sources make little mention of the meditative disciplines typical of Buddhist traditions; they have been augmented by Thien-An (1974). The anthropological sources (Hickey) indicates that the Buddhist priest is involved in ancestor worship, and holds his position as a result of political appointment.

059) The *truong toc* or *tchang tsou*, the family head, is responsible for family based ancestor worship.

060) The cult committee, the *Ban Hoi Huong* is a local group of religious and political leaders responsible for agriculture rites and propitiation of ancestors and village guardian spirit at the communal temple. This was formerly the Village Council but was changed under the administrative reform of 1904.

SEMANG

061) The *hala* is labeled a shaman by Schebasta, and analyses here bear out the validity of such labeling. The Semang are a hunting and gathering peoples of the Mon-Khmer linguistic family.

TANALA

062) The *ombiasy manangatra* is the focus of this coding which includes the practitioners referred to as *ndolo*, *salamanga* and *sahalava*. This practitioner is distinguished from the *ombiasy nkazo* because the *ombiasy manangatra* is selected through spontaneous experiences involving altered states of consciousness and is not taught, while the *ombiasy nkazo* acquires the status voluntarily, is taught by another practitioner and does not utilize altered states of consciousness. This separation into distinct statuses departs from Linton's classification primarily in the grouping of the *ndolo* with the *manangatra* instead of the *nkazo*; this is consistent with the grouping offered by one group of the Tanala (see Linton 1933:237). The healing beliefs of the *ombiasy manangatra*, with the exception of the herbal medicine use, have been assumed to be the same as those of the *ombiasy nkazo*.

063) The *ombiasy nkazo*, distinguished from the other *ombiasy* practitioners as specified immediately above. This is the more frequent form of the two *ombiasy* practitioners. Activities with respect to taking over the status of the *lahy kibory* were not coded since this was a temporary activity performed for incompetent practitioners and did not form a part of the normal role of the *ombiasy nkazo*.

064) The *lahy kibory*, the hereditary religious head of the gen and the chief of the family or family priest.

065) The *mpamosavy*, is a witch, and apparently did not exist before the Imerina conquered the Tanala.

SEA DYAK (IBAN)

The major sources on the Dyak have limited coverage of magico-religious practitioners, and are supplemented by Freeman (1960, 1967) and Perham (1887).

066) The *manang* or shaman was not reported to be involved in malevolent activities. Although the *manang* only utilized minor ASC induction procedures, they have a belief in the soul journey as part of curing practices.

067) The *tuai burong*, *pun rumah* or augur engages in divination practices but is also involved in propitiation and agriculture rites.

ALOR

The magico-religious practitioners are not well covered in this society, given DuBois' autobiographical approach. No alternative sources were found to augment coverage.

068) The seer; no indigenous term is provided. The coding here includes the characteristics of the prophet, which was apparently a specialization of this status.

069) Oldest male of the founding lineage, who sacrifices to the village guardian spirit, particularly at harvest time. Included here is all worship to lineage ancestors. The initial coding of practitioners did not recognize the status of the head of the lineage as a magico-religious practitioner through oversight.

070) The *palua berka*, a witch.

KIMAN

071) The *undani*, including the specialization as a *warrewundu*. There are ASC induction techniques associated with the healing activities- extensive motor behavior, extensive singing and percussion; these are not coded as a separate ASC activity but represented in the client induction codes for healing.

LESU

072) The magician or spell knower reported by Powdermaker is weakly covered, and no indigenous term is given. The magico-religious practices among other groups in the cultural providence (Manus) are considerably different suggesting that the report provided on the Lesu practices may not accurately reflect conditions typical among societies in the region.

PENTECOST

Lane (1965) stated that there were no magico-religious

practitioner specialists qualitatively set apart from the rest of the population. However, he reports on magico-religious activities which correspond to the definition employed for a magico-religious practitioner type in this study. This included those with *bwari* power, including *gurian* practices and *mlinik* (sorcery); and the *warsangul*, the males graded society. There was no practitioner involved with healing at the time of Lane's observation, but he makes reference to group healing activities involving a vigil and singing, suggesting that the healing activities were no longer bound to a professional practitioner status. In the prior research, the *bwari* position and the *warsangul* were recognized. The data used in the initial analysis used the practices reported by Lane; the *warsangul* (Priest) and the *bwari* (Shaman/Healer). However, the revised data set is based upon the earlier work referenced by Lane (Deacon 1934; Layard 1942), who were studying at a slightly earlier period immediately prior to (and during) extensive depopulation. These sources suggest the different magico-religious practitioners reported here. The deculturation which Deacon points out in the area has probably led to the decline and disappearance of the position of the clan and private magician, which appeared in the *bwari*, *gurian* and *mlinik* activities reported later by Lane. Although Layard reports only one kind of magician or medicine man (*neman*), Deacon reports both the clan magician and private magician.

073) Private magician, the *nimesian*, *mwelnggel*, *malanggil* or *niman*.

074) Clan magician, called *nimbatin*, *nowor*, *neerew* and *nogor*.

075) The *nimangki* society, the *warsangul* or males graded society, also referred to as *maki*, *manki* and *mwele*. The ASC activities associated with propitiation activities is considered to be the same as training. Deacon says that the core activity of the society is payment and consumption of pigs among groups, requiring production of the major protein source (pigs) as a means of acquiring status.

MARQUESA

Coverage is rather weak since the major sources are reconstructing for 1800. The separate practitioner type involving the *tuhuna nate kaha* which was recognized as a separate type of magico-religious practitioner in previous analysis was treated as part of the *tuhuna* status here.

076) The *taua paea*, *taua umoko* or *taua hiko etua*, who engage in divining and healing activities. Includes all *taua* except the *tau' a tau' a nu*, the inspirational priest.

077) All specializations of the *tuhuna* (ceremonial Priest),

principally the *tahuna o'ono* (*o'oko*), but also covering all other *tuhuna*, including the *tuhuna nate kaha*, which had been treated as a separate magico-religious status in prior analysis. The ASC associated with memorial feasts was used as evidence of training ASC, which was not explicitly mentioned.

078) The *tau'a tau'a nu* or inspirational priest, is a practitioner which has a vision quest type training process but serves at the favor of chiefs, carries out human sacrifice and leads military expeditions to acquire sacrifice victims.

TRUKESKE

The major sources on the Trukese are from the 1940's, at which point the existing magicians had decided to train no more apprentices. The coverage is provided by Bollig (1927) and is from a slightly earlier period (1910-1920). Bollig suggests that there is a major type of magico-religious practitioner, the *souroo*, with several specializations or subtypes. However, one of his subtypes, the *uanonu*, is never explicitly referred to as a *souroo*, while the other subtypes are called *souroo* and have names which begin with *sou*. Furthermore, while the *souroo* acquire the practitioner status through social inheritance or purchase, the *uanonu* is reported to acquire the status through spontaneous spirit possession. These differences are used to substantiate the differentiation of the *souroo* from the *uanonu*. This distinction is also substantiated by Gladwin and Sarason's distinction between the magicians and the spirit mediums.

079) The *nanonu* or *uanonu*, a spirit medium which is weakly covered. Bollig was a missionary, and his conflict with the *uanonu* over religious affairs apparently prevented him from acquiring adequate coverage.

080) The *sourooor* healer. This coding is for the class of practitioners combined under the word *souroo*. This includes the *idaØ*, *souboud* (sorcerer), *sousafei* (healer), *soupue* and *soudilik* (diviner), and *souatomai* and *souotoien* (agricultural fertility). This specialization included other areas of trade specialization such as canoe building which relied upon careful rituals for successful completion.

ATAYAL

Coverage of magico-religious practitioners is weak among the major sources. The primary sources are a short article on the Ami by Chen and Coe (1954) and a translation of an article by Oikawa (1935). The Ami are another group of the Che-huan, located in the same area, which are also among the the least acculturated of the aborigine Taiwanese. Oikawa provides coverage of the characteristics of

the *sikawasai* in a number of the least acculturated groups of Atayal.

081) The *sikawasai* is labeled as a shaman by Chen and Coe and a "shrine maiden" by Oikawa.

082) The ancestor priest code includes the heads of the ancestor cult groups reported by Okada, the chiefs reported by Okada, and the *saparanau* (chiefs) reported by Chen and Coe. Okada's work does not report the indigenous words used for these practitioners. These are the same practitioner status since they engage in the same ritual activities, and since the chief is selected from the cult group heads.

JAPANESE

Coverage of the Japanese magico-religious practices is quite limited in the main sources, but augmented considerably by the work of Blacker (1975), who collaborated closely with Hori, considered one of the leading Japanese authorities on Japanese religions. The determination of what should constitute types of practitioners was considerably complicated by wide variety of sources with a number of names for each type of practitioner, the wide range of activities performed by practitioners of a given designation, and the diversification of the Buddhist practitioners in Japan.

083) The ascetic status is based upon the common characteristics of what is referred to by various authors as: a) *kitosha*, the Shinto Buddhists professionals, faith healers and prayers; b) the Shinto priest *Kannushi*; and c) the Shingon Buddhist. These different labels refer to practitioners who share selection and training procedures as well as general characteristics of magico-religious activities.

084) The *miko* and the *kyoso*, founders of the new religious sects established within the last century. Previous analysis had treated the *miko* and the *kyoso* as separate practitioner types. They were more similar to one another than any other practitioner; later review of Blacker and the selection criteria justify grouping these together as a single practitioner type.

085) The *yashiki-gami*, family head responsible for ancestor worship.

086) The *kitsune-tsukai*, the "fox owners".

CHUKCHEE

087) The *ene nilit* or shaman. Borgoras notes the decline of the use of shamanic abilities; the use of scapulomancy is not included because it is a lay activity.

MONTAGNAIS

088) The *manitousiou* or *manitousiouokhi*, a shaman.

The primary source is Lane's reconstruction for the 17th century from missionary records. Speck's work is closer to the time focus, but he does not consider professional conjuring, which he saved for a work which was not located. Speck provides information about the vision questing/ sweat lodge activities which were widespread in the population, and a part of the professional activities of the shaman. Other compilations of early French sources (Lambert 1956) were relied upon as well. The shaman was basically a hunter; every successful hunter is more or less a conjurer, adjusting himself to the unknown realm, smoking tobacco for inducing supernatural feelings and learning to hunt, trap, fish and operate *manitu* (mana power).

KASKA 089) The *meta* or *nudita*, a shaman. The Kaska have been "reconstructed for 1900 just prior to intensive missionization" (Murdock and White 1969) by Honigman who spent time among several remaining groups of Kaska in the 1930's. Although Honigman did acquire information about magico-religious practices, he had no shaman informants, observed no ceremonies, and noted that what he had found were the "vague and disappearing elements of native belief".

TWANA

090) The *bôswadas* or shaman is a specialization of the cultural practice involving actively seeking a personal relationship with a guardian spirit power. This relationship might provide gambling, hunting, fighting, or wealth acquiring power as well as curing powers. The Twana have been reconstructed for 1860, "prior to missionization" by Elmendorf, whose fieldwork began around 1940. Magico-religious practices are well covered since Elmendorf had shaman informants. The shamans have all spontaneous selection variables present, but are coded as missing (9) since they are only rarely present.

PAIUTE

The Paiute are pinpointed for 1870, but the primary source of information on magico-religious practices is Whiting's field research in the 1930's. Whiting's research suggest two practitioner types, who she labels doctors (with *pu.ha* power) and sorcerers (with *pu.ha.ba* power). Both acquire their power from spirits who visit individuals in dreams, as do others who acquire power for antelope hunts, protection from bullets or power to cure physical illnesses. Although the Paiute had two practitioner types in the 1930's, sources focusing upon Shoshoni groups in the province at times closer to the pinpointed

period indicate that the sorcerer is an aspect of the shaman's role (see Park 1938; Kelly 1939; Stewart 1943). Both those with *pu.ha.ba* power and *pu.ha* power were coded as a single type of practitioner with specialization; prior analysis had treated them both separately and together.

091) The shaman with *pu.ha* power, including the sorcerer with *pu.ha.ba* power reported by Whiting.

HIDATSA

092) The bundle holders both individual and clan bundle holders, who acquire the position through vision questing involving extreme physical trauma. All males except the bedaches underwent questing. The most prestigious bundle holders held group leadership positions for moving camp, war, hunting, etc. The bundle holder was also involved in a variety of magico-religious activities, including agriculture and propitiation ceremonies as well as healing and divination. The Hidatsa are reconstructed by Bowers, who provides a rather full coverage of magico-religious activities.

CREEK

The culture has been reconstructed for 1800, and the accounts lack the desirable level of detail. No adequate supplemental sources were found.

093) The shaman, including references to those labeled *alektca*, *hilis-haya*, doctors, priests, medicine makers, *owala*, *kilas*, prophets and knowers. Previous analysis had separated the *alektca* and the *kila*, but analysis had indicated that they were of the same type. Reexamination of the sources indicated that the shaman status was subjected to a number of specializations, including being selected by the chief to serve as the Chief priest or Fire Keeper in annual ceremonies. The interpretation here of a single status with many specializations is consistent with Hewitt; Swanton's use of many terms is inconsistent and confusing.

094) The rain priest, or weather controllers have very limited coverage, and no indigenous term is provided for the practitioner.

095) The *ishtabe* or *hoollabe*. This practitioner is clearly linked to the Shaman in that the old men who acquire power from so many vision quests are particularly likely to have such power.

ZUNI

Stevenson refers to a seer (p.307); however, there was no information found to code the presence of an additional practitioner. It may be that Stevenson refers to the individual use of datura in personal divination under the

supervision of the rain priest.

096) The theurgist, medicine man or doctors. Their divination procedures at times involve the use of datura, but no further information was found.

097) The priests, including the *pekwin*, *kacina*, rain priest (*ashiwanni*), and bow priest (*apilashiwanni*). The *pekwin*, priest of the sun, is the head of the hierarchy of the chief priesthood, who together with the heads of the other priesthoods holds political and religious authority in the tribe, appointing the secular council. They are responsible for carrying out the major ceremonies of the year at the winter and summer solstice, which are directed towards propitiation of the gods for rain and fertility of the corn crop. The *pekwin* is responsible for determining the time of the ritual, and each different group of priests engages in the same ritual activities, with some specialization in particular ceremonies. Previous analysis had treated each of the priesthoods as a separate practitioner, but analysis indicated that all were more similar to each other than any other practitioner in the sample. This combined with the presence of the same selection procedures (social inheritance and political appointment) for the different priesthoods and the same magico-religious activities was used as a justification for combining the varied practitioners under one status, consistent with definitions developed here of a culturally recognized practitioner status. The ASC conditions of the retreat are considered to be the same as those of the training ASC.

098) The sorcerer or a witch; no indigenous term was given.

AZTEC

Seler's (1899) unpublished synthesis of Sahagun's work is relied upon in organizing the widely varying references and terms used to refer to the magico-religious practitioners. Not coded for are the jugglers or magicians of Huastec, who appear to be entertainers.

099) The fortune tellers and doctors, called *tlapouhqui* and *ticitl*, and referred to as soothsayer, medicine men and healers. Seler says they are closely linked and Thompson combines them; both have the same patroness, the earth goddess. The art of fortune telling was used for medical purposes, and apparently all diviners cured although some practitioners only cured. The ASC conditions for activities are used to characterize the ASC training since adequate coverage is lacking.

100) The Aztec sacrificial priesthood.

101) Referred to by Seler as the Magicians Proper (*naualli*), and as a witch or wizard (*tetlachiuiana* or

tlacatecolotl by Sahagun. The practitioner is atypical of those classified as Malevolent Practitioners. This practitioner appears to be involved in agricultural rites, post-mortem rites, and healing. Fuller coverage would have likely resulted in very different set of overall characteristics.

BRIBRI

The coverage is somewhat weak since the practitioners no longer existed at Stone's field date, and focal sources do not cover the practitioner. Gabb suggested another category of practitioners, the Singers. However, it appears that he confused their status and function (see Stone 1962:30-31). They are not coded for here.

102) The *jawa*, referred to as a medicine man.

103) The *usegla*, or *u-se-ka-ra*, called a priest. There is very limited coverage. A wide variety of sources were searched without obtaining additional information on this practitioner. It is not clear whether the *usegla* may intentionally or unintentionally exert malevolent effects upon the livestock of those who refuse his requests (Gabb page 507).

CALLINAGO

The Callinago are reconstructed for the 17th century, mostly from missionaries observations, which are rather fragmentary. The coverage leaves much to be desired, since the missionaries conflict with the practitioners prevented adequate observation. There was a reference by Taylor to a magico-religious practitioner called a *piiai*. However, it was determined that this was in fact the *boyez* referred to by Brenton, and coded with that practitioner.

104) The *boyez* or *piiai*, called a shaman, and including references to sorcerers.

SARAMACCA

The Saramacca, Bush Negros or Djiku are a cultural group formed by escaped African slaves in the headwaters of major rivers in Brazil. They speak a language based in the Romance languages and have integrated many language and cultural elements from African groups and the indigenous Amerindian populations.

105) The *gadu*. Herskovits and Herskovits present information on women who engage in possession trance experiences; these are presumed to be the same practitioners referred to as *gadu ma* by Hurault, since the activities are near identical. The *gadu papa* appears to be the main type of *gadu*, and the others are apparently involved in the same activities with other spirits.

106) The *obia*, *obiame* or *man negge obia*.

107) The *hedema*, grandman or captain. The head of each of the lineages, the *hedema* or captain, functions as a priest in ancestor worship, as does the head of each *lo*, a fraction of the lineage. The grandman is the head of the Dikan *lo*. The grandman, captain, *hedema* and head of the *lo* are all considered to hold the same magico-religious status, their differences lying primarily in the level of the social hierarchy at which they function.

108) The *wisi* or *wisima*, a witch.

JIVARO

109) The *wishinyu*, the medicine man or sorcerer.

110) The *whuea* or old warrior. The major activity of this practitioner is the purification of the warrior who has taken a head. Since this practitioner must himself be a warrior, the characteristics of the purification ceremony have been coded for as the induction and training conditions for the practitioner.

SIRIONO

The Siriono had no magico-religious practitioners present. The magico-religious abilities assessable to the population at large were coded for in previous analysis and were quite similar to some Healers, as well as abilities of the population at large found among the Mbuti (see above), who also were without a practitioner (see also Winkelman

1984; chapter 3).

TUPINAMBA

This society is poorly covered. There may have existed some other magico-religious status since Staden (1928:150-151) and Metreaux (1928:129), refer to some women mediums. They may constituted a separate practitioner type or a specialization of the shaman, but they were not coded for because of the lack of coverage.

111) The *pay* or *pagis*, called a shaman, sorcerer and medicine man, which are involved in agricultural activities and exercise of political powers, as well as the healing and divination activities typical of shamans.

CAYUA

112) The *pa?i* or *paye*, called a shaman, is rather weakly covered.

MAPUCHE

113) The *machi*, which is referred to as a shaman. Since unsuccessful shaman are regarded as sorcerers (*kalku*—see below) rather than curers, the characteristics of the *kalku* are not included with the *machi*, even though it is possible that some who claim the status of *machi* may have the characteristics of the *kalku* attributed to them.

114) The *nillatufe* or *nempin*, a ceremonial and political leader.

115) The *kalku*, a witch or sorcerer.

APPENDIX 2

METHODOLOGICAL APPENDIX

This appendix provides information of a technical methodological and statistical nature. It is designed to provide the interested reader with more technical background information without detracting from the flow of the text. Additional methodological information is also provided in Appendix 3. The information here is organized into the following categories:

2.1 Data Reliability

2.2 Social Complexity Variables

2.3 Sampling Interdependence and the Autocorrelation Method

2.4 Measure of Similarity - Gower's Coefficient

2.5 Quadratic Assignment Program

2.6 Profit-Identifying MDS Dimensions

2.7 Entailment Analysis

2.1 DATA RELIABILITY.

The data used in the analyses upon which this study is based were not subject to formal reliability checks. However, the revised variables presented in Appendix 3 have been subjected to reliability checks, and the procedures and findings are described there. The differences between the two data sets are minimal in terms of the findings of this study because the coding is largely based upon the presence of characteristics, with their absence being a default category. The major problem with the reliability of the data is the issue of missing data, not miscoding of data. Missing data has been adjusted for here by using analyses which minimized the effects of missing data (see Appendix 2.4). The major differences is that the second data set is a refinement of the first, the latter's organization having benefited from the initial analysis of data.

Another major aspect of reliability has to do with the determination of magico-religious practitioner statuses or positions within each society. This issue is only peripherally addressed by the coding reliability checks. Therefore, the statuses recognized here are presented in Appendix 1. This provides the basis for scrutiny by specialists of the societies concerned, and can eventually serve to correct errors in recognition of magico-religious practitioner statuses.

A third area of data reliability has to do with the quality and reliability of the information used for coding of data. This problem has been addressed in two ways: 1)

a wide range of variables are used, reducing the importance of the reliability of any single variable; and 2) coding for data quality by assessing the extent of a fieldwork, language competency, and contact with magico-religious practitioners by the major ethnographic sources (see Appendix 3). This data has been used to control for biases introduced by the quality of coverage of the practitioners.

2.2 SOCIAL COMPLEXITY VARIABLES

The assessments of the relationship between magico-religious practitioners and the social variables which have been considered in this study have utilized the data on social complexity variables provided by Murdock and Provost (1973). The variables of major concern in this study are briefly presented below. Other social complexity variables provided by Murdock and Provost not used here since they did not provide significant unique explanation of the dependent variables are: writing and records; urbanization; technological specialization; land transport; money; and density of population. In some of the analyses, the variables presented below have had distinct levels combined into a binary variable, e.g., agriculture as a major source of subsistence, or political integration beyond the level of the local community. These have been referred to as "binary recodes".

The following social complexity variables as coded by Murdock and Provost (1973) have been used. The following variable information is paraphrased from the published descriptions.

Fixity of Residence

This variable is designed to measure the extent to which the mode of life is nomadic or sedentary. The levels of the variable are:

Settlements are sedentary and permanent

Settlements are sedentary but impermanent

Settlement pattern is semisedentary

Settlement pattern is seminomadic

Settlement pattern is fully nomadic

Agriculture

This variable measures the degree of dependence upon agriculture for subsistence and the intensity with which it

is practiced. It provides a measure of the extent to which the society depends upon food production as opposed to food gathering.

Major source of food supply and conducted by intensive techniques

Major source of food supply but not conducted by intensive techniques

Contributes more than 10% of food but less than other sources

Present but contributes less than 10% of food supply

Absent or confined to non-food crops

Level of Political Integration

This variable assesses the complexity of a society's political organization in terms of the number of jurisdictional levels present in the society

Three or more administrative levels above the local community, e.g., state organized into provinces and subdivided into districts

Two administrative levels above that of local community, e.g., a small state divided into administrative districts

One administrative level above the local community, e.g., a petty state with a paramount chief ruling over a number of local communities

Stateless society with politically organized local communities

Stateless society without centralized political authority even at the local level

Social Stratification

This variable is designed to measure the relative complexity of graded status distinctions within the society.

Three or more distinct classes or castes

Two classes and hereditary slavery or castes

Two classes but no hereditary slavery or castes

No formal classes but hereditary slavery or important status differences based upon wealth

Egalitarian, lacking classes, castes, hereditary slavery and important wealth distinctions

2.3 SAMPLE INTERDEPENDENCE AND AUTO CORRELATION METHODS

If one is concerned with obtaining general laws about human societies, the population is all human societies which have existed. We are obviously unable to obtain data on most human societies which have existed, and are therefore restricted to those societies which have been observed and recorded. Since the samples available

are necessarily not representative of all human societies which have existed, the inferences which can be drawn are technically limited to the sample studied or the actual population from which they were drawn. One has to recognize the inherent limitations present in the available data and make efforts to compensate for the shortcomings.

One important reason for using a random sampling is to obtain what is presumed to be a representative sample. However, a stratified probability sample is a much more efficient manner of obtaining such representativeness. Another more important reason for selecting a random sample is its usefulness in obtaining independent observations. The independence of observations, or the lack of correlation in the error residuals, is necessary for the validity of estimates in correlational analysis (White, Burton and Dow 1981). However, random sampling does not guarantee such independence.

The interdependence of sampling units is a long standing problem facing formal cross-cultural research. The importance of independence of observations lies in the fact that if observations are associated, measures of association can be spuriously inflated by reduction in variance which results from what amounts to repetition of the same case. If tests of probability are to be used to evaluate the significance of joint occurrences of variables as a basis for inference about causal processes, the sampling units need to be independent or the variance of the correlations will be underestimated, leading to spurious levels of significance (White, Burton and Dow 1981).

Murdock and White's (1969) research shows that there is considerable interdependence even among samples selected with the intention of reducing such interdependence. Furthermore, their assessment of the interdependence indicates that a worldwide sample which would not have significant interdependence with respect to such basic variables as language, economy, political integration and rules of descent would be so small ($n=15$) that it would prohibit most statistical analyses. The problem of how to control for sample interdependence has been addressed with several different methods (e.g., see Naroll 1961, 1964; Naroll and D'Andrade 1963), but all have serious shortcomings. More recently White, Burton and Dow (1981) have utilized a solution, known as the autocorrelation method, which overcomes the limitations of the previous solutions (see also Dow, White and Burton 1983).

The autocorrelation method assesses the statistical interrelatedness of societies on the basis of some known measure such as language similarity or geographic distance. The known patterns of relatedness can then be

used to predict a societies' score on some particular variable of interest on the basis of the society's autocorrelation within the sample of societies considered. This predicted value is then subtracted from the societies actual score on the variable. This provides a set of residual scores which can be considered independent of the effects of diffusion as assessed by the particular measure of relatedness used (language or geographical distance). Correlations between the residuals and the independent variables of interest (or their residuals from the autocorrelation procedure) are independent of the effects of diffusion, and overcome the major objections raised to the validity of cross-cultural sampling and research.

The autocorrelation controls established here utilized procedures developed by Dow, Burton, White and Reitz (1984), and provided in an interactive program made available by Michael Burton, School of Social Sciences, University of California, Irvine. This program provides controls based upon language affinity and geographical distance. The distance measurement utilized an exponential decay function of .05, which maximizes the assessment of diffusion and relatedness within about 300 miles. These autocorrelation procedures allow for prediction of both the unbiased estimates of the effects of the explanatory variables, and the effect of the historical or diffusion model in the context of a linear regression model (cf. White, Burton and Dow 1981; Dow, White and Burton 1983).

Jorgenson (1979) points out that causal inference from correlations with synchronic data are not warranted without autocorrelation controls for geographical propinquity, environmental similarity, language relatedness and time. The autocorrelation methods used here substantially met these criterion with controls for language similarity and geographical propinquity.

2.4 MEASUREMENT OF SIMILARITY: GOWER'S COEFFICIENT

Since the variables used here were binary, qualitative and ordinal, the usual measures of similarity were inappropriate, since they assume continuous data. Similarities among cases were therefore computed with a fortran program implementing Gower's Coefficient (Gower 1971), which was provided by Roger Blashfield, Department of Psychiatry, University of Florida. The measurement algorithm for Gower's coefficient is:

"Two individuals i and j may be compared on character k and assigned a score s_{ijk} , zero when i and j are considered different and a positive fraction, or unity,

when they have some degree of agreement or similarity. The similarity between i and j is defined as the average score taken over all possible comparisons:

$$S_{ij} = \frac{\sum_{k=1}^v s_{ijk}}{\sum_{k=1}^v 1} \text{ (Gower 1971:858-9).}$$

This measurement program allows for the determination of similarity of binary and qualitative data on the basis of shared characteristics rather than upon the distributional properties of the data. This program also assesses the similarities of cases on the basis of quantitative or ordinal data by basing the assessment on the difference between the two values divided by the range of the variable. This program also combines the measures of similarity as computed for the different types of variables into a single measure.

Another advantage of this program was that the assessment of binary data does not contribute to the measure of similarity between two cases on the basis of their conjoint absence on a variable. When variables are treated as binary, conjoint presence contributes to the measure of similarity, and absence for one case and presence for the other contributes to a measure of (dis)similarity. However, if the value is absent for both cases, the variable does not enter into the measure. In the major assessments of similarity, the binary variable option was used with variables which had shown significant negative correlations with data quality assessments in the initial analyses and variables which had very high or very low frequencies; this allowed for a minimization of the effect of missing data upon the measurement of similarity.

The empirical usefulness of the data quality adjustment for missing data was assessed by determining the similarity among practitioners under two different measurement conditions, one with missing data adjustment based upon the binary variable option, and one without missing data adjustment. The solutions based upon the data quality adjustment which was designed to reduce the effect of missing data generated a few larger clusters which were more distinctly separated. Since this consistently occurred under different amalgamation rules (complete and average), the data quality adjustment measurement was used for all the analyses used to determine the practitioner type classifications.

All of the 98 variables reported in Chapter 2.4 were used in the analyses. The similarity among cases was determined through the implementation of the Gower's Coefficient procedure. The lower triangular matrix out-

put from the Gower's Coefficient program was transformed into a full matrix with ones on the diagonal and read as input data into the BMDP1M Cluster Analysis program (Dixon and Brown 1979). The similarity among practitioners was explored under several different measurement conditions in order to determine if stable clusterings would be found under the different conditions. Analyses were performed under single, average and complete link amalgamation rules. Several cases not present in the classification presented below were included in some of the initial analyses.

2.5 QUADRATIC ASSIGNMENT PROGRAM

In several cases there was the interest in determining which of two statistical representations of data was most efficient in accounting for the data in order to assess hypotheses. In this study the comparisons were between cluster analysis representations and multidimensional scaling (MDS) representations. If the MDS solutions are significantly better than the cluster analysis solution in representing the data, this indicates that the differences in the data are best represented as continuous, not as distinct clusters or types. In contrast, the greater success of the cluster analysis solutions indicates that the differences are not continuous gradations, but rather discrete types.

In order to determine how well the representations accounted for the data, the cluster analysis representations and the multi-dimensional scaling representations were transformed into a matrix of differences. To obtain these matrices, the coordinates from the MDS solution were run through a program which computed a matrix from the interpoint distances. The amalgamation order of the cluster analysis solutions were used in a similar manner to construct a matrix of dissimilarities. These matrices representing the MDS and cluster analysis solutions were compared with the original data matrix, using gamma as a measure of association.

If the gamma values suggest differences in the success of the different solutions in representing the original data, the solutions can be compared to determine if the differences are significant. The residuals of the solutions can also be compared with the original data to determine if there is a significant portion of data which is not accounted for. In order to make these comparisons, the Quadratic Assignment Program (QAP) (Hubert and Schultz 1976, Hubert and Golledge 1981) was employed. QAP is a set of data analytic techniques which compares two matrices and provides an index similar to a correlation coefficient between the elements of two matrices.

In order to make these comparisons, the matrices constructed from the cluster analysis and MDS models were run through a program which standardizes two matrices and subtracts them from the standardized form of the original data matrix. The residual output of this program is then entered into the Quadratic Assignment Program in order to compare it with the original data matrix and to determine if there is a significant amount of the original data that is explained by the residuals. The comparisons provide a Z score for the association of the residuals with the original data. If there are significant differences between different solutions, or if a significant amount of the data are not explained by the solutions, this will be indicated by a Z score of significant magnitude. In order to determine if representations leave significant portions of the original data unaccounted for, the matrices representing the solutions can be subtracted from the original data and the residuals compared with the original data with QAP. Again a Z score provides the measure of association; if there is no significant association between the residuals and the original data, one can assert that the solution has accounted for all of the data.

2.6 PROFIT: IDENTIFYING MDS DIMENSIONS

When multidimensional scaling (MDS) representations of objects are used, it is desirable to determine how the organization of the objects in the space is related to the variables which characterize the objects. In this study, in order to determine the relationship between the practitioners and the variables used to construct the similarities among practitioners, the Profit program of the MDS(X) series (Chang and Carrol 1968) was used. Profit uses as input the coordinate points from the MDS representation and a set of measures which are properties associated with the entities represented by the coordinates. Profit performs a "regression on optimization of linear (or non-linear) fit" for the properties in the coordinate space by calculating a property vector in the coordinate space such that the projections on the stimulus points (objects/practitioners) are minimized. This optimized projection is expressed as a measure of association rho, the value of which is similar to the multiple linear regression correlation coefficient from the regression of the property vector on the coordinates which represent the stimulus points (practitioners). This measure of correlation of the properties with the coordinate space can be used to determine which of the variables are most strongly associated with the coordinate space's representation of the differences and similarities among practitioners. The projection

point of the property vector onto the coordinate space allows for an identification of the major dimensions of the representation of the practitioners. Variables with high correlations and aligning closely with the axes of the coordinate space can be said to be the central characteristics underlying the differences and similarities characterizing the practitioners.

2.7 ENTAILMENT ANALYSIS

Entailment analysis involves procedures for determining implicative relationships among variables, or tendencies towards such set-subset relationships among binary variables. The purpose of entailment analysis is to determine if the presence of some attribute logically implies the presence of another attribute. Entailment relationships may be pure logical relationships without exceptions, or they may be statistical relationships with exceptions; the latter are referred to as material entailment relationships. A material entailment requires a positive statistical correlation between the variables, and

allows a limited number of exceptions.

Entailment analysis takes the contingency tables for all pairs of variables being considered, selecting those which are conditional (A implies B), or conditional with a specified level of exceptions. These conditional relationships are assembled into chains of conditional relationships (entailment chains), which are then checked for transitivity (If A implies B and B implies C, then A implies C within an acceptable level of exceptions). The weak entailment relationships are then removed to make the entire entailment structure transitive. The overall significance of the structure can then be assessed by comparing the entailments with those expected by chance. The final implicative structure can then be diagrammed in an entailogram (see White, Burton and Brunder 1977). In the analyses reported here, the default parameters of the entailment analysis program (SOC file, UCI Computing Center) were used with, maximum exceptions lowered to .2, the signal/noise ratio increased to 1.5 and the minimum relevance increased to .2.

APPENDIX 3

MAGICO-RELIGIOUS AND ASC VARIABLES

This appendix provides the data about the coding processes, the reliability checks, the variables, and the variable descriptions. The appendix is organized in the following sections:

- 3.1) Coding Reliability Checks
- 3.2) Variables
- 3.3) Variable Descriptions
- 3.4) SCCS Supplemental Bibliography

3.1 CODING RELIABILITY CHECKS

After the analysis of the preliminary data of this study, the variables were then recoded by the primary coder (Michael Winkelman), integrating the clarifications of variable areas which were suggested by the initial data reduction and subsequent analyses. Code checkers were then trained to assess the reliability of the primary coder's assessments. The code checkers were graduate students or senior undergraduates. Training involved practice in coding the materials used in this study and discussion of the errors between the primary coder and code checkers. This led to a clarification of the coding instructions. Training was approximately 50-100 hours of work and 5-10 practitioners. The bulk of all code checking was done by Glenn McAlpine, a graduate student in anthropology. During the phase of the formal assessment of primary coder reliability, an effort was made to have the code checkers work only on materials to which they had not been exposed during practice. The few exceptions to this were with materials to which the code checker had been exposed over a year previously, reducing the possibility that early discussions of the primary coder's codings had a direct influence on the code checkers decisions. However, since practice was on materials which were the basis of the study, later practice sessions were occasionally used as the first coding of the data even though the coder was not fully trained. The errors were then submitted for coding reliability checks to a second coder (see below). The consequence is a slightly lower initial agreement, but should have no effect upon final reliability.

Code Checking Procedures. Code checkers were provided with variable sheets, coding instructions¹, and the sources and pages referencing the materials used by the primary coder in assessing each of the variables. The materials used in coding the variables were prepared to

facilitate the code checking process. This included underlining passages used for coding the variables, and calling attention to particular phrases of materials used to code specific variables when the reference was ambiguous, weak or obscure. Terms were occasionally defined and references provided to information elsewhere which clarified particular passages of interest. Relevant materials published in French, German, Japanese and Italian were translated and transcribed for coding. The translation and transcription of foreign language materials was a much more efficient way of coding the foreign language materials than would have been the training two coders for each language, one for coding and one for checking.

Data Reliability Assessments. Data reliability checks were carried out in order to assess the reliability of the initial codings of the data and to improve the data quality through resolving conflicts between the codings of the primary coder and the code checkers. The codings of the code checkers were compared with the original codings of the primary coder. The initial agreement between the two codes is reported below as Initial Agreement.

The conflicts² between the primary coder and code checkers were dealt with as follows:

- (1) Upon review of the discrepancies by the primary coder, the primary coder decided to assign the variable value in accordance with the assignment given by the code checker (Primary Coder Correction); or
- (2) The variables with discrepant coding were resubmitted to the code checkers and recoded by the code checker in agreement with the coding of the primary coder (Code Checker Correction); or
- (3) The primary coder decided to assign to the variable his own initial coding of the variable or some other coding not agreed upon by the code checkers (Principal Coder Arbitrary Assignment).

The level of agreement in the data and the errors, collapsed across practitioners, are reported as follows:

- (1) Initial Agreement- 84.5% (Initial Errors 15.5%)
- (2) Recode Agreement- 95.5% = Initial Agreement plus agreement from Primary Coder Correction and Code Checker Correction (11%)
- (3) Arbitrary Assignment- 4.5%- those values assigned by primary coder without code checker agreement.

In assessing agreement of the codings, differences between the Primary Coder and Code Checkers were assessed as 1/2 of an error if the variables had an ordinal

interpretation (e.g., on the Data Quality Assessments) and the differences between coders were on immediately adjacent categories.

Variables. The variables used as the basis for this research were chosen with the intention of assessing all of the major areas which could be considered to include principal characterizations of magico-religious practitioners. Mythological explanations are the only major areas of characterization not extensively considered in the codings. The variables and the coding instructions are presented in the following sections of this Appendix. The variables reported here differ slightly for those upon which the coding reliability checks were carried out. This is primarily because some of the variables have been combined into ordinal or nominal variables in order to reduce many binary variables into a single variable. There has been no loss of information in this process since the complex nominal variables can be decoded to obtain the original binary variables which were coded and checked. A few variables were consistently absent in certain areas and were excluded from the data presented here.³

Since there were variable areas in which some magico-religious practitioners had no variables present, the concurrence between primary coders and code checkers with respect to multiple absences was not included in assessment of agreement. For example, if a practitioner had no Healing activities, there was only one variable assessed for this practitioner on Healing, the agreement on absence of Healing activities; the agreement of absence on all the other healing variables were not included. This reduces the percentage of initial agreement between coders considerably, but avoids what would otherwise be an inflation in agreement. Since this involved deleting groups of variables from consideration in the assessment of agreement, the number of variables actually considered in the reliability assessment varied between practitioners.

The variable areas which were eliminated from agreement assessments if they were absent include: Political Powers, Life Cycle, Psychological Characteristics, Relationships with Spirits, Sociopolitical Selection, Spontaneous Selection, and the sections on Healing, Divination, Propitiation/Socioeconomic Activities, Malevolent Activities, and Altered State of Consciousness for Training and individual activities.

The variables and data have been organized into six sections: Identification and General I; General II; Healing; Divination and Malevolent; Propitiation and Socioeconomic Activities; and Altered States of Consciousness. Each is represented in a separate section in the data

file, with three separate Altered State variables presented in separate files. This data is available on IBM disks through the Human Relations Area Files, Inc. (Winkelman and White 1987)

3.2 VARIABLES

Variables are organized into six sections, reflecting the organization of the data. Available in Winkelman and White (1987).

Section 1

Identification, Data Quality and General Part 1

1) PRACTITIONER ID NUMBER

2) STANDARD CROSS-CULTURAL SAMPLE SOCIETY NUMBER

Data Quality Assessments

3) LANGUAGE

No data (0)

Not applicable (1) No conversational language use/ extreme use of interpreter (2)

Basic language use but not fluent (3)

Fluency (4)

4) LENGTH OF FIELDWORK (cumulative)

No data (0)

Not applicable (1)

Less than 1 month (2)

1 to 3 month (3)

3 to 6 months (4)

6 to 12 months (5)

12 to 24 months (6)

24 to 60 months (7)

More than 60 months (8)

5) CONTACT WITH MAGICO-RELIGIOUS PRACTITIONERS

No data (0)

Not applicable (1)

General cultural knowledge (2)

Observation of primary ceremonies or practitioner as informant (3)

Observation of primary ceremonies and practitioner as informant (4)

6) CODING RELIABILITY - Initial Agreement (%)

7) CODING RELIABILITY - Recode Agreement (%)

Practitioner Characteristics**8) SPECIALIZATION I**

Part-time (1) Full-time (2)

9) SPECIALIZATION II

No specialization (0)

Differences in power, rank or skill (1)

10) SPECIALIZATION III

No differentiation in specialization (0)

Overlapping differentiation in specialization (1)

Exclusive differentiation in specialization (2)

11) SOCIAL STATUS

Highest- no others higher except highest political (1)

High (2)

Moderate/Normal/No Distinction (3)

Low (4)

12) ECONOMIC STATUS

Highest- no others higher except highest political (1)

High (2)

Moderate/Normal/No Distinction (3)

Low (4)

*Political Powers***13) POLITICAL/MILITARY POWER**

None (0)

Political/legislative leader (1)

Military leader/Enforce laws, norms, government decisions (2)

Political and Military leader (3)

14) JUDICIARY POWER

None (0); Moderate judiciary effects (1); Extreme judiciary effects (2)

15) ECONOMIC POWER

None (0)

Only redistributes goods (1)

Heads group economic activities or controls non-ritual group property (2)

Receives taxes, goods, tribute or offerings (3)

Receives taxes, heads economic activities or controls property (4)

16) CHARISMATIC POWER

Political/military power (0)

No political/military power, charismatic leadership or hexing enemy (1)

Charismatic leader but no political/military power(2)

Hexes enemy or deviants but no political/military power (3)

Charismatic and hexes enemies or deviants but no political/military power (4)

*Life Cycle Activities***17) MIDWIFE**

Absent (0); Difficult cases only (1); Present (2)

18) OTHER LIFECYCLE

Absent (0); Post-birth ceremonies (1)

Post-birth and other life cycle (not #17 or #19) (2)

Other life cycle (besides post-birth, #17 or #19) (3)

19) FUNERARY OR POST-MORTUARY

Absent (0)

Funerary or burial services (1)

Funerary or burial and post-mortuary ceremonies (2)

Post-mortuary ceremonies (3)

20) PRACTITIONER GROUP

Practitioner group does not exist (0)

No group but info exchange, renewal of powers or contests (1)

Ceremonies but no formal group (2)

Formal group-recruitment, training, etc. (3)

21) CULTURAL EVALUATION OF PRACTITIONER

Exclusively benevolent (1)

Predominantly benevolent (2)

Ambiguous- benevolent and malevolent (3)

Predominantly or exclusively malevolent (4)

Personality Characteristics

Absent (0); Prior Only (1); Full Practitioner (2)

22) Normal-no psychophysiological indicators

23) Intelligence, good memory, thinker

24) Generous, friendly, kind, agreeable

25) Ambitious, greedy, materialistic

26) Quiet, recluse, introvert, reserved

27) Barrenness, sterility, weakness or deformities

28) Self confident, charismatic, engaging, inspiring

29) Unusual, mentally ill, possessed, hallucinations

30) Nervousness, excitability, hysterical, neurotic

31) Bad temper, meanness, bad disposition, violent

32) Experience accidents, falls, blackouts, injuries

33) Unusual eyes

34) Modification in stereotype sex-linked behavior

Section 2

General Part 2

1) POWER TYPE/SOURCE:

PERSONAL- inherent personal spirit, soul aspect of humans (1)

SPIRIT/GOD- presumed non-physical entity with volition and powers but not intrinsic to humans (2)

IMPERSONAL- power not based upon spirit entities, but mana type power, including power from rituals not dependent upon spirit power for implementation/realization of actions (3)

PERSONAL & SPIRIT/GOD (4)

SPIRIT/GOD & IMPERSONAL (5)

PERSONAL & IMPERSONAL (6)

PERSONAL, SPIRIT/GOD & IMPERSONAL (7)

2) AWARENESS OF APPLICATION OF OR TO POWER

Power always applied/appealed to with awareness/intention (1)

Power only rarely applied unconsciously/without intention (2)

Power frequently applied unconsciously/without intention (3)

Power always applied unconsciously (4)

3) CONTROL OF POWER

Power is practitioner's or of entities under practitioner's control or generally subject to coercion (1)

Power only rarely independent of practitioner, out of control, or of independently acting entities (2)

Power frequently or generally independent of practitioner, or is of generally independent entities (3)

Power is of independent entities or not subject to control (4)

4) SPIRIT RELATIONS

None (0)

Exceptional personal soul/spirit development (1)

No personal development but spirit relationships (2)

5) ANIMAL RELATIONSHIPS

None(0)

Relationship with animals or animal spirits (1)

Animal transformation (2)

Relations to Spirit Entities

6) Serpents or Reptiles: Absent (0); Present (1)

7) Birds: Absent (0); Present (1)

8) Carnivores: Absent (0); Present (1)

9) Mammal: Absent (0); Present (1)

10) Minor Spirits: Absent (0); Present (1)

11) Ancestor Spirits: Absent (0); Present (1)

12) Superior Gods: Absent (0); Present (1)

SPECIAL POWERS: Absent (0); Present (1)

13) Flight

14) Weather control

15) Wound heal

16) Fire Immunity

17) Animal Control

18) Death/Rebirth

Practitioner Selection and Training

19) LABELING/BIOLOGICAL INHERITANCE

Absent (0); Present (1); Biological Inheritance (2)

20) PRACTITIONER ROLE ACCEPTANCE:

Practitioner doesn't deny role and not killed (0)

Practitioner doesn't deny role but killed for role activities (1)

Practitioner denies role, but not killed (2)

Practitioner denies role and killed (3)

21) SOCIAL FACTORS IN SELECTION

Absent (0)

Selected by practitioner (1)

Social Inheritance- Tendency for transfer to descendants (2)

Social Succession- transferred to single direct descendant (3)

22) POLITICAL FACTORS IN SELECTION

Absent (0)

Appointed by political figure or group (1)

Personal political action and appointment (2)

Personal political action but no appointment (3)

23) SPONTANEOUS SELECTION

Absent (0)

Illness or in order to cure (1)

Involuntary dream, vision, omen (2)

Spirit request or insistence (3)

Illness and involuntary dream (4)

Illness and spirit request (5)

Involuntary dream and spirit request (6)

Illness, involuntary dream and spirit request (7)

24) VOLUNTARY SELECTION

25) CEREMONIAL ACQUISITION

Absent (0) Present (1)

26) SEX RESTRICTIONS ON ACCESS

Only male (1)

Predominate male (2)

Frequently male or female (3)

Predominantly female (4)

Only female (5)

27) SOCIAL CLASS OF RECRUITS

Upper class or special class (not lower) (1)

No class distinction/middle class ranks (2)

Lower or discriminated class (3)

28) AGE AT ONSET OF DEVELOPMENT**29) AGE AT INITIAL PERFORMANCE**

No development (0)

Pre-puberty (1)

Puberty (around, at, or near) (2)

Late adolescence or early adulthood (3)

Adulthood (4)

Late adulthood (5)

30) TRAINERS I

No innate abilities or training by spirits (0)

Innate- no learning required (1)

Taught by spiritual beings (2)

Innate and taught by spiritual beings (3)

31) TRAINERS II

No human trainers (0)

Self-taught or informal observation (1)

Self-taught or informal observation and taught by independent practitioners (2)

Taught by independent practitioners (3)

Taught by independent practitioners or informal observation and by corporate group (4)

Taught by corporate group (5)

32) PAYMENT TO TEACHER

None (0)

Small/moderate (2)

Considerable payment (3)

33) TRAINING ASC

Absent (0)

Absent but activity ASC (1)

Unknown but ASC activity is considered training (3)

**Section 3
Health Care****1) PRACTITIONER ID NUMBER****2) HEALTH CARE**

Absent (0); Secondary (1); Primary (2)

3-4) RECOVER SOUL/PERSONAL ESSENCE

Ab(0)/Context; Ab(0)/Motive

5-6) REMOVE INDEPENDENT SPIRIT (NON-POSSESSION): Ab(0)/Context; Ab(0)/Motive**7-8) REMOVE INDEPENDENT SPIRIT (POSSESSION):** Ab(0)/Context; Ab(0)/Motive**9-10) REMOVE SPIRIT- HUMAN AGENT- (NON-POSSESSION):** Ab(0)/Context; Ab(0)/Motive**11-12) REMOVE SPIRIT- HUMAN AGENT- (POSSESSION):** Ab(0)/Context; Ab(0)/Motive**12-14) REMOVE SPELL/RITUAL ACT (NOT W/ SPIRIT):** Ab(0)/Context; Ab(0)/Motive**15-16) REMOVE POLLUTION, TABOO VIOLATIONS:** Ab(0)/Context; Ab(0)/Motive**17-18) ASSURE/ESTABLISH HUMAN FERTILITY:** Ab(0)/Context; Ab(0)/Motive**19-20) REMEDIES FOR ILLNESS- NATURAL CAUSATION:** Ab(0)/Context; Ab(0)/Motive**21-22) PREVENT FUTURE ILLNESSES- (SPIRIT CAUSED):** Ab(0)/Context; Ab(0)/Motive**23-24) PREVENT FUTURE ILLNESSES- (HUMAN CAUSED):** Ab(0)/Context; Ab(0)/Motive**PHYSICAL MANIPULATIONS:** Ab (0); Present (1)

25) Herbal-extensive use

26) Rub/massage

27) Suck

28) Blow

29) Sleight-of-hand

30) Surgery

31) Wash or cleanse with natural materials

Client Induction-Healing Activities

32) AUDITORY DRIVING

Absent (0) Moderate (1) Extensive (2)

33) MOTOR BEHAVIOR

Normal (0); Restrict (1); Excessive (2); Restrict & Excess (3)

34) VISUAL DEPRIVATION

Ab (0) Present (1)

35) ALCOHOL

Absent (0); Present (1)

36) PSYCHOACTIVE DRUGS

Absent (0); Moderate (1); Extensive (2)

37) FOOD CONCERNS

Restrict (1); None (2); Restrict & Consume (3); Consume (4)

38) SEX ACTS

Restrict (1); No concern (2); Restrict & Present (3); Present (4)

39) TEMPERATURE EXTREMES

Absent (0); Hot (2); Cold (3); Hot & Cold (4)

Magical Techniques-Healing Activities

40) SELF-PROJECTION

Absent (0); Present (1)

41) SPIRIT TECHNIQUE

Ab (0); Command (1); Command & Propitiate (2); Propitiate (3)

42) INVOCATION

Absent (0); General (1); Specific (2)

43) PROVIDE OBJECT WORN/CARRIED

Absent (0); Present (1)

44) MANIPULATE SUBSTANCE NOT WORN, SACRIFICED OR CONSUMMED

Absent (0); Present (1); Exuvial or Personal Object Manipulated (2); Imitative techniques (3); Exuvial and Imitative Techniques (4)

45) SACRIFICE I

Absent (0); Not consumed (1); Consumed (2); Both (3)

46) SACRIFICE II

Absent (0); Non-animal (1); Animal (2); Human (3); Non-Animal and Animal (4); Non-Animal and Human (5); Animal and Human (6); Non-Animal, Animal and Human (7)

Section 4

Divination and Malevolent Activities

DIVINATION

1) DIVINATION

Actions taken by practitioner to reveal states of affairs presumably not immediately known to practitioner or client: Absent (0); Secondary (1); Primary (2)

2-3) DIVINATION- CONTEXT AND MOTIVE

DIVINATION CONCERNS

- 4) Reveal cause of illness, death or misfortune
- 5) Determine guilt/identity of particular individual
- 6) Clairvoyance- knowledge of contemporary events
- 7) Precognition- knowledge of future events
- 8) Interprets omens and dreams
- 9) Recommend course of treatment- not implemented
- 10) Food acquisition
- 11) Advises sacrifice, propitiation not personally implemented

12) ASC DIVINATION

Absent (0)

Divination without material system, ASC or ASC training (1)

Divination without material system or ASC but ASC training (2)

ASC divination (3)

13) MATERIAL SYSTEMS DIVINATION:

Absent (0)

Material System I: system manipulated or interacted with and outcome under control of practitioner or assistants and question or relation of outcome to question known by practitioner; or system manipulated or observed and outcome not under direct physical control of practitioner but mode of interpretation secret or non-standard. Includes ordeals and other outcomes based on psychophysiological reactions of key persons (1)

Material System I and II (2)

Material System II system manipulated or specified system observed and outcome not under direct control and mode of interpretation standard or public knowl-

edge; or system under direct physical control of practitioner but practitioner is unaware of question or relation of divination outcomes to the answers sought by clients (3)

Malevolent Activities

14) MALEVOLENT ACTIVITIES-Illegitimate acts intending to cause harm or misfortune for humans: Absent (0); Secondary (1); Primary (2)

15-16) MALEVOLENT ACTS- CONTEXT AND MOTIVE

Malevolent Acts

- 17) Cause illness or death
- 18) Destroy human fertility
- 19) Destroy social/economic well-being
- 20) Detriment effect domestic animal or prevent game
- 21) Cause crop failure
- 22) Malignant intervention-client request
- 23) Magically removes body parts or eats body/soul
- 24) Cause harm indiscriminately
- 25) Kills immediate kin magically or to acquire power
- 26) Influence love relationships
- 27) Steal soul/personal essence
- 28) Actually engages in malevolent acts
- 29) Malevolent Activities involving corpses
- 30) Engages in sexually deviant behavior

31) ASC ASSESSMENT MALEVOLENT ACTS
Absent (0); Any induction (1); Night activity (2); Sleep States (3)

MAGICAL TECHNIQUES- MALEVOLENT

32) SELF-PROJECTION
Absent (0); Present (1)

33) SPIRIT TECHNIQUES
Absent (0); Command (1); Command and Propitiate (2); Propitiate (3)

34) INVOCATION
Ab (0); General (1); Specific (2)

35) MANIPULATE SUBSTANCE NOT WORN, SACRIFICED OR CONSUMMED
Absent (0); Present (1); Exuvial or Personal Object Manipulated (2); Imitative techniques (3); Exuvial and Imitative Techniques (4)

36) SACRIFICE I: Absent (0); Not consumed (1);

Consumed (2); Both (3)

37) SACRIFICE II

Absent (0); Non-animal (1); Animal (2); Human (3)
Non-Animal and Animal (4); Non-Animal and Human (5); Animal and Human (6); Non-Animal, Animal and Human (7)

38) CONCENTRATION/IMAGERY/DISCHARGE

Absent (0); Concentration/Imagery (1); Discharge (2); Concentration and Discharge (3)

39) EVIL EYE/UCONSCIOUS/UNINTENTIONAL

Ab (0); Unconscious/Unintentional (1); Evil eye (2); Evil eye & Unconscious/Unintentional (3)

Section 5

Propitiation and Socioeconomic Concerns

1) PROPITIATION- Activities directed towards culturally defined spiritual entity with the intention of currying favor, placating, receiving benefits and favors: Absent (0); Secondary (1); Primary (2)

2) ENTITIES PROPITIATED

Absent (0); Minor/personal spiritual entities (1); Ancestors (2); Major Deities- not ancestors (3); Minor & Ancestors (4); Minor & Major (5); Ancestors & Major (6); Minor, Ancestors & Major (7)

3-4) PROPITIATION- CONTEXT AND MOTIVE

5-6) WORSHIP WITHOUT SPECIFIC REQUEST
Ab (0)/Context; Ab(0)/Motive

7-8) PERSONAL SPIRITUAL DEVELOPMENT
Ab (0)/Context; Ab(0)/Motive

9) SOCIO-ECONOMIC ACTIVITIES
Absent (0) Secondary (1); Primary (2)

10-11) ACQUIRE GAME, NON-CULTIVATED FOODSTUFFS: Ab (0)/Context; Ab(0)/Motive

12-13) ASSURE WELL-BEING CROPS, DOMESTIC ANIMALS: Ab (0)/Context; Ab(0)/Motive

14-15) POST-HARVEST ACTIVITIES: Ab (0)/Context; Ab(0)/Motive

16-17) ASSURE SUCCESS NON-AGRICULTURAL

Section 6 (A-C)

Altered State of Consciousness

ECONOMIC ACTS: Ab(0)/Context; Ab(0)/Motive

CLIENT INDUCTION- PROPITIATION AND
SOCIOECONOMIC CONCERNS

18) AUDITORY DRIVING

Absent (0) Moderate (1) Extensive (2)

19) MOTOR BEHAVIOR

Normal (0); Restrict (1); Excessive (2); Restrict &
Excess (3)

20) VISUAL DEPRIVATION

Absent (0) Present (1)

21) ALCOHOL

Absent (0); Present (1)

22) PSYCHOACTIVE DRUGS

Absent (0); Moderate (1); Extensive (2)

23) FOOD CONCERNS

Restrict (1); None (2); Restrict & Consume (3);
Consume (4);

24) SEX ACTS

Restrict (1); No concern (2); Restrict & Present (3);
Present (4);

25) TEMPERATURE EXTREMES

Absent (0); Hot (2); Cold (3); Hot & Cold (4)

Magical Techniques

26) SPIRIT TECHNIQUES

Absent (0); Command (1); Command and Propitiate
(2); Propitiate (3)

27) INVOCATION

Ab (0); General (1); Specific (2)

28) PROVIDE OBJECT WORN/CARRIED

Absent (0) Present (1)

29) MANIPULATE SUBSTANCE NOT WORN,
SACRIFICED OR CONSUMMED

Absent (0); Present (1); Exuvial or Personal Object
Manipulated (2); Imitative techniques (3); Exuvial and
Imitative Techniques (4)

30) SACRIFICE I

Absent (0); Not consumed (1); Consumed (2); Both (3)

31) SACRIFICE II

Absent (0); Non-animal (1); Animal (2); Human (3)
Non-Animal and Animal (4); Non-Animal and Human
(5); Animal and Human (6); Non-Animal, Animal and
Human (7)

1) PRACTITIONER ID NUMBER

2) Activity associated with Altered State of Con-
sciousness (see instructions)

3) MOTOR BEHAVIOR

Deliberately Limited (1); Normal (2); Moderately
Excessive (3); Extremely excessive (4); Deliberately
Limited and Excessive (5)

4) PRIMARY VOCALIZATION MODE

None (0); Non-speech (1); Singing/Chanting (2);
Sing/Chant/Speech (3); Speech(4)

5) SING/CHANT

6) PERCUSSION

Absent (0); Other Only and Minimal (1);
Practitioner or Practitioner and Other Minimal (2);
Other Moderate (3); Practitioner or Practitioner and
Other Moderate (4); Other Extreme (5); Practitioner or
Practitioner and Other Extreme (6)

7) SEXUAL BEHAVIOR

Present (1); None (2); Short Abstinence (3); Long
Term Abstinence (4)

8) FOOD CONDITION

Consumption (1); No concern (2); Consumption and
Restriction (3); Particular restriction (4); General
restriction (5); No food or water 24h+ (6); Extreme
fasting (7)

9) SOCIAL ISOLATION

Absent (0) Moderate (1) Extensive (2)

10) VISUAL DEPRIVATION

Absent (0) Present (1) Night ceremony (2)

11) SLEEP

Absent (0); Spontaneous (1); Spontaneous & Deliber-
ate (2); Deliberate (3)

12) SLEEP DEPRIVATION

Absent (0); Present-24h+ (1); 48 hours+ (2)

13) ALCOHOL INGESTION

Absent (0) Moderate(1) Extensive (2)

14) PSYCHOTROPIC DRUGS

Absent (0) Moderate(1) Extensive (2)

15) OTHER DRUG

Absent (0) Moderate (1) Extensive (2)

16) PHYSICAL LACERATIONS

Absent (0) Minor (1) Major (2)

17) TEMPERATURE EXTREMES

Absent (0) Hot (1) Cold (2) Hot & Cold (3)

18) SPONTANEOUSLY INDUCED

Absent (0) Present (1)

19) TREMOR/CONVULSION

Absent (0); Tremor (1) Convulsions (2)

20) COMPULSIVE MOTOR BEHAVIOR

Absent(0); Present(1)

21) SKELETAL COLLAPSE

Absent (0); Voluntary(1); Voluntary & Involuntary (2); Involuntary(3)

22) UNCONSCIOUS

Absent (0) Present (1)

23) PSEUDOPERCEPTION:

(Vision/Hallucination/Dream) Absent (0); Present(1)

24) PSEUDOAUDITION

(Hear spirits speak) Absent (0); Present(1)

25) AMNESIA

Absent (0); Present (1)

26) PRACTITIONER/SPIRIT RELATIONSHIP

No spirit present (0)

Weak presence-no direct verbalization through practitioner (1)

Practitioner/Spirit dialogue- both personalities presented (2)

Possible possession-unclear (3)

Possession- only spirit personality(ies) presented in ASC (4)

Possession and other conditions present (5)

27) ALTERED STATE OF CONSCIOUSNESS

Absent or presumed absent (0)

Presumed (not obvious) (1) Present (2)

3.3 CODING INSTRUCTIONS

Section 1

Practitioner Identification, Data Quality Assessments & General I

1) Practitioner Identification number as specified in Appendix 1.

2) Number of society of practitioner as specified in Standard Cross-Cultural Sample (Murdock and White 1969).

Data Quality Assessments

3) Code for the language abilities during the final phase of field work which forms the basis of the reported material. If source is literature review or not based upon authors' own field work, code not applicable. Language refers to the native language of the culture, and does not include second language acquired through acculturation unless that language is the dominant language in everyday life. Fluent implies the ability to carry on a conversation without an interpreter. If interpreter used, do not code higher than 4. When clear data lacking, and considerable use of indigenous language in text, code as fluent unless short length of field work suggests complete fluency not achieved.

4) Code for cumulative field work among people of same language and cultural group at time of termination of field work which provided the basis for the report. If subsequent field work and reports covered magical practitioners as well, code for cumulative amount of time.

5) Contact with magical practitioners is to be assessed for the investigator whose work is a primary source of information for that practitioner. If other sources provide considerable additional coverage and contact greater, code for their contact as well.

6) Initial Agreement- agreement between primary coder and code checkers in the initial code comparisons (see Appendix 2.1).

7) Recode Agreement- agreement between primary coder and code checkers after including primary coder and code checker correction (see Appendix 2.1).

8) SPECIALIZATION I

Code full-time for males if they have no other major

remunerative activities or do not engage in the same subsistence activities as other males. Code full-time for females if they do not engage in usual female tasks, are not married or are married but barren, or if married with family have special assistants not generally present to help with regular household tasks. If no indication to contrary and sufficient coverage, code part-time.

9) SPECIALIZATION II

0- No differences among practitioners of this type in the magnitude of their power.

1- Differences are of magnitude, including hierarchical differences of power within organization or strength of magical abilities.

10) SPECIALIZATION III

0- No differences among practitioners of this type in the range of activities carried out in the fulfillment of role as practitioner.

1- Overlapping differentiation in specialization involves conditions in which all or most practitioners of a type engage in the same basic activities, with some differentiation in the aspects of the activity in which they excel or specialize.

2- Exclusive differentiation involves conditions under which the practitioners of a type have minimal overlap in activities, engaging in largely exclusive activities. If there is largely exclusive differentiation, and there are exclusive differences in selection procedures which correspond to role specialization, code for different practitioner types. If practitioner type's source of power is the same as source of power for non-magical specializations, code for exclusive differentiation.

11) SOCIAL STATUS: If multiple ranks/levels of practitioners, code for status of highest. Code for highest only if there are no others in culture whose status exceeds practitioners' except for highest political leaders. If no indication otherwise or to contrary, and sufficient coverage, code for Moderate/Normal/No distinction.

Political Powers

12)- ECONOMIC STATUS: If multiple ranks/levels of practitioners, code for economic status of highest consistently achieved. Code highest if wealth of practitioners is seldom surpassed by any other non-practitioners except for highest political rulers, or if services provided by practitioner are the most important source of specialized remuneration or accumulation of wealth within the culture. If no indication of large payments, no statement to

contrary, and good data coverage, code for Moderate/Normal/No Distinction.

13) POLITICAL/ECONOMIC POWER

Code 1- Political/legislative leader if practitioner has institutionalized role in which (s)he makes decision for social group with respect to such activities, or if practitioner is a central advisor to those who make such decisions and shares in their social and economic privileges.

Code 2- Military leader if practitioner makes military decisions for social group or directly advises those who make such decisions on basis of recommendations, or if physically enforces laws of political decisions.

Code 3 if 1 and 2 are present.

14) JUDICIARY POWERS: Moderate judiciary decisions involve mediating or settling disputes or other activities without severe consequences, including making decisions or divinations as to guilty or responsible parties. Code extreme judiciary if severe consequences, e.g., banishment or death.

15) ECONOMIC POWER

1- Practitioner redistributes goods in social group beyond that typical of culture members but does not acquire them through taxation or control of non-kin group property.

2- Responsibilities include initiation of group economic activities, e.g., planting; or practitioner controls group property, e.g., land.

3- Includes receipt of goods by force as well as donations, offerings, etc. made without the condition of or provision of a particular personal service, as well as goods received through tributary relationships, or taxation. 4- 2 and 3 present.

16) CHARISMATIC POWER

0- Practitioner has political/military power (#6)

1- Practitioner has no political or military power, nor charismatic power (2 or 3 below).

2- Charismatic leaders may undertake decisions for group, but without an institutionalized basis for their power.

3- Acts on part of social group to hex generally accepted deviants or enemies.

4- 2 and 3 present.

Life Cycle Activities

Practitioner actively engages in activities as part of role activities, either as a social function or at client request, and not merely as member of culture, nor as a cause of these activities such as killing someone and causing a funeral.

17) MIDWIFE

- 1- Assists in actual birth process only in difficult cases.
- 2- Regularly assists in childbirth.

18) OTHER LIFE CYCLE

- 1- Post-birth is any ceremony carried out after the birth process and within the first few years following birth, recognizing the child's entrance into the social group.
- 2- Post birth and other life cycle activities such as initiation, rites of passage, initiation into age groups or marriage.
- 3- Does not engage in post-birth ceremonies but engages in life cycle activities other than midwife, funeral or post-mortuary.

19) FUNERARY OR POST-MORTUARY

- 1- Funeralary is any activity carried out in response to the immediate death of an individual.
- 2- 1 and 3 present.
- 3- Post-Mortuary are activities carried out with respect to an individual after ceremonies of interment have been completed.

20) PRACTITIONER GROUP

- 0- No joint action by full practitioners.
- 1 & 2- This refers to any gathering of practitioners of the same type and rank in the context of their professional activities, but only if there is no formal group of practitioners.
- 3- Practitioner group exist which controls access to group, trains initiates, or carries out ceremonies.

21) CULTURAL EVALUATION

- 1- Exclusively benevolent if no activities culturally defined as malevolent are attributed to practitioner.
- 2- Predominantly benevolent if members of the culture suspect malevolent acts that do not appear to be actualized or are only rarely actualized, or if the practitioners' malevolent activities are insignificant with respect to their activities as a whole.
- 3- Ambiguous if practitioner actually engages in or is widely believed to engage in various practices which cultural members consider to be both beneficial and malevolent.
- 4- Predominantly or exclusively malevolent generally thought to not engage in activities culturally valued as positive, or only rarely engages in activities thought of as positive, or does benevolent things only under compulsion (e.g., removes spells when forced to do so by others).

22-34) PSYCHOPHYSIOLOGICAL CHARACTERISTICS: Personality characteristics were coded even if not

typical of all of the practitioners if it was considered to be typical of some of the practitioners. Normal was coded only if there were no other characteristics applicable to at least some typical practitioners of the type. If characteristics are present prior to training but not characteristic of full practitioner, indicate those which are present only prior to full status with 1; if variable is characteristic of full practitioners and is manifested outside of the ritual context, code 2.

Section 2

General Part 2

1) **POWER TYPE/SOURCE:** Code for all types of power used by practitioner. 1- **PERSONAL**- power based upon a special aspect of the practitioner which is an inherent aspect of the human although this potential may not be developed. Includes personal soul or spirit of individual if inherent or present since birth.

2- **SPIRIT/GOD** is any power based control of or special relationships to spirits or gods or received through them.

3- **IMPERSONAL** power is based on sources not directly involving spirits or gods, although the practitioner may be associated with spirits or gods in other activities or acquisitions of power. The personal/impersonal power includes concepts such as mana and prana. If power is related to development of practitioner's personal spirit/soul, do not code as impersonal unless such concept is independent of this power.

2) **POWER AWARENESS/CONTROL:** Refers to use of supernatural power, not social power. Code for awareness in application of power or petitioning other entities to apply power. Practitioner can be aware even if (s)he has no control over the power. Control of application- if power is not applicable at practitioner's will, code for appropriate degree of independence of control. If no indication, then code for awareness (1) and control(1).

3) SPIRIT RELATIONS I

- 0- No association with spirits in any form in any aspect of training or practice, nor 1.
- 1- Practitioner has personal soul aspect which has unusual abilities, characteristics, or development.
- 2- Some variables present on 33-39.

4-9) ANIMAL RELATIONSHIPS

- 2- Animal transformation involves belief that the practitioner becomes transformed into an animal, or to project personal consciousness through the "vehicle" of an animal. Do not code animal transformation merely because

practitioner is thought to have animal spirits, but only if practitioner is thought to become them. However, if practitioner has special relationship to animals such that the death or injury to one is transferred to the other, code for animal transformation.

10) Minor spirits are those which although perhaps known to all members of the culture, have a special relationship with a limited group of people.

11) Ancestor spirits are those which pertain to all members of a lineage, although only a few members of the group may have a special relationship with the ancestor spirit on behalf of the group.

12) Superior gods or spirits are of equal importance to most or all members of the culture and are common to more than one kinship group.

Special Powers

13) FLIGHT- Belief that practitioner can fly, displace self, project consciousness to distant places (with or without spirit/animal familiars), become invisible, etc.

14) WEATHER CONTROL- practitioner thought to be able to directly affect weather, including rain, storms, lightning, wind, clouds.

15) WOUND HEAL- Practitioner inflicts or appears to inflict serious wounds to self or others with immediate or rapid healing and no apparent long term trauma as a result.

16) FIRE IMMUNITY- Belief that practitioner can handle extremely hot objects, which would be expected to cause injury to body, without actually experiencing damage or discomfort.

17) ANIMAL CONTROL- practitioner thought to be able to control animals, animal spirits, insects, etc. If animal transformation present, then code animal control.

18) DEATH/REBIRTH- Practitioner is thought to undergo culturally defined death experience (e.g., dismemberment), or may actually die during trance states.

Selection and Training

19) SOCIAL LABELING/BIOLOGICAL INHERITANCE: 1- Scapegoating, attribution of status which is generally denied. 2- all descendants or all same sex

descendants acquire power/status automatically in fashion similar to genetic inheritance.

20) PRACTITIONER ROLE ACCEPTANCE: Denies role means that practitioner does not admit to any aspect of the role, not merely denial of particular aspects of the role, for instance, evil activities, while engaging in the positive activities attributed to the role, such as healing.

21) SOCIAL FACTORS IN SELECTION

1- Practitioner makes decision as to who should have access to status of practitioner or undergo training.

2- Social inheritance involves any tendency for transfer of power to direct descendants which occurs when there is no belief in biological inheritance. There can be social inheritance even when other factors (e.g., voluntary, political appointment) determine actual selection.

3- Social succession only when position transferred to an immediate descendant of the practitioner or the practitioner's social heir (e.g., mother's brother). The position is not necessarily inherited by a specific individual, but is not automatically inherited by all descendants, and status is generally restricted to a single occupant. If tendency to social succession with political action or appointment, code for social succession and the additional categories. If transfer to many descendants or other strong factors of biological inheritance, spontaneous illness, spirit selection or social labeling, code for social inheritance, reserving social succession when position is largely transferred to a single individual.

22) POLITICAL FACTORS IN SELECTION: Social or political action (negotiations, alliances, coups, warfare, etc.) taken by individual to acquire position in competition with other similarly qualified individuals. Code 1 only when there is minimal personal political action on the part of the individual, whose access is largely determined by other political figures who appoint him or when such appointment is necessary in addition to any personal efforts.

23) SPONTANEOUS SELECTION

1- Illness if a person becomes practitioner or trains to become practitioner because of an illness, or as an effort to become cured from the illness.

2- Involuntary dream, vision or omen when not precipitated by external factors (e.g., drugs, exhaustion, austerities) and is taken as indication of propensity, power, calling, etc. for status.

3- Spirit insistence when person believed to seek status because of spirit torment, insistence, or possession.

24) VOLUNTARILY SOUGHT: Practitioner seeks status independent of or in addition to spontaneous factors or the presence of imperative influences from social succession or biological inheritance. However, this code can be consistent with social labeling or social inheritance.

25) CEREMONIAL ACQUISITION: Passage to full status practitioner is marked by a ritual ceremonial, generally public, indicating change of status which is independent of actual activities undertaken as practitioner, or any trial or accusation of status which is denied.

26) SEX RESTRICTION: If the incidence of practitioners of one sex is rare (does not involve at least an estimated 1/4 of the population) or if one sex is less frequent and thought to have less power, code for pre-dominate sex restriction.

27) SOCIAL CLASS: Code for class of recruits, not for class of full practitioners. If practitioners are largely restricted to a distinct socioeconomic class, code as appropriate. If wealth and social position largely restrict access, code upper class (1). If all classes have equal access, or if no classes present in society, then code 2. If practitioner are thought to be of lower socioeconomic status, or if status is denied to upper class, then code lower class. If no indication, and no evidence to contrary, code for 2 - no class distinction.

28-29) AGE at DEVELOPMENT and PERFORMANCE: If on-set or initial performance does not occur only at a particular age, or if precise data not available, code for the youngest age level at which it regularly occurs or seems likely to occur. If no indication of age of initial development or performance, adequate coverage is available, and there is no indication otherwise, code for 3 - late adolescence, early adulthood. If biological inheritance and no training, then code no development, but code for age at which performance of professional acts regularly begins. However, if biological inheritance and training, code development for age at which training begins.

30) TRAINERS I: If no training or development required (e.g., hereditary), code 1, but only if no training required. Code 2 for training culturally defined as spirit learning.

31) TRAINERS II: Code 1 if acquired in the form of incidental learning, or if no indication otherwise, and moderately good data quality. If social inheritance of social succession and no clear indication that directly taught by predecessor, code self taught or informal.

Code 3 if taught by practitioners who have no formal group structure.

Code 5 if taught by any formal group in preparation for practitioner status even if the group teaching are not magico-religious practitioners, for example when king/priest trained by counselors.

32) PAYMENT: Code for considerable payment if initiate must rely upon resources outside of immediate family group in order to provide fee or if payment is so large it requires a considerable length of time (more than a year), or if becomes restricted to upper economic classes because of cost. If hereditary office, code no fee unless other indication.

33) TRAINING ASC

Absent (0)

Absent but other ASC (1)

Unknown but other ASC, or ASC activity is considered training (2)

Present (3)

Context and Motive Instructions

In the sections on Healing, Divination, Malevolent Acts, Propitiation, and Socioeconomic Activities, some of the particular activities and beliefs are assessed with respect to the practitioners motivation for engaging in the activities and the context in which they occur. Definitions for individual motive and context values are given below. If a particular activity is carried out in more than one context or with multiple or different motives in different situations, or if precise motive or context is ambiguous, use multiple codes.

CONTEXTS- Code for private only when there is a clear intent to remove all others except practitioner(s) and direct client(s), or when the social responses to the activities (e.g., practitioner killed) endanger the well-being of the practitioners and makes secrecy necessary. Code for public when all in the local living group are expected to attend, and all are eligible to attend without specific invitation, with possible exception of specific excluded groups (e.g., menstruating women). If there are minor private aspects of an otherwise public rite, code for public only.

Code for client group when not clearly public or private, especially when attendance is optional, especially when activity occurs at a client request and in a private as opposed to public place, and associated members tend to be close relatives of client.

MOTIVES- Code personal reasons when the practitioner carries out the activity only in the practitioner's own behalf, and not when fulfilling clients' requests or acting in the public good.

Code for client request if there is a request for activity by another individual, unless the individual is a social/political leader requesting activity thought to benefit the population at large, in which case code social function. Code social function if the practitioner make decision to engage in activity and the activity is thought to benefit the population as a whole rather than just the practitioner. Social function particularly applies to the fulfillment or enactment of calendrical rituals (those occurring on specified days, generally annual).

CONTEXT OF ACTIVITIES

0- Activity absent;

1- Private;

2- Private & Client Group

3- Client Group;

4- Client Group & Public;

5- Client Group & Public & Private;

6- Public & Private;

7- Public

MOTIVES

0- Absent;

1- Personal Reasons;

2- Personal Reasons and Client Request

3- Client Request;

4- Client Request and Social Function

5- Client Request, Social Function and Personal Reasons

6- Social Function and Personal Reasons;

7- Social Function

Section 3 Health Care

For health beliefs represented by Nos. 3-24, code those present using the motivation and context codes established above. The variables for each are coded absent if belief/activity is absent, and with the appropriate context (motivation) value if present.

1) PRACTITIONER ID NUMBER

2) Health Care- Any action taken to restore, improve or maintain health; if only to prevent future threats to health, code as Health Care absent, but code for appropriate categories under 21-24. Code secondary if health care is a minor activity with respect to other functions of the

practitioner, especially if other types of practitioners in the culture have a primary health care function. If otherwise largely malevolent practitioner carries out healing acts under coercion, code healing as secondary.

3-4) RECOVER SOUL/PERSONAL ESSENCE- recover or restore lost, escaped or stolen personal soul, spirit or body essence.

5-6) REMOVE INDEPENDENT SPIRIT (NON-POSSESSION): Remove effects of spirit entity or its manifestations which cause/manifest illness independently of human agents, but not involving possession as defined in No. 25 of Altered States of Consciousness Assessment.

7-8) REMOVE INDEPENDENT SPIRIT (POSSESSION): Remove effects of spirit entity or its manifestations which cause/manifest illness independently of human agents, and involving possession as defined in No. 25 of Altered States of Consciousness Assessment.

9-10) REMOVE SPIRIT HUMAN AGENT (NON-POSSESSION): Remove effects of spirit entity or its manifestations which cause/manifest illness, which act as instruments of human agents, but do not involve possession as defined in No. 25 of Altered States of Consciousness Assessment.

11-12) REMOVE SPIRIT HUMAN AGENT (POSSESSION): Remove effects of spirit entity or its manifestations which cause/manifest illness, which act as instruments of human agents, and involve possession as defined in No. 25 of Altered States of Consciousness Assessment.

13-14) REMOVE SPELL/RITUAL ACT: Nullification of effect of verbal or ritual acts carried out by humans which are believed to cause illness through direct effects not mediated by the actions of spirits.

15-16) REMOVE POLLUTION: Remove illness causing influence not involving the actions of human practitioners, but occurring as a result of contamination, violation of taboos, norms, etc.

17-18) ASSURE/ESTABLISH HUMAN FERTILITY: Overcome barrenness, infertility.

19-20) REMEDIES FOR ILLNESS-NATURAL CAUSATION: Cures illness thought to result from natural factors, e.g., diseases, accidents, wounds which are thought

to occur independently of supernatural causation. If there is the use of herbal materials in treatment of illness, code for natural causation beliefs.

21-22) PREVENT FUTURE ILLNESS SPIRIT CAUSATION

23-24) PREVENT FUTURE ILLNESS-HUMAN CAUSATION: Client offered protection against future illness which does not presently effect health. If nature of causal agents unknown, code for dominant causation (human or spirit/mystical) as found in other illness beliefs, or Spirit Causation as a default category. Code for Spirit Causation only if illness is thought to be effect of independent spirit not controlled by human practitioner. Code for Human Causation if practitioner acts, even if uses spirits under control as technique to do harm.

PHYSICAL MANIPULATIONS (Variables 25-31) Code for all techniques in fulfillment of role expectations even if the technique is not thought to be magical, or if is carried out by assistant rather than practitioner.

25) EXTENSIVE HERBAL: If indication that the practitioner acquires information about a wide range of plant materials or other natural substances used in curing. If there is indication that herbal knowledge is restricted to a few plants which are common knowledge, do not code as present.

26) RUB/MASSAGE: Movement of any substance against patient's body. Includes laying on of hands, the application of the hands of the practitioner on or near the body of the client with the intent of transferring healing energies.

27) SUCK: Practitioner sucks on the patient's body; may or may not involve extraction of object. Includes the use of other instruments such as suction cups for sucking.

28) BLOW: Practitioner blows on the patient's body or fans with other objects.

29) SLEIGHT-OF-HAND: Practitioner produces illusions, for example presuming to extract objects from body.

30) SURGERY: Includes any incisions into the body.

31) WASH/CLEANSE- cleanse with water, other liquids, including ablutions, baptism, etc.

CLIENT INDUCTION: Assess all conditions imposed on clients prior to ceremony, as well as all those during ceremonial activities. If there is a focal client, code for conditions of the client; if not, code for conditions of general populace attending activity.

32) AUDITORY DRIVING: Client is exposed to percussion, chanting or singing beyond minimal ritual acts. If extensive singing/chanting or percussion by client or by practitioner, code extensive. See Nos. 5 & 6 Altered State of Consciousness Assessment.

33) MOTOR BEHAVIOR: See No. 3 State of Consciousness Assessment

34) VISUAL DEPRIVATION: Activity occurs in darkness or obscurity.

35-36) ALCOHOL/PSYCHOACTIVE DRUGS: See Altered State of Consciousness Assessment, 13-15. Psychoactive drugs include all other than alcohol.

37) FOOD CONCERNS: See Altered State of Consciousness No. 8.

38) SEX ACTS: See Altered State of Consciousness Assessment No. 7.

39) TEMPERATURE EXTREMES: See Altered State of Consciousness Assessment No. 17.

MAGICAL TECHNIQUES- code for all activities carried out in the fulfillment of the specific associated activities (Healing, Propitiation/ Socioeconomic or Malevolent only). Code for those activities carried out by assistants to the practitioner as well.

40) SELF PROJECTION: Practitioners' own spirit/soul is projected as in soul flight in order to achieve magical actions.

41) SPIRIT TECHNIQUES: Acts carried out which utilize interaction with spiritual entities. Commanded-spirits are ordered to carry out activities, including leaving victims or specific tasks. If spirits must be pleaded with or cajoled or forced to carry out tasks and generally do, code for commanded. Propitiation- Spirit beings, generally superior spirits or gods, are pleaded with or requested to carry out tasks, but the actual decision to do so is left to the spirit entity. It cannot be forced to carry out the activity requested by the practitioner.

42) **INVOCATION:** Spells or other utterances used with magical intent and with the belief of their magical efficacy. Does not include chanting or singing unless they are thought to have direct magical effects. If the spells do not require exact repetition, or if not specified, code as general. If spells must be repeated exactly, or if there is no clear indication but are secret and/or inherited, code for specific.

43) **PROVIDE OBJECT:** Practitioner provides object which is carried or worn by client, for example, an amulet, charm, or fetish

44) **MANIPULATE SUBSTANCE:** Manipulation of substances not worn (42) or sacrificed (44-45). Manipulation includes the carrying out of ritual acts not based on manipulation of substances, but involving special acts. Exuvial acts involve the use of personal body substances or excretions of the client or victim as a basis for magical acts. Personal object acts involve the use of substances which are not part of the body or its excretions, but have been in contact with the body (e.g., food, clothing), and are included with exuvial. Imitative magic involves a ritual act or set of activities carried out or symbolic relationships established which mimic or enact a set of relationships in one medium with the intent of transferring or imposing the same set of relationships in another medium. This includes all cases of the transference of influences from one object to another other than cases of exuvial or personal object manipulation.

45) **SACRIFICE I:** Any action taken in which an object or its essence is ritually offered to a spiritual being or an individual. Not consume when it is not eaten or used in a utilitarian way by humans.

46) **SACRIFICE II:** Non-animal any non-flesh substance. Animal includes any animals or animal parts except human.

Section 4

Divination and Malevolent Activities

Divination

1) **DIVINATION:** Code for divination if there are activities used to acquire information about the world not considered to be directly assessable. If divination is a relatively unimportant activity with respect to practitioner's activities as a whole, code secondary, espe-

cially if there are other practitioners in the culture who have divination as a primary function.

2-3) **CONTEXT AND MOTIVE** for Divination as specified above.

4-11) **DIVINATION CONCERNS** (See Variables)

6) **CLAIRVOYANCE:** Find lost or stolen objects, reveal current states of affairs or past occurrences, determine advisable courses of action, etc. not immediately available to the senses.

7) **PRECOGNITION:** Provide knowledge of future states of affairs.

10) **FOOD ACQUISITION:** Uses divination to aid in the procurement of food, for example in directing hunting activities.

12) **TRANCE STATE DIVINATION:** For definition of trance states see #27 in the Altered States of Consciousness Assessment. If information is acquired spontaneously (e.g., dreams, omens), and interpreted to provide information, code as trance state divination and indicate spontaneously induced on the Altered State of Consciousness Assessment sheet. Material system is any physical system used as a prop in the divination process. 1- Divination is carried out without any material prop, the practitioner has no Altered State of Consciousness Training, and no Altered State of Consciousness Induced in Divination activities.

2- Divination is carried out without any material prop, and no Altered State of Consciousness Induced in Divination activities, but the practitioner has Altered State of Consciousness Training.

3- Trance Training/Altered State of Consciousness used in conjunction with Divination activity.

13) **MATERIAL SYSTEMS DIVINATION:** If material objects used to facilitate the process of divination, code for type which most closely characterizes the nature of the practitioner control over the system.

Malevolent Activities

14) **MALEVOLENT ACTIVITIES:** Activities with the intent of causing harm to others or their belongings. Code as secondary if these activities are of minor importance with respect to the practitioners activities as a whole, particularly if there are other practitioners in the culture

which have malevolence as a primary function. If practitioner carries out magical acts which cause harm to others when they are socially sanctioned, for example when a practitioner curses a social deviant under urging from social groups and with a broad consensus, do not code as malevolent.

15-16) CONTEXT and MOTIVE as specified above.

17-30) MALEVOLENT ACTS (Absent-0; Present-1)

19) Interfere with the economic well-being of individual in any sphere except animal (20) or agriculture (21). 23) Eat body/soul if thought to in some sense consume it, not merely to capture or destroy soul.

24) Code for indiscriminate harm only if practitioner is thought to do harm to those to which (s)he hold no particular grudge or does things beyond the reasonable or understandable, e.g., engages in "inverted behavior" or is thought to engage in acts which have no particular individual as an intended victim. Engaging in sorcery for profit, envy or revenge is not sufficient. If a healer is thought to use malevolent power to make people ill in order to have clients, code as causing harm indiscriminately.

25) Code for kill kin also if physically kills kin to acquire power.

28) Practitioner actually carries out at least some malevolent activities, not just merely accused of doing so.

29) Practitioner thought to engage in malevolent magico-religious activities related to the manipulation of corpses.

30) Practitioner is thought to engage in behavior culturally labeled as sexually deviant in course of activities.

31) ASC ASSESSMENT

Any induction procedure, e.g., singing, chanting, percussion, dancing, use of hallucinogens, fasting, meditation; see State of Consciousness Assessment.

Night Activity occurs during night, whether or not practitioner thought to be asleep or unconscious.

Sleep states if practitioner thought to engage in activity while asleep. If induction procedures and night activity or sleep states, code latter.

32-37) MAGICAL TECHNIQUES: See Health Care 40-46 for 32-37.

38) CONCENTRATION/IMAGERY/DISCHARGE: Concentration/Imagery when practitioner focuses attention, especially when using mental imagery of concentration to achieve ends. Discharge- object or entity is magically discharged and travels to victim to cause injury or illness.

39) EVIL EYE/UNCONSCIOUS-UNINTENTIONAL: Evil eye- effects are caused by the practitioner looking at the individual or other entity to be effected. May or may not be an unconscious or inadvertent effect. Unconscious/Unintentional- effects are not consciously attempted by practitioner but occur unconsciously or out of control.

Section 5

Propitiation and Socioeconomic Concerns

1) PROPITIATION: If propitiation is a minor concern with respect to the other activities of the practitioner, code secondary, particularly if there is another practitioner in the culture who has propitiation as a primary function.

2) ENTITIES PROPITIATED: Minor spirits are those which although perhaps known to all members of the culture, have a special relationship as deity or spirit of importance with a limited group of people. Ancestor spirits are those which pertain to all members of a lineage, although only a few members of the group may have a special relationship with the ancestor spirit on behalf of the group. Major deities are of equal importance to most or all members of the culture and are common to more than one kinship group.

3-4) CONTEXT and MOTIVE as specified above.

5-6) WORSHIP: Activity aims to establish relationship with spiritual entities as form of propitiation, worship, honor, etc., without any specific request beyond general well-being.

7-8) PERSONAL SPIRIT DEVELOPMENT: Activity aims to establish relationship with spiritual being or power with intention of personal spiritual development, meditation, enlightenment, moral improvement, etc.

9) SOCIO-ECONOMIC ACTIVITIES: Carries out magical activities related to socioeconomic concerns, including 10-17 below. If these are principal concerns of the

practitioner, code as primary.

10-11) ACQUIRE GAME: Practitioner engages in activities which are directed towards the acquisition of non-domesticated foodstuffs.

12-13) ASSURE WELL-BEING CROPS, DOMESTIC ANIMALS: Any activities directed towards domestic agriculture or animal husbandry, including production of rain or prevention of bad weather if explicitly done with implications for crops, animals.

14-15) POST HARVEST ACTIVITIES: Engages in ceremonies at conclusion of agriculture cycles.

16-17) NON-AGRICULTURE ECONOMIC ACTIVITIES: Engages in acts designed to assure the success of any economic activities except 138-140.

18-25) CLIENT INDUCTION- PROPITIATION AND SOCIOECONOMIC CONCERNS: See instructions for Healing, variables 31-38. Code only for those activities related to variables 1-17 in Propitiation/Socioeconomic concerns.

26-31) MAGICAL TECHNIQUES- PROPITIATION AND SOCIOECONOMIC CONCERNS: See instructions for Healing, 41-46. Code only for those activities related to variables 1-17 in Propitiation/Socioeconomic concerns.

Section 6 (A-C)

Altered States of Consciousness

These codes assess the nature of the personal conditions of the magico-religious practitioners during their activities. These state assessment codes are to be evaluated for each distinct area of concern (Healing, Divination, Propitiation and Socioeconomic Concerns, Malevolent Acts and Training) in which the practitioner enters, induces, or experiences an altered state of consciousness in the process of fulfilling role. If a wide range of induction procedures tend to be used together with variation or option in which techniques may be employed in a given type of activity on a given occasion, code a single assessments. If a given activity uses different procedures across time, for instance when training may first involve one inducer and later another, code for a single state of consciousness. If there is a critical on-set of symptoms which indicate propensity and constitute the transition to

practitioner development, code for those states and the conditions present, as well as subsequent conditions and inducers. If there is no training but ceremonial acquisition of power/status, code for those conditions if altered state is present. When there were austerities or other initiatory practices engaged in by all members of the culture and were directly related to later seeking of similar experiences in the context of training for the practitioner status, for instance when all males engaged in initiatory experiences which formed basis of shamanic training, these early experiences were coded as part of the practitioner training.

1) PRACTITIONER ID NUMBER

2) ACTIVITY ASSOCIATED WITH ALTERED STATE OF CONSCIOUSNESS: Healing (1); Divination (2); Healing and Divination (3); Propitiation or Socioeconomic Activities (4); Propitiation or Socioeconomic Activities, and Healing (5); Propitiation or Socioeconomic Activities, and Divination (6); Propitiation or Socioeconomic Activities, and Healing and Divination (7); Malevolent (8); Training (9)

3) MOTOR BEHAVIOR

1- Deliberately limited not a result of collapse from drugs, exhaustion, etc., or involuntary dreams or visions, but present if intentionally induced sleep or deliberately constrained movement.

2- only if there is no change from normal motor behavior.

3- moderately excessive when moderate periods of dancing or body movement for short periods of time, or extensive percussion but no dancing.

4- Excessive involves considerable movement over prolonged periods of time, or any other concerted motor activity over time, including extensive drumming for extended periods of time.

6- Both 1 and 3 or 4.

4) PRIMARY VOCALIZATION: No vocalizations made in context of ceremony 1- Animal imitation, other non-speech. 2- little or no normal speech but singing, chanting, incantations; 3- singing, chanting or incantations and speech as well. 4- No sing, chant or incantations except minimal.

5-6) SING/CHANT & PERCUSSION: Sing/Chant when practitioner (trainee) engages in musical vocal activity, including singing, chanting, mantras, or prolonged repetition of non-speech sounds. Percussion involves any repeated collision of noise producing objects, including

clapping, use of drums, rattles, bells, clappers, etc. Code for other if individual other than practitioner engages in activity in context of practitioner's activities. If music, code present as appropriate, either sing for wind instruments or percussion for percussive. Code minimal if activity is for very short periods of time and appears to be a ritual act rather than an altered state induction technique. If no indication but present, code moderate. Extreme when for extended periods of time or very intensive.

7) SEXUAL BEHAVIOR

- 1- Present when sexual activity occurs as part of or preparation for magico-religious activity.
- 2- when no concern is expressed about activity and no reason to assume abstinence (e.g., social isolation).
- 3- Temporary/Cleanse when sexual activity prohibited either for a period immediately prior to ceremony or directly after, or it is necessary to wash or cleanse if sexual activity has occurred. Assume present if extensive social isolation and no reason to expect that sex occurs.
- 4- Long term/permanent when extended period of sexual abstinence beyond 2 days.

8) FOOD CONDITION

- 1- Consumption if any consumption by the practitioner in the context of the ceremony.
- 2- No concern if absent, that is no eating in ceremony and no concern about food restrictions.
- 3- Restriction and consumption when a period of restriction is followed by a ritual consumption of food.
- 4- Particular restriction when a specific food or group of foods must not be eaten prior to magico-religious activity, or are prohibited on a long term basis.
- 5- General restriction when there is a general reduction of total food intake prior to ceremony or across time.
- 6- Prohibition on ingestion of food or water for a total period of at least 24 hours by termination of ceremony.
- 7) Extensive fasting when fast for more than 24 hours or when severe reduction of food intake over period of time, involving serious emacipation, reduction of strength, or threats to health and well-being.

9) SOCIAL ISOLATION: Elimination or radical reduction in normal social relations. If there is contact with other trainees, practitioners, etc., code for social isolation if there is no or minimal contact with other outsiders. If isolation less than 24 hours, code for moderate (1)

10) VISUAL DEPRIVATION: Considerable darkness or obscurity, extreme reduction of visual stimuli, or long

exposure to intense visual stimulation (e.g., light, the sun) which would likely result in habituation. Code for night activity if major portion of activities occur during night.

11) SLEEP

0- Absent Sleep does not occur during or as special preparation for magico-religious activity.

1 - Spontaneous when experiences relevant to status selection or professional occur during dream states not deliberately sought.

2- Spontaneous and Deliberate- distinct occurrences or possible modes in context of activities, for instance when initial spontaneous sleep experiences are later deliberately cultivated.

3- Deliberately Induced Sleep- not contributed to by drugs, exhaustion, etc. Do not code deliberately induced sleep for involuntary visions while asleep, unless sleep period is deliberately planned.

12) SLEEP DEPRIVATION: Moderate (1) if 24 hours or greater by end of ceremony; if ceremony lasts all night and no indication of sleep, then code for sleep deprivation. Extensive (2) if 48 hours or greater by end of ceremony or extended period of minimal amounts of sleep.

13-15) DRUGS: Moderate if drug thought to have minimal effects upon behavior and cognition. Extensive if drug thought to have considerable effects upon behavior and cognition.

PSYCHOTROPIC includes hallucinogens or any vision producing drug, including stimulants, opiates, narcotics. OTHER DRUGS include all other unidentified substances thought to have effects upon state of consciousness.

16) PHYSICAL LACERATIONS: Minor physical lacerations not thought to constitute severe pain or serious trauma to body.

17) TEMPERATURE EXTREMES: Hot includes steam baths, sweat lodge, or exposure to natural temperature extremes. Cold includes natural exposure as well as in rivers or with baths that are likely to be cold.

18) SPONTANEOUS: Critical on-set of phenomena inducing ASC or leading to training, including breakdowns, epileptic seizures, unplanned dreams, etc., but only if the onset of the altered state at least begins outside of specific ritual context, without apparent planning or

intent, although perhaps in response to specific types of events (e.g., stress). Includes involuntary dreams.

19) **TREMORS/CONVULSIONS:** Tremors (1) slight shaking, trembling, shivering for reasons other than being physically cold. Convulsions (2) contorted or uncontrolled limb movements, spasmodic movements, convulsions, fits, extensive spasms, etc.

20) **COMPULSIVE MOTOR BEHAVIOR:** Extensive motor behavior that appears to be beyond the direct control and intention of the practitioner (trainee), involving uncontrolled flailing of limbs, compulsive running about, or other excessive motor behaviors.

21) **SKELETAL COLLAPSE:** Situation in which skeletal musculature enter highly relaxed phase such as collapse during sleep, but also including extended periods of reclining, sitting or other supported postures such as in meditation. Skeletal collapse can occur without unconsciousness. Absent (0)- No reductions in normal motor behavior other than normal sitting.

Voluntary (1)- if deliberately induced without exhaustion, drugs, driving or psychophysiological imbalance; Voluntary and Involuntary (2) if both occur in distinct phases of the training or trance.

Involuntary (3)- if results from drugs, exhaustion, spontaneous seizure or occurring in involuntary dreams. If occurs during intentional periods of sleep then it is voluntary; if sleep states not deliberately sought as part of trance/activity, then involuntary.

22) **UNCONSCIOUS:** Period of immobility of the body during which there is no verbal or behavioral communication, resulting from sleep, collapse from exertion, drugs, seizures, etc.

23) **PSEUDOPERCEPTION:** Visual experience occurring during course of activity resulting from dreams, hallucinations, spontaneous mental imagery, drugs, visions, etc.

24) **PSEUDOPERCEPTION:** Practitioner has experiences interpreted as spirits talking to, communicating with practitioner.

25) **AMNESIA:** No memory for events transpiring during ceremony.

26) **PRACTITIONER/SPIRIT RELATIONSHIPS**

0- No spirit present or appealed to in ceremony.

1-Weak presence, no spirit vocalization via practitioner, such as found in possession or practitioner/spirit dia-

logue (see below), but it is thought that spirits/gods are present or appealed to. The practitioner may hear spirits, but this is not heard by others.

2-Practitioner/spirit dialogue. Spirit personalities are manifested via the practitioner and the practitioner's personality is also manifested in interaction with the spirit personalities.

3-Possible possession; unclear whether or not possession as defined below does occur is ambiguous.

4-Possession. Phenomena is culturally defined as possession according to the following criterion, and not merely on the basis of the ethnographer's use of the term. Possession is defined here as possession of practitioner by spirits. It is a condition culturally interpreted as a state during which the practitioner's own personality is temporarily displaced by the personality or presence of another entity, and is thought to involve control of the practitioner by spirits. A crucial indicator of possession is spirits speaking without the manifestation of the normal personality of the practitioner. If there is imitation of spirits or animals which involves a continued interaction with the practitioner's personality, code 2. If there is ambiguity with respect to whether or not possession in this stricter form is present, code 3. Distinguish possession by spirits from possession of spirits. Possession of spirits by the practitioner entails a special relationship established between practitioner and spirit(s) which does not involve domination of the practitioner's personality by a spirit personality. Even if spirit assistants are acquired as permanent adjuncts to the practitioner's personality or powers and reside within the practitioner, this is not possession unless there is a periodic or permanent relationship established which involves displacement of the normal personality.

27) **Altered State of Consciousness** refers to an alteration from the normal psychophysiological parameters of consciousness and awareness as stated by practitioners, inferred on the basis of behavior by observers, or indicated by induction factors above.

Presumed if the altered state is not behaviorally obvious or recognized by reporter, but likely present given the induction procedures employed, or if practitioner is member of tradition known for altered states not behaviorally obvious; or if altered state induction procedures not obvious, but indicated by phrases such as ecstasy, fervor, devotional states, etc.

Present- altered state culturally recognized by culture or ethnographer, or the presence of considerable altered state induction procedures, or with presence of state characterized as animal transformation or soul flight.

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ENDNOTES

Chapter 1 Introduction

1. For example Tylor 1871, Lang 1898, Durkheim 1915, Frazer 1929, Mauss 1950, Malinowski 1948/1954, Evans-Pritchard 1965, Swanson 1960, Wallace 1966, Norbeck 1961, O'Keefe 1982. This is not an exhaustive list of relevant theoretical anthropological works on magico-religious traditions, but represents some major contributions (cf. Skorupski 1976).

2. An etic typology is one which offers absolute or universalistic criterion for classification, based upon an examination of many cultures. It would be able to categorize magico-religious practitioners of any culture as an example of a particular type which has a cross-cultural distribution.

3. A diachronic sample would focus on the same culture at different points in time, in particular while at distinct socioeconomic conditions shown here to be central to the types of magico-religious practitioners present in a society. The present study uses a cross-cultural sample with controls for diffusion to argue that the differences between societies with respect to social conditions and magico-religious practitioner types can be used to argue certain changes in magico-religious practitioner types as a consequence of those social changes.

Chapter 2 Methods

1. In previous presentations of this research (Winkelman 1984), the term role rather than status was used to refer to the position. The terms role and status have diverse meanings within the social sciences literature. This presentation has used status and role to refer to culturally recognized specialized positions, and the associated conditions and characteristic, respectively.

2. The only variable areas considered in this coding process and not integrated into the set used in the analysis here were those characterizing the ASC induction procedures and ASC characteristics associated with magico-religious activities other than training. These were excluded from the reduced set of variables used here on pragmatic grounds- program limitations of the number of variables which could be considered simultaneously in the measurement of similarity among practitioners (see Methodological Appendix 2.4). The ASC variables asso-

ciated with magico-religious activities were eliminated since they constituted an easily identifiable and well circumscribed large group of variables ($n > 30$) which were frequently repeated since there were different ASC procedures associated with different activities. This is not considered a complete loss of relevant data on the practitioners since the ASC associated with training were assessed, and were generally similar to the ASC used by the practitioners in their magico-religious activities. The complete data on activity is available (Winkelman and White 1987).

Chapter 3 Magico-religious Practitioner Types, Socio-economic Conditions and Characteristics

1. Practitioners added were: Wolof Healer, Fulani Healer (*bojako*), Tuareg Priest, Kazak Healer, and Alor Priest. The revised variables (Appendix 3) also differs from the previously recognized practitioner statuses in the recognition of an additional practitioner among the Pentecost; this was not included in the analyses presented here.

2. Differences in classification with the K-Means procedure are the following: Core Shamans- Hidatsa Shaman/Healer, Mapuche Healer; Shaman/Healers- Semang Shaman, Toda Healer, Fur Healer, Jivaro Priest, Atayal Medium, and Alor Medium; Healers: Zuni Priest, Nama Hottentot Shaman/Healer, and Dyak Shaman/Healer; Mediums- Marquesan Inspirational Priest; Sorcerer/Witch- Creek Rain Priest; Priests- Ibo Oracle and Fur Healer.

Chapter 4 Practitioner Configurations and Selection-Function Relations

1. There were two other multiple cases in a single society. The Roman case is unusual in that in spite of having 5 practitioners present, there are only two types of magico-religious practitioners represented, Shaman/Healers and Priests; however, one of the Roman practitioners classified as a Shaman/Healer is labeled by the society as a sorcerer, witch, and necromancer. Evidence for the Fur magician was scant at the time of Felkin's observations (1885); he apparently had no contact with such practitioners and provided no indigenous terminol-

ogy for the practitioner type. However, by the time of Beaton's field work in the 1930's, there was apparently no evidence of the magician, since Beaton fails to make any mention of such a practitioner. Both Felkin and Beaton report the *puggee*, clustered and classified here as a Healer.

The Creek had a practitioner classified by cluster analysis as a Priest (the Creek Rain Priest), but another practitioner with the priest title and functions (Creek Fire Priest in 1984 analysis). The Creek Fire Priest must be a shaman, and was clustered with and classified as a Shaman, along with another Creek practitioner labeled as a Shaman. The Creek Shaman and Creek Fire Priest of the 1984 data set have been combined into a single practitioner status (with role specialization) in this data set, since the Creek Fire Priest must also be a shaman, and since both were independently classified as a Shaman in the original analysis. The original analyses had also considered the Japanese Medium to be two different practitioners, the *miko* and the founder of the new religious cults. During coding reliability checks it was noted that Blacker states that the religious movement leaders

are *miko*, resulting in the combination in the data set presented here of what was previously seen as two different practitioner types. The fact these practitioners amalgamated first in cluster analysis indicates that they are more similar to each other than any other practitioner, confirming the appropriateness of this grouping.

2. The test of higher order interactions indicated that although the second order interactions were significant ($G^2 = 85.18, p < .0000$) the third order interactions were not significant ($G^2 = .87, p = 1.0$). Similarly, the tests of marginal and partial associations indicated no significant third or fourth order effects; however, all second order effects except Agriculture-Class were significant under partial or marginal associations. Since the third and fourth order interactions were non-significant, only models including second order interactions were considered. The data presented here illustrates the central comparisons of different second order models. The model which included all second order interactions was not significantly better than the second order model which eliminated all of the interactions between the socioeconomic variables ($G^2 = 2.83, 3 \text{ df}, p = .5$). However, elimination

Table 3.2
Log Linear Analysis

PRACTITIONER CONFIGURATIONS AND SOCIOECONOMIC VARIABLES

	df	G2	P
[TA] [TP] [TC] [AP] [AC] [PC]	13	3.81	.9930
[TA] [TP] [TC]*	16	6.64	.9796
Difference due to [AP] [AC] [PC]	3	2.83	.5
[TA] [TP]	20	26.45	.1514
Difference due to [TC]	4	19.8	.001
[TA] [TC]	20	31.77	.0842
Difference due to [TP]	4	25.13	.001
[TP] [TC]	20	20.63	.4704
Difference due to [TA]	4	13.99	.001

* Model Selected

T= Type of Practitioner Configuration;

A= Agriculture;

P= Political Integration;

C= Classes

of any of the interactions between the Practitioner Type variable (T) and any of the socioeconomic variable ([TA], [TP], [TC]) resulted in highly significant differences. The model ([TA], [TP], [TC]) has a significance level of .9796 and fits the data quite well. Since the second order (and higher) interactions among the socioeconomic variables did not significantly contribute to the model, the model [TA], [TP], [TC], with interactions between the Practitioner Type variable and each of the socioeconomic variables (agriculture, political integration, classes) was accepted. The log linear results are summarized in Table 3.2.

Chapter 5 Shamanism

1. Although there was significant evidence of diffusion (autocorrelation with the language assessment), the stability of the betas and standard deviations remained substantially unchanged under the ordinary least squares regression and autocorrelation regressions, indicating stable estimations of the parameters of the dependent variable.

Chapter 6 Shamanistic Healers

1. The main differences between the different types of practitioners were determined through the use of the BMDPK-Means analysis, which compares groups (practitioner types) with respect to the variables used to establish the groups. The program assesses the differences between types with respect to each variable and provides an F score and significance level for differences between the groups (practitioner types) with respect to the variables, allowing identification of the variables along which the various types differ most strongly.

Chapter 7 The Priest

1. The Zuni Priest was originally assessed as three independent practitioner statuses- the Katchina Priests, the Bow Priests (apilashiwanni) and the Rain Priest (ashiwanni). However, initial analyses (Winkelman 1984) indicated that these three practitioners were more similar to each other than any other practitioner in the sample. Furthermore, since they were all also selected in the same way (social inheritance and political appointment), engaged in the same activities (propitiation for agriculture well-being), and served under the leadership of the pekwin, the sun priest who directs the annual calendar, they were included together in these analyses as a single position

with role specialization.

2. In the original analyses the position of the Creek Shaman and the Chief Priest were treated separately. However, since the Chief Priest must be a shaman, since they all engage in the same general activities and have the same training, and since they were both clustered with the Shaman group, they are combined together in a single status in the sample reported here.

3. Although the activities of major religious organizations are generally not associated with ASC induction, they do apparently provide the focus for light ASC induction activities for the participants. The author's personal experience of ASC like experiences in the context of the Catholic Church in the U.S. include: restricted sleep from very late and early Mass attendance; restricted mobility and reduced and monotonous (Latin) singing and praying (chanting); food restrictions; prolonged kneeling on terrazo floors, inducing considerable pain; extended periods of boredom engaged in active mental imagery and fantasizing. See Chapter 9 on Altered States of Consciousness for further discussion of ASC induction procedures.

Chapter 8 Sorcerer/Witch Practitioners

1. The previous research (Winkelman 1984, 1986a) had labeled these practitioner types as "Malevolent Practitioners"; although perhaps equally undesirable as label, the term "Sorcerer/Witch Practitioner" has been employed here since it more directly corresponds to the labels employed by ethnographers reporting on these practitioners.

2. Low coverage would have made these practitioners more similar to the Sorcerer/Witch practitioners. This is because most of the variables are absent, a condition characteristic of the Sorcerer/Witch practitioners as a group, who were characterized by the variables assessing malevolent practices, and little else.

3. The similarity among practitioners was measured using Gower's Coefficient (Methodological Appendix 2.4), with all of the variables treated as quantitative. The matrix output from the Gower Coefficient program was used as input to Johnson's Alpair cluster analysis program and the KYST multidimensional scaling program. The MDS program was used to compute solutions in 5 through 2 dimensions, with associated stresses of .05, .07, .12 and .20, respectively. In order to assess the adequacy of these representations in accounting for the data, the Quadratic Assignment Program and related procedures were used (Methodological Appendix 2.5). The comparison of these matrices with the original data

matrix provided gammas of .55, .63 and .73, associated with the cluster analysis solution, the two dimension MDS and the three dimensional MDS representations, respectively. In order to determine if the MDS representations were significantly better than the cluster analysis representation, the residuals from each of the solutions were compared with the original data. This indicates that the MDS three dimension solution is significantly better than the MDS two dimension solution, and the two dimension solution is significantly better than the Alpair cluster analysis solution. The results are summarized as follows:

Comparison of Data With Residuals

RESIDUALS	Z SCORE	P<
(KYST3D - KYST2D)	2.3	.03
(KYST2D - ALPAIR)	2.6	.01
(DATA - KYST3D)	3.4	.000
(DATA - KYST2D)	4.4	.000
(DATA - ALPAIR)	5.6	.000

4. The MDS solutions for the combined data had stresses of .14 and .23 associated with the three and two dimensional representations, not differing substantially from the stresses of .12 and .20 associated with the Sorcerer/Witch Practitioners alone, or the stresses of .13 and .22 associated with the Healer Complex data. This indicates that the same data structure is present in both practitioner groups. If not, stress would have increased as a result of mixing different structures.

Chapter 9

Altered States of Consciousness

1. The data for 59 of the practitioner ASC training conditions was used. There was a total of 72 cases in this study with some indication of ASC induction procedure during training, but 13 were eliminated from these analyses because of limitations on the Multidimensional Scaling program ($n < 60$). The cases eliminated involved some cases with identical procedures for two practitioner types in the same society and cases with only one or two minor induction procedures present and no conclusive evidence of ASC (e.g., limited chanting by others, sexual abstinence, or minor food restrictions). The correlational analyses below utilized 68 of these cases in which ASC were thought to be present.

2. The similarity among practitioners with respect to ASC conditions was assessed with Gower's Coefficient (Appendix 2.4). The variables with more than two values (Psychotropics through Compulsive Motor Behavior)

were treated as ordinal variables (quantitative); the others were treated as qualitative or binary. The variables measuring Sexual Abstinence and Amnesia were treated as binary to reduce the effect of missing data, which was presumed to be frequent for these variables because of the low incidence of amnesia, and the lack of explicit reference to sexual abstinence in situations when it seemed very likely. The matrix of similarities was read as input to the BMDP1M complete link cluster analysis program (Dixon and Brown 1979) and the KYST MDS program (Kruskal, Young, and Seery 1973). The MDS solutions were obtained starting with the five dimensional solution, and had stresses of .08, .12, and .18 associated with the 4, 3, and 2 dimensional solutions, respectively, indicating that the 3 dimensional solution is adequate for representation of the data. In order to determine how well the representations accounted for the data, the Quadratic Analysis Program (QAP) (see Methodological Appendix 2). Matrices representing the two solutions (MDS and cluster analysis) were compared with the original data, using gamma as a measure of association. The MDS three dimensional and two dimensional solutions had gammas of .79 and .70 respectively, while the cluster analysis solution had a gamma of .55. Although the three dimensional MDS was significantly better than the two dimensional representation ($z = 4.4$), both explain similar amounts of the original data. However, the two dimensional MDS representation is quite better than the cluster analysis solution ($z = 27.9$).

3. While Bourguignon and other investigators, including the present author, have used the term *trance*, I presently feel that the term *altered states of consciousness* to avoid the historical connotations associated with the term. While Bourguignon uses the term *trance*, I have substituted the term *ASC*, except in quotes or direct reference.

4. Not all of the activities of the Shamans involve ASC labeled as soul flight. Hultkrantz (1978) notes that a shaman's ASC may vary in quality and intensity from a cataleptic condition to a shallow waking ASC, and that the same individual may enter different types or depths of ASC in different ceremonies; shamans who entered ASC characterized as soul flight on one occasion may enter a light, imperceptible ASC or none at all on others.

Chapter 10

Shamanistic Therapies

1. Parapsychologists use the term *psi* to refer to the presumed unitary force underlying the phenomena they study, in particular: extrasensory perception (ESP)-aware-

ness of or response to an external event or influence not apprehended by sensory means or inferred from sensory knowledge; and psychokinesis (PK)- the direct influence exerted on a system by a subject without any known intermediate energy or instrumentation. For experimental evidence and reviews of parapsychological research see Wolman (1977), Krippner (1977), *Research in Parapsychology* (series), *Journal of Parapsychology*, *Journal of American Society for Psychical Research*, *Journal of the Society for Psychical Research*, and *European Journal of Parapsychology*.

Appendix 3

Reliability Assessments, Variables and Coding Instructions

1. The coding instructions provided here differ slightly from those used by the coders because they were revised for several reasons: to present a more themati-

cally related set of variables, to accommodate for the deleted variables, and because of clarifications in the instructions made in the final code checks (step 2, Data Reliability Assessment subsection of Appendix 3).

2. The reasons for coding errors made by the code checkers generally fell into the following categories: failure to apply coding instructions correctly; failure to note relevant information or to code the variables through oversight; failure of the primary coder to provide adequate citation information; confusions engendered by the presence of material pertaining to two or more practitioners types present in the same passages; lack of specificity in coding instructions; overlooking variables to be coded; and mechanical errors in recording choices.

3. For instance, variables 38 & 39 of the Malevolent variables had been assessed for the Healing Activities and the Propitiation/ Socioeconomic Concerns variables. They were either completely absent or present so infrequently present (1 or 2 times) that they did not warrant further consideration.

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