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## CONTENTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editor's Notes</td>
<td>1</td>
</tr>
<tr>
<td>Jung's Psychology and the Study of Myth.</td>
<td>5</td>
</tr>
<tr>
<td>Paul J. Rajcok</td>
<td></td>
</tr>
<tr>
<td>Spatial Analysis in Archaeology: Historical Developments and Modern Applications</td>
<td>21</td>
</tr>
<tr>
<td>Ronald J. Rood</td>
<td></td>
</tr>
<tr>
<td>Shaman's: Empowered Healers or Psychopaths?</td>
<td>57</td>
</tr>
<tr>
<td>Scott D. Kwiatkowski</td>
<td></td>
</tr>
<tr>
<td>National Executive Council.</td>
<td></td>
</tr>
<tr>
<td>National Scholarship Award Winners.</td>
<td></td>
</tr>
<tr>
<td>Lambda Alpha Chapters.</td>
<td></td>
</tr>
</tbody>
</table>

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The Journal of Man editorial staff is pleased with the variety of issues examined in this volume. While varied, these questions are related in their concern with the employment of non-anthropological theory in anthropological contexts.

The papers presented in this volume represent a broad spectrum of anthropological research. The first Paper, Paul Rajcok's "Jung's Psychology and the Study of Myth," provides an interesting counterpoint to structuralist analyses. Rajcok attempts to correct some fundamental misunderstandings of the Jungian notion of the collective unconscious and its relationship to cultural expressions of this collective unconscious as myth. Myth, according to Rajcok, is both ordered by its parent culture and orders that culture by reinforcing the expressed patterns. Interestingly, Jung's archetypes serve more as Kantian categories than as the dialectical moments envisioned by Levi-Strauss.

What emerges is a Jungian theory far more accessible to anthropologists, which parallels classical structuralism in accounting for variations in the form of particular myths, but preserves the integrity of the individual mind by differentiating the collective and specific unconsciousness.

Ron Rood's "Spatial Analysis in Archaeology: Historical Developments and Modern Applications" is a critical survey of the development and present state of spatial analyses in archaeology. Rood traces the root of spatial analysis to Tonnies' distinction between naturally defined spatial relationships and socially defined spatial conventions. He discusses its subsequent development through the Austro-German anthropogeographers, and its fissioning into a variety of spatial theories adapted to different social sciences. He provides an excellent tour d'horizon of these different theories and their archaeological applications, as well as attempting to define the directions in which these theories are likely to develop. Perhaps the most significant direction posited by Rood is toward a 'structural archaeology,' where the physical expressions of a culture may be viewed as elements in a system amenable to structural analysis.
"Shamans: Empowered Healers or Psychopaths" examines the controversy over shamanic inspiration from the vantages of the leading advocates of each position. Ackerknecht, arguing that shamans are normal people filling a particular niche within their culture, and Devereux, who views shamanism not as a cultural role but as a symptom of mental disorder. Kwiatkowski's critical treatment of this debate reflects a middle of the road approach, attempting to find a synthetic theory making the two polar positions compatible.
The connection between dream and myth, and hence between myth and the unconscious, has long been recognized by those who have treated the psychological ills of modern man. Nor has such a connection been ignored by anthropologists as the following quote from Current Anthropology makes clear:

Much ethnographic evidence points to the fact that both whole myths and modifications of existing myths often originate in special dreams or trances of religious leaders of a society (Fischer 1963:242).

Attempts to explain myths in terms of psychological processes, however, while they have gained an increasing audience among anthropologists, have been largely dominated by the theoretical framework of Freud. The insights of Carl Jung, on the other hand, have unfortunately been made little use of by professional anthropologists. The remarks of Melville Jacobs, in his forward to a collection of articles by anthropological folklorists, typify the general attitude that has prevailed towards Jung:

The scientific labors of present-day anthropologists display . . . a lusty disdain for thrilling statements about ritual-to-myth and archetypal origins . . . Anthropological folklorists find it sufficient to try to say a number of significant, although unsystematized, things about myths and tales. They do this without a nod in the direction of the dogmas or improbable guesses of the Cambridge and Zurich shamans . . . Perhaps their principle shared characteristic, at this moment, is their awareness of need to probe the many aspects of expressive content, and in order to assist them in doing so they borrow components of theory from neo-Freudian dynamic psychiatry (Jacobs and Greenway 1966:vii).
The characterization of Jungians as "shamans" interested in "thrilling statements," I believe, is the legacy of a fundamental misconception of Jung's theory of "archetypes of the collective unconscious." Indeed, Bascom, in his "Four Functions of Folklore," early posited that "Jung's approach to folklore and mythology removes them from the province of the cultural anthropologist" (1954:291). In this paper I hope to clarify Jung's concept of the "archetype" and suggest that such a concept, if properly understood, need not conflict with the goals of cultural anthropologists, whether they apply functional, structural, or other preferred approaches to myth. I would, moreover, like to suggest that the pioneering works of Erich Neumann (1954 and 1955) and of Ira Progoff (1953) have provided the groundwork for an as-yet-unrealized nexus between Jungian thought and the "more proper" concerns of modern anthropological folklorists. I shall draw from the insights of these two men concerning archetypes and myth, as well as from Jung's.

Bascom's explanation of Jung's concept of "archetypes" is good up to a point and merits repeating:

Jung believes that the mind is not a tabula rasa at birth. There are, among other things, archetypes which are living entities consisting of inherited forms of psychic behavior. Often the archetypes are manifested in myth. Archetypes are a priori and given, so that primitive mentality does not invent myths, it experiences them. (1954:291).

So far so good, but then Bascom, in explaining why Jung's theory is unpopular among anthropologists, misinterprets Jung:

Since archetypes are pre-cultural; they are essentially beyond the influence of cultural conditioning, and therefore Jung's theory eliminates the need for the study of cultural conditioning to understand mythic archetypes (1954:291).

This last statement of Bascom's is clearly a misunderstanding: Jung constantly emphasizes the fact that the archetypal images he deals with have an infinite variability as to content and that the exact content of an archetype is relative to the historical and cultural situation in which it appears. To begin with, the archetypal images that appear to consciousness are manifestations of psychic processes occurring in the unconscious; it is these processes that are generic to the human and as such are inherited. Jung, moreover, points out that the
symbolic content (i.e. the archetypal images) through which these processes seek expression are not determined as to content but vary about the common core of the process involved, which finds expression through the medium of the cultural and personal experience of the individual. For example, he states that an archetype "is determined as to its content only when it has become conscious and is therefore filled out with the material of conscious experience (Jung 1969:13). It is far from correct, then, to believe as Bascom does that the archetypes are beyond the influence of cultural conditioning.

Marie von Franz (1975) cautions against just such an error as Bascom has made in confusing the archetype (i.e. the psychic process itself, the organizing principle in the unconscious) with its manifestation (the archetypal image):

A clear distinction must be made here between archetypes and archetypal images . . . the archetypes are very probably innate structural predispositions which appear in actual experience as the factor, or element, which orders or arranges representations into certain "patterns" . . . archetypes appear as archetypal representations or ideas, that is, in the form of mythological, symbolic representations which are common to certain collectives, such as whole people of epochs. They are typical "modes of apprehension" which appertain structurally to all human beings . . . The archetypes can also be described as "elementary behavior patterns" of the psyche (1975:125-126).

Progoff (1953), in a similar vein, states that "an archetype does not become meaningful until it goes out into the world and takes part in life according to its nature and according to the time in history in which it occurs" (1953:76). He then quotes Jung's metaphor to the effect that the facts of the specific cultural and personal existence will provide the actual clothing of the archetype. In other words the archetype is only an inherited mode of expression; the particular expression, however, will be influenced by historical, cultural and even personal conditions.

Jung's ideas of a collective unconscious and of archetypes are intimately linked. Jung frequently stresses that he postulated his idea of a "collective" unconscious in addition to a "personal" unconscious (i.e. repressed, forgotten, or subliminal elements as recognized by Freud) on
the basis of empirical evidence. Speaking of patients he treated as early as before 1912, he says:

Typical mythologems were observed among individuals to whom all knowledge of this kind was absolutely out of the question . . . Such conclusions forced us to assume that we must be dealing with "autochthonous" revivals independent of all tradition, and consequently, that "myth-forming" structural elements must be present in the unconscious psyche (Jung and Kerenya 1963:71).

These structural elements, individually denoted as archetypes, comprise the collective unconscious. The collective unconscious, then, is collective in the same sense that the human body is collective — each person possesses it generically. The body, moreover, functions and articulates with the world in the same fashion for all humans. Likewise, the psyche articulates with the world in a specifically human way that is inherited. The expressions of this articulation are the archetypal images.

Jung has postulated that psychic energy is made available to consciousness and culture through the symbol that spontaneously rises up from the unconscious. The details of this theory are not important for our purposes, but what is important is that the energy of unconscious contents is made available to consciousness through the archetypal symbol.

With this admittedly sketchy background in Jungian terminology and theory, we can now examine what Jung has to say about myth itself. First of all, Jung distinguished between myth and dream. He explains that the spontaneous products appearing in dream

are never myths with a definite form, but rather mythological components which, because of their typical nature, we can call motifs, primordial images, types, or . . . archetypes (Jung and Kerenyi 1963:72).

Myth also consists of archetypal motifs or images, but they have been given a coherent and meaningful order and are "traditional forms of incalculable age" (1963:72).

The difference between dreams and myths is important, for while dreams are spontaneous products, pure and simple, myths, in being given their coherent order by society, will also give
order to society. (This articulation between the original spontaneous products of the unconscious and the functional needs they can be applied to in different cultures will be discussed later.) Keeping this difference in mind, then, we see that for Jung the origin of myth, as of dream, is the unconscious, and as such myth is never invented, but rather is revealed. Myth is, however, given coherence in the context of the culture and even of the personalities of the individual dreamers; in this respect, then, myth is created by the culture. (At this point, one should be able to appreciate the rationale, in Jungian terms, of the quote from Fischer's study (1963) cited at the beginning of this study.)

Jung postulates, moreover, that these "revelations" are made "accessible to man's consciousness by way of projection - that is, mirrored in the events of nature" (1959: 289). This insight concerning projection is, perhaps, one of Jung's most important contributions to the understanding of myth:

that the psyche contains all the images [again, the archetypal images are the expression of psychic structures or processes] that have ever given rise to myths, and that our unconscious is an acting and suffering subject with an inner drama which primitive man rediscovers, by means of analogy, in the processes of nature (1959:289)

To the "processes of nature" might be added other categories as Joseph Campbell does when he says, "Mythology . . . is psychology misread as biography, history, and cosmology (1949:256).

But what is this inner drama that primitive man discovers through the projection of his psychic contents upon nature, the gods and heroes? This is where a reading of Erich Neumann proves enlightening.

A fundamental Jungian postulate is that consciousness in man - defined by Jung as "the relatedness of psychic contents to the ego, insofar as they are sensed as such by the ego" (1959:246) - is derived from the unconscious. The collective unconscious is the larger, unconscious base of consciousness, and as psychic contents come into a new relationship with the nascent ego, consciousness develops; the psychic structures of the child articulate in the unconscious and determine the maturation of the personality, which involves a freeing of the
conscious individualized ego from the predominating unconsciousness.

According to Neumann, the evolution of consciousness in the individual progresses through a series of "stadial" (i.e. stage of development) relationships between the growing ego and the unconscious. Individual development, moreover, is the ontogenetic recapitulation of what occurred in the primordial psychic evolution of man. But most important - and this is the idea Neumann (1954) develops in his book The Origins and History of Consciousness - myth, as the projection of man's psychic processes, depicts this stadial progress; Neumann traces the evolution of the ego by tracing the evolution, as depicted in myth, of those archetypal images that are an expression of the process taking place, namely the increasing articulation between the unconscious and the developing ego-consciousness.

His fundamental thesis, then, is that a series of archetypes is a main constituent of mythology, and they stand in organic relation to one another, and that their stadial succession determines the growth of consciousness (1954:xvi).

Neumann does point out that "the stages of conscious development form only a segment of archetypal reality as a whole"; so there is no attempt to explain all myth as depending on this one psychological process and relationship, but only a central core that seems to run though all myth.

Some presentation of the developing stages of consciousness projected in this core of myth is necessary, but I find it virtually impossible to compress a theme Neumann elaborates on for over 300 pages into a few paragraphs; but rather than confuse with arbitrary detail, I shall give only the barest outline of his "stages" and refer the reader to Neumann's own work for further clarification.

These stages begin and end with the Uroboros symbol, the tail-eating serpent that represents the total nondifferentiation of all opposites which precedes consciousness. (What it represents at the late stage is not important here.) The intermediary stages which Neumann traces are found projected in the universally occurring motifs of the World Creation, the Great Mother, the Separation of the World Parents, the Birth
of the Hero, the Slaying of the Dragon, the Rescue of the Captive, and the Transformation and Deification of the Hero.

The ever-developing hero throughout this sequence is the ego-consciousness, which is at first totally embraced by the unconscious (Uroboros); later a flicker of consciousness is experienced as the mere satellite of the Great Mother, which as a still Uroboric mother combines both masculine and feminine, good and evil characteristics. She is at once a nourishing mother and a terrible slayer of her progeny.

But it is not until the Separation of the World Parents, the masculine and feminine aspects, that the world of opposites comes into existence and is experienced as the dawning of light for the ego. But the final separation from the dominating World Parents (the unconscious) is accomplished through their being slain. What is won in this battle with the dragon and triumph over the hostile male is a new relation to the feminine represented by the Captive Princess, who will now relate to the male consciousness and be his helpmate rather than overpower and oppose him. The Transformation and Deification represent further stages, through which the ego is replaced as the center of consciousness with the Self (the totality of the psyche, including the unconscious).

For Neumann, this core of myth is a manifestation of the psychic development that man went through as consciousness developed; a strong and directed ego-consciousness is, in fact, a recent development:

Human life in the beginning is determined to a far higher degree by the unconscious than by consciousness; it is directed more by archetypal images than by concepts, by instincts than by voluntary decisions of the ego (1955:16).

Consciousness certainly dawned as far back as Paleolithic man, but the crucial psychological event that finally secured consciousness occurred fairly recently. The crucial point in this battle for consciousness, the hero fight, occurred for the Greeks, for example, in classical times when Greek myth was "largely the dragon-fight mythology of a consciousness of a consciousness struggling for independence" (1954:265). The previous Creto-Mycenean culture was, on the other hand, the Greek Great Mother period during which her cult was dominant.

Neumann further points out that each culture struggles towards greater consciousness on its own time scale: while
the development of the dragon-fight took place in Greece between 1500 and 500 B.C., the corresponding process was achieved in Egypt before 3300 B.C.

The function of this core of myth, then, for early man (early in the sense given above) might be viewed as the original tutor of man's consciousness. This is how Neumann describes the function of the spontaneously appearing symbol; and myth, as the cultural ordering of these symbols, has a similar function for the group. Speaking of the symbol, Neumann says:

It not only strengthens, but positively forms consciousness. Through the symbol, mankind rises from the early phase of formlessness, from a blind, purely unconscious psyche without images, to the formative phase (1955:17).

Neumann explains that symbols as "molders of consciousness" arouse and fascinate the budding human consciousness, which concentrating attention upon them expands through greater differentiation. In his own words: "to the differentiation of consciousness corresponds a more differentiated manifestation of the unconscious, its archetypes and symbols" (1955:17). It is this differentiation into contrasting aspects of the originally undifferentiated symbol of the unconscious which Neumann traces as the projected evidence of the ever more secure relationship between the developing consciousness and the unconscious.

Once that consciousness is firmly established, however, myth still has the function of tutor, although in a slightly different sense - now it keeps man in touch with the archetypal layers of his collective unconscious, which are still of course present, as Jung has demonstrated. Jung warns that if such a connection is not maintained, the archetypes, functioning as autonomous complexes, may oppose conscious intent as in neurosis. Jung sees such a function, for example, in the Trickster tales of the Winnebago Indians: "What the repeated telling of the myth signifies is the therapeutic anamnesis of contents which . . . should never be forgotten for long" (1969:144).

In reading the Winnebago Hero Cycles from Trickster to Hare and on to the Red Horn Cycle and that of the Twins, one is immediately struck with the high level of spiritual development they portray - they take us from the archaic instinctual level of the Trickster through the egotistic hubris of the Twins who, infatuated with their power, destroy one of the pillars upon which the world rests. In a culture in which
ego-consciousness is firmly established, such a cycle of myth seems to point towards the goal of the fully individuated personality, where direction, rather than stemming from the limited conscious will, stems from a conscious relationship with the archetypal unconscious; such a relationship makes access to and use of the valuable wisdom and orientation of the unconscious possible.

Such a function for myth at this level would not be unlike that of the individuation process through which Jungian analysis guides the individual in the second half of life, when what is needed is a reevaluation and relativization of the values that applied to the first half of life. In undergoing Jungian analysis, the archetypal elements in one's dreams are uncovered and a conscious attitude and relationship toward them is developed; this has the effect of expanding consciousness by integrating those aspects of the personality that were repressed or never made conscious.

Thus myth at this point might be viewed as a mediator between consciousness and the unconscious, allowing the former control in that the latter has not been morbidly suppressed or ignored. Progoff makes this point when he says that

Very often primitives are more conscious - frequently more highly individuated with a more harmonious relation between consciousness and the unconscious - than moderns (1953:277).

Myth, therefore, might be viewed as functioning as an educator in three different ways at a different points in the development of the individual and his culture: first there is the rise to a secure level of ego consciousness; secondly, it maintains this ascendancy of consciousness through maintaining a harmonious relationship with the unconscious; and thirdly, it can establish the Self (the center and totality of the psyche, including both the conscious and unconscious) as the directive center for the personality, as opposed to the limited conscious will of the ego. This is the culmination of the second stage and is rarely achieved by moderns with their characteristic paucity of mythology, symbol (i.e. spontaneous symbol form the collective unconscious), and religion (in the sense of religio, a linking back).

But there remains the question of how the anthropologist interested in myth as an expression of culture might utilize Jung's concept of archetypal images or Neumann's linking of these with the evolution of consciousness. Here we should
recall that the archetypes not only have a universal psychological aspect but that they also have a definite social and historical aspect.

Progoff points out that two types of study of the archetypes are possible (1953:246ff). The first seeks the underlying universality of the archetype as it appears in its infinitely varied forms in history and culture. Such an approach would be similar to that of the Finnish School of folklorists, except that instead of tracing folklore motifs back to a geographic origin and thereby uncover the motifs' primordial forms, it would trace them back to an archetypal origin as manifestations of psychic processes. As such, this approach has the same shortcomings as that of the Finns: a solution as to origins hardly satisfies questions as to function. (Melville Jacobs, quoted earlier 1966:vii, seems to have recognized such shortcomings.)

A similar criticism that might be leveled against such an approach is that there is always the danger that in classifying the motifs that appear in myth as manifestations of a certain archetype, one will simply reduce the myths to these psychological "modes of apprehension" that are generic to man and leave it at that, much as the Freudians have been wont to reduce the symbols of myth to some psychological mechanism such as well-fulfillment. Such an approach would ignore the aspect of myth which is a reflection of a particular culture.

But fortunately there is a potentially much more valuable approach to myth and its relation to individual cultures, Progoff sees this as a

more integrative and evolutionary study, which seeks to interpret the nature of the historical differences, the basis for variations, and their significance for the development of individual personality within their context (1953:246)

Clearly Neumann's work is a beginning in this direction, for although he postulates a generalized educative function to a central core of myth, he definitely sees meaning in the progressive historical change in archetypal expression in a particular culture. It is just this idea, that the archetypal manifestations do change, that is so valuable; the main concern may become, then, how they change, and why, and what these changes tell us about the forces at play in the culture that undergoes them.
These ever-recurring yet ever-varied forms of archetypal expression, it might be conceded, do indeed find their origin in psychic processes as Jung postulates; and one further might concede that the core of mythological motif which Neumann traces may very well be a manifestation of the evolving relationship between the expanding ego-consciousness and its matrix of unconsciousness; but it still remains that these archetypal manifestations are put to use in a culture at any stage of growth in differing functional ways.

This is simply to say that any spontaneous archetypal expression of the unconscious will always have to come to terms with the prevailing social, political and religious forces that exist in a given historical culture. As such, they can be put to numerous different functional uses.

Just because mythological motifs can be seen as originating from psychological processes universal to all mankind, does not mean that we know how these archetypes have been arranged into a coherent cultural canon to be utilized in a particular culture. There is always a reworking of the raw revelation of the archetype in the interest of cultural stability and institutional continuity. A functional interpretation will, therefore, always be needed above and beyond any psychological one; only then can one come to appreciate the dialectic between timeless revelation and time-bound culture that myth is.
NOTES

Although dated, the best bibliographical aid to the considerable psychoanalytic literature is Alexander Grinstein's Index of Psychoanalytic Writings, 9 volumes (New York, 1956-1966). Melville Jacobs and John Greenway's collection (1966) contains several representative articles utilizing Freudian concepts. Studies by folklorists have, likewise, largely been of a Freudian bent. See, for example, Paulo de Carvalho-Neto's Folklore and Psychoanalysis, trans. Jacques M. P. Wilson (Coral Gables, Fla.: University of Miami Press, 1968) which, although it give introductory coverage to most psychological approaches to folklore, including the Jungian, is overall doctrinairely Freudian. Also, Alan Dundes' (1980) excellent recent collection of his own work is decidedly Freudian in its approach.

J. L. Fischer (1963) in his valuable study, however, argues for an eclecticism that would not completely ignore Jung. Fischer argues ultimately for a combination of psychological and sociological approaches, as he views myths and folktales as functioning on multiple levels. It is characteristic of Fischer's well-balanced approach that he pays tribute to Jung, albeit somewhat critical: "I think Jung is correct in postulating some kind of particular, unconditioned, inherited mental factors in the formation of a variety of myth and dream images, but I also believe that his failure to analyze these images sufficiently is a serious deficiency" (1963:256).


For a sustained application of Jungian principles, see Marie Louise von Franz's An Introduction to the Psychology of Fairy Tales (New York: Spring Publications, 1970). Her book on Jung and the development and influence of his thought (1975) is one of the best available.

Jung was not always careful to distinguish between archetype and archetypal image, especially in his early
writings. This has, undoubtedly, caused some of the confusion among his critics. Von Franz makes this point (1975:125).

4 See Alan Dundes' interesting article on projection, "Projection in Folklore: A Plea for Psychoanalytic Semiotics," in his collection of essays (Dundes 1980).
REFERENCES CITED

Bascom, W. R.

Campbell, Joseph
1949 THE HERO WITH A THOUSAND FACES. Princeton, Bollingen.

Dundes, Alan
1980 INTERPRETING FOLKLORE. Bloomington, Indiana Univ. Press.

Fischer, J. L.

Franz, Marie Louis von

Jacobs, Melville H., and John Greenway.
1966 THE ANTHROPOLOGIST LOOKS AT MYTH. Austin, University of Texas Press.

Jung, Carl G.

Jung, Carl G.
1969 "On the Psychology of the Trickster Figure." in FOUR ARCHETYPES. pp. 135-152.

Jung; Carl G.; and Karl Kerenyi
1963 ESSAYS ON A SCIENCE OF MYTHOLOGY. Princeton, Bollingen.

Neumann, Erich

Neumann, Erich

Progoff, Ira
SPATIAL ANALYSIS IN ARCHAEOLOGY:
HISTORICAL DEVELOPMENTS AND MODERN APPLICATIONS

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INTRODUCTION

I'll begin this essay with a question: What is space and how do we relate to it as humans and, in turn, how does space influence our lives? I'm not sure I can answer these questions but they should be considered by archaeologists in more detail. E.T. Hall (1966, 1968) has addressed these questions about space concerning modern culture and it is in the writings of Hall that archaeologists concerned with space should pay close attention. The use of space is, in fact, influenced a great deal by cultural values. Hall suggests that space and the use of space is incorporated in different manners in different cultures. We need to be especially relativistic as anthropologists when we are dealing with questions about space. For example, crowded situations in terms of our own cultural concepts may not be considered as crowded to people of another cultural background (Hall 1968). Of course this point is obvious, but I do feel that anthropologists and archaeologists dealing with both modern and prehistoric settlements or communities tend to forget this basic rule. In the archaeological literature, we are at times exposed to concepts such as "small rooms," or "small habitation units." Although these terms may in fact describe a room or unit that is smaller than most, we should not classify these units as such unless we understand the total spatial structure or spatial variability of a culture (Clarke 1977b).

Before we go any farther with this discussion of space and its associations with anthropology, archaeology, and geography let us turn for a moment to some early examples of the philosophy of space and spatial classifications. James (1972:35-36) points out that the concept of space was pondered by the ancient Greeks. Aristotle and other Greek philosophers of his time recognized two kinds or types of space. These were celestial space and earth space. In addition, James suggests that there was also some speculation about the space within the interior of the earth. This probably represents the first known classification of space into general categories. Aristotle believed that space is the logical condition for the existence of things. Sir Isaac Newton saw space as an absolute reality,
but void. George Berkely (1685-1753) thought of space as a "Mental construct based on the coordination of sight and sound (James 1972:459)." Immanuel Kant (1724-1804) described space as an a priori form into which sensuous experience necessarily falls, providing therefore, for the physical classification of knowledge (James 1972:459-450).

In the latter part of the 1800's, Tonnies (1887; pub. in English 1957) made the all important distinctions between natural forms of spatial interaction and "deliberately constructed social conventions (Tonnies 1887:43)." The importance of this classification into the concepts of natural and man-made social or spatial units is very important and it is the basis of modern spatial theories.

Buttimer (1969) writing on the interdisciplinary perspective of social space states that it was Emil Durkheim in the 1890's who first "articulated and applied" the concept of social space. The French geographer, Chambart deLauwe (1952,1966) then expanded the general theme of social space into a hierarchy of social spaces. First there is family space-relationships at the domestic level of interaction. Next, neighborhood space-daily and local movements. Economic space further embraces employment centers, and finally, urban space (Buttimer 1969).

ETHOLOGY AND ITS CONTRIBUTIONS TO THE SOCIAL SCIENCES CONCERNING SPACE:

Man is not the only animal that classifies and defines his spatial units. Territory marking has long been understood in animals, especially in canids. A recent volume by Esser (1971) and works by Kummer (1969), Wilson (1969), Leyhausen (1965), and DeVore (1963) are excellent examples of how non-human animals utilize, organize, and mark spatial or territorial units.

Studies on animal spatial behavior can be used to explain Homo sapiens spatial organization. Wilmsen (1973) has used the spatial organization of the Brewer's Blackbird to help explain possible spatial arrangements in hunter-gatherer situations or settlements. Briefly, Wilmsen's study is an ecological one. The Blackbird model describes social spacing with regard to food resource availability. The Blackbird model is one of optimal user location, relative to food resources. Here the distinction has to be made between mobil and stable food resources. The former describes animal species with large home ranges while the latter denotes plant and animal species with a small or stable home territory. The Brewer's Blackbird, in
response to these different types of food resources utilizes two types of procurement strategies which optimize the bird's return on investment. A central location, that is in the middle of the resource area is optimal for the procurement of mobil food sources. On the other hand, a dispersed procurement situation would be optimal in the exploitation of a stable food resource. Collecting stable food resources has better return when one's group is spread out over a wider area within the resource unit (Wilmsen 1973:6). One can easily see the applicability of the Blackbird model to ethnographic examples.

Wilmsen takes the ethological analogy even further and I feel that his approach is justified. He states,

A fundamental fact of animal spatial organization is that no individual or group uses all of the space that might be available to it. Groups allot spatial units among themselves if for no other reason than to cope with administrative and communicative problems which would rapidly become insoluble if distances were not constrained (Wilmsen 1973:3).

However, the distinctions between spatial units, boundaries, or territories are often not sharply defined by either physiographic or cultural boundaries. In many instances, these so-called boundaries tend to overlap considerably (Leyhausen 1965, Wilmsen 1973). It is within this interface zone that considerable, intensive territory marking activity takes place. This type of activity may involve aggressive behavior but it is often characterized by advertisements; visual displays, vocalization, scent marking, landscape alterations, or by the identification of the inhabitants with some characteristic of the territory (Wilmsen 1973, Leyhausen 1965).

Fredrik Barth (1969) concludes that boundaries exist in spite of a flow of people from one territory to another. Barth feels that the main reason for this is the fact that people show identity through overt signals or signs and by value orientation. Both Ortiz (1969) and Rappaport (1968) describe advertising behavior to delineate social boundaries (Wilmsen 1973). Unfortunately, this type of information can never be recovered from the archaeological record.
SOME ETHNOGRAPHIC EXAMPLES OF SPACE UTILIZATION AND THEIR APPLICATION TO ARCHAEOLOGY:

Archaeologists, as a whole, can and do make considerable use of ethnographic material, and spatial concerns along these lines are no exception (see Fletcher 1977). Brown (1974) using census data, informants and archaeology, reconstructed the settlement pattern of Picuris Pueblo at around 1900. His results could be of use to archaeologists working in the region of Picuris. For example, Brown concluded that during the early 1900's a nuclear family actually occupied two distinct household units at different times of the year. A family would occupy a house within the Pueblo during the winter and during the summer, a house near the families farming plot would be utilized. Brown states that these summer field houses were often occupied for extended periods of time (Brown 1974), perhaps during the entire growing season. Brown's work at Picuris also provides the archaeologists with some additional information pertaining to secular and non-secular uses of space. He concludes that secular architecture is, as a general rule rectangular, while religious architecture tends to be circular. He was also able to make distinctions between architectural units associated with certain ceremonial groups within the Pueblo.

In a paper entitled "Adaptations to crowded space: The case of Taos Pueblo" Katz (1974) discusses the cultural responses by the Taos Indians to crowded conditions. Katz points out that Taos has the most compact living arrangement of all the eastern Pueblos. Her analysis and results have a direct importance to archaeologists concerned with the questions of space especially in the prehistoric southwest.

The social responses to crowded conditions at Taos are exactly what we might expect. (1) The maintenance of social distance through idealizing restraint, moderation and non-competitiveness; (2) displays of aggressiveness, hostility, suspicion, and factionalism; (3) mechanisms to maintain solitude and privacy by withdrawing from social (not visual) contact, keeping secrets, and when needed, traveling long distances from the Pueblo (Katz 1974:300-301). Of these responses, the archaeologist can perhaps recognize an attribute such as factionalism through architectural remains.

Draper's (1973) work on the !Kung suggests that residential crowding does not produce symptoms of pathological stress (Draper 1973:302). His study adds further weight to Hall's ideas that spatial concepts are culturally determined. Draper's analysis should be especially interesting to the archaeologists.
interested in estimating population from settlement size. Deaper points out that !Kung camps have a high person density but they lack rooms, walls, or other architectural features that might limit access (Draper 1973:302). These types of features, or lack of, should be evident in the archaeological record and the archaeologists should be aware of the spatial interpretations possible.

Steward (1938:50-54) describes the way in which band territories among the Paiute were oriented across the valley so that each spatial unit had access to portions of different botanical zones. Price (1962:57-58) describes a similar situation concerning family owned pinenut gathering plots among the Washo. These plots were arranged to include both early and late spring ripening stands to ensure that all families had equal access to pine nuts (Wilmsen 1973, Price 1962). The importance of Steward's and Price's work is crucial to the archaeologists dealing with settlement patterns.

Binford's (1978) ethnographic work can shed light on archaeological spatial distributions of small hunting camps, or perhaps seasonal campsites. Studies by Jet (1978), Swan (1980) and Nespore (1980) are useful in reconstructing the dynamic nature of settlement patterns and tribal origins. The historical archaeologists can also make use of ethnographic data pertaining to spatial organization. For example, Gilmore's (1977) work in Spain describing how a "class model operates reciprocally with spatial orientations to intensify cultural opposition in a Spanish town (Gilmore 1977:437)".

**SPATIAL ANALYSIS IN ARCHAEOLOGY:**

The analysis of man's use of space is directly linked to the discipline of economic geography since most of the common approaches to the analysis of space were developed in that field. These approaches, or spatial theories and their archaeological applications will be discussed in some detail below. First, we must outline the historical developments leading to the present applications or new directions in spatial archaeology.

Clarke (1977) provides an excellent summary of these historical developments and much of what appears below has been derived from Chapter 1 of Clarke's book *Spatial Archaeology*.

The analysis of space, as it pertains to archaeology had its beginnings in Europe. In Europe, the Austro-German school of Anthropogeographers developed the mapping of
attributes and artifacts to define culture complexes and their relationships to the environment. Clarke (1977b:2) cites Gradmann (1898), Ratzel (1896), and Probenius (1898) as examples. The interesting concept to be emphasized is that what the anthropogeographers developed is what we now call point pattern analysis. Hodder and Orton (1976:30) state that point pattern analysis deals with the distribution of points whether they are artifacts within a site or scattered archaeological sites. Statistical quantification of point pattern analysis was developed in plant ecology (Clark and Evans 1954) and this type of analysis is still quite popular with British archaeologists, especially Ian Hodder (Hodder and Orton 1976, Hodder and Hassall 1971, Hodder 1974a, 1974b, 1975).

Present use of point pattern analysis (sometimes called locational analysis) owes it's diachronic perspective to C. Fox who in 1922 developed a methodology or technique using archaeological and environmental distribution maps to cover a region over thousands of years. His technique was used to a great extent during the 1930's, especially by V. Gordon Childe (Clarke 1977b:2).

Clarke (1977b:2-3) maintains that during the later part of the 1940's economic interest tended to dominate European prehistory and the spatial approach lost ground. It was not until the 1960's, perhaps from influence from the United States (Steward 1938, Willey 1953, Phillips et al, 1951), that spatial archaeology regained popularity. Clarke points out that the Cambridge School of New Geography and the School of Architecture also influenced the regained popularity of spatial archaeology.

It was at this point that "spatial archaeology" diverged into two directions of methodologies. There was the theoretical development of models (Clarke 1968, 1972, 1977) and the articulation and employment of the catchment area concept (Chisholm 1968, Vita-Finzi and Higgs 1970). The catchment area concept caught on almost immediately in archaeology and has been used and misused since it inception.

In the United States the approach to the study of spatial relationships followed a slightly different line than did that of the Europeans. Although the Americans were influenced by the anthropogeographers, they seemed to be more interested in social organization and settlement pattern studies as opposed to artifact distributions maps that covered a large area. Clarke points out that the "anthropological dimension became stronger and the geographical aspect diminished (Clarke 1977b:3)".
During this same time period in the United States (1930-1960) Roper (1979) points out that there were three basic ways in which archaeologists ordered space. There was the culture area concept as described by Kroeber (1939), the horizon (Willey and Phillips 1958), and by settlement pattern studies (Willey 1953).

These approaches to spatial analysis, as Clarke points out, tended to limit spatial studies to settlement analysis in the United States. The "new archaeologists" of the 1960's came close to what Clarke would probably have called real spatial studies but they too, fell short. These "new" archaeologists who were concerned with the advancement of archaeological science still emphasized sociological, economic, and ecological objectives when dealing with spatial problems. Real spatial studies, if I may use that term, the role of spatial structure, or spatial variability were still a minor consideration. "Spatial archaeology remained a secondary consideration" (Clarke 1977b:4).

SPATIAL THEORIES AND SOME ARCHAEOLOGICAL APPLICATIONS:

There are, according to Clarke (1977b) four general spatial theories which underline most, if not all, spatial theories dealing with anthropology. These are; (1) anthropological spatial theories; (2) economic spatial theories; (3) social physics theory; and (4) statistical mechanics theory (Clarke 1977b:18). All of these spatial theories have roots in economic geography, and therefore in economic spatial theories as well.

Anthropological Spatial Theories.

The main essence of anthropological spatial theory is that archaeological remains are spatially patterned. Thus, the patterned distributions of archaeological materials provides the archaeologists with data pertaining to the social organization of a particular society. What archaeologists are interested in is the non-random distributions of artifacts, houses, or settlements. This assumption, and it is just that, is perhaps the most important one made by archaeologists (Schiffer 1972:156).

More recently, archaeologists and cultural anthropologists have turned to behavioral and structural approaches to the study of space (Levi-Strauss 1953, Binford 1962, Clarke 1977b:18). Clarke states that,
The first step is usually to define the spatial patterning of the archeological remains by quantitative methods and then to offer testable hypotheses based on anthropological or mathematical analogy as to the organization of the society and the associated patterns of individual behavior behind the spatial patterning observed (Clarke 1977b:18-19).

**Economic Spatial Theory.**

This approach is analogous to the well known "principle of least effort (Zipf 1965)." The theory makes the assumption that man is a rational animal and that man will make choices and decisions which minimize cost and maximize profits. Clarke (1977b:19) points out that it is the economic spatial theory that serves as the stem for later spatial theories such as central place, catchment, and locational analysis.

**Social Physics Theory.**

In this case, large numbers of people are thought to act in a similar manner as large numbers of physical particles. Gravity models are probably the most common forms of social physical theory.

**Statistical Mechanics Theory.**

The approach of statistical mechanics linked social physics with mechanical statistics and stochastic background (Clark 1977b:20).

I feel that it is probably safe to say that it was Von Thuen in 1826 who "invented" a most important concept with regard to spatial data. His locational theory, which noted the land use pattern and activity distribution around a central location plus the law of diminishing returns, is at the root of all later spatial theories. (Figure 1).

**Site Catchment Analysis.**

This approach to the study of spatial relationships has probably been used and abused in archaeology more than any other spatial theory. The theory was first developed by Chisholm (1968), but later expanded upon and elaborated to fit archaeological situations by Vita-Finzi and Higgs in 1970. In their often cited paper, they state that the catchment area
concept was employed to make a "comparative analysis of hunting-gathering and agricultural economics (Vita-Finzi and Higgs 1970:1)." The basic thrust of site catchment analysis makes the,

... modest assumption that a human group will in the long run make use of those resources within its territory that are economic for it to exploit and that are within reach of available technology. On this assumption, a site placed in a territory largely composed of grazing country would have been inhabited by human groups intent on the exploitation of grazing animals (Vita-Finzi and Higgs 1970:2).

This assumption can easily be tested by archaeology, but only in areas with good preservation of floral and faunal remains. Far too often, archaeological results have been overlooked when catchment analysis has been attempted. Flannery (1976) and Whallon (1974) are two notable exceptions and more will be said about these below.

Site catchment studies, as proposed by Vita-Finzi and Higgs (1970) is what they would call the study of the relationships between technology and those natural resources lying within the economic range of individual sites (Vita-Finzi and Higgs 1970:5). Roper (1979) expanded their definition by suggesting that site catchment analysis,

... emphasizes such considerations as the availability, abundance, spacing, and seasonality of plant, animal, and mineral resources as important in determining site location. However, it is distinguished from other man-land approaches by the assessment of those resources within a demarcated area surrounding a site. That is, sites are conceived of as points at the focus of an area throughout which economic activities were performed (Roper 1979:120).

On can easily see that the distance of a resource area in relation to the site has a direct bearing on how the area will be exploited. In other words, "the further the area from a site, the less likely it is to be exploited (Vita-
Von Thuen's influence can easily be seen in the theoretical approach to catchment analysis.

In their original use of the catchment area concept, Vita-Finzi and Higgs describe a four part methodology concerning their approach to catchment analysis. The first two variables describe actual site locations or situations while the latter describe the somewhat more abstract notion of exploited land. These are:

1. Home Base
2. Transit Site
3. Site Exploitation Territory
4. Annual Territory

A home base is a "site which is primarily concerned with the exploitation of a site territory (Vita-Finzi and Higgs 1970:6)." How can a "site exploit a "site territory?" Of course they mean the site inhabitants, but their analysis in the final form may in fact forget about the actual people at the sites and what they were doing.

The concept of a transit site describes a site located along a probable migration route. This brings up the problem of site function in catchment studies. A site exploitation territory refers to the area around a site which is exploited by the inhabitants. The last variable, described as the "annual territory" denotes the "total area exploited by a human group throughout the year. It may contain one or more site exploitation territories (Vita-Finzi and Higgs 1970:7)."

Basic problems associated with site catchment analysis become obvious. In the first place, catchment studies in their original form may tend to overlook the fact that they are dealing with people and distinct cultures. If we know where a site is located, perhaps even the reason why it is located at that particular point but know nothing of the actual subsistence or economic activity practiced by the people who occupied the site, how can we simply draw a circle around the site and call it a catchment area. My basic argument is in the use of arbitrary 1km or 10km or 2 hour or 10 hour distances to serve as the cut off points for catchment analysis! Vita-Finzi and Higgs, along with Jarman (1972) soon realized this problem and attempted to rectify the situation. They state that "in a flat or relatively uniform environment, territories will tend to be circular; where relief is pronounced, they will be distorted (Jarman, Vita-Finzi and Higgs 1972:62)."
They further conclude that we can no longer get away with drawing circles around sites, but they still follow the time factor (2 hours walking distance) to serve as the cut off point for the catchment area. This is taking Von Thuen's law of diminishing return to an extreme and in addition it is rather ethnocentric to impose a 2 hour walking limit on prehistoric cultures. Time and distance are determined to some extent by culture, thus I can easily dismiss any type of limit of time or distance as a cut off point in catchment analysis.

Dennell (1980) points out some additional problems with the original application of catchment analysis and he offers two suggestions. He concludes that catchment studies, in their original form, can lead to unreliable mapping of catchment areas and often does not take into consideration environmental changes that have occurred through time. He also suggests that since catchment studies are still in the very early stages of development, the present methods are not really suitable for application to animal based economies and those with complex social and economic relationships. Dennell offers two suggestions for the improvement of catchment studies. First of all, catchment studies can be used in a way to obtain data on the physical settings of prehistoric settlements, which can supplement botanical and faunal data from excavations. Second, catchment studies can be used as a way to model the most plausible type of subsistence economy (Dennell 1980). This is an improvement but I would make one additional modification following the work of Flannery (1976). Flannery begins with the actual archaeological data, mainly floral and faunal remains. Then, on the basis of the ecological zones represented by the plant and animal remains, he constructs the catchment area or as in most cases, catchment areas. This approach takes into full consideration the cultural aspect and, therefore, only those materials preserved in the archaeological record are used to reconstruct the catchment areas. Of course, only archaeological sites with good preservation of floral and faunal remains can be used in this approach to catchment studies.

Flannery (1976) also addresses another basic problem dealing with site catchment studies which is site typology and site classification. He uses the example of high mountain deer hunting camps established well away from the valley floor villages. Are these hunting camps distinct and different sites or, as Flannery argues, "temporary
annexes to the village (Flannery 1976:94).” Puebloan field houses are another example of this type of situation. If we accept Flannery's concept of village annexes with regard to these remote sites, which I do, then these remote sites are in fact catchment areas since they were used in the procurement of economic goods.

This idea adds further support, in my opinion, to the abandonment of the time/distance factor to delineate the boundaries of the catchment area. Settlement, artifactual, and cultural data should be utilized to a greater extent in the determination of the catchment areas. Archaeologists can no longer get away with simply drawing circles around archaeological sites and calling it the catchment area.

Central Place Theory.

Central place theory is, and has been another important theoretical approach to the study of space. As with catchment analysis, the approach has been misused when applied to archaeological data. First developed by Christaller (1936, 1966), the central place model is based upon the centralistic principal which we have seen expressed by Von Thuen and Chisholm. In fact, when one reads the writings of Christaller it is clear that a great deal of his theoretical approach stems from the realms of social physics. He states,

The crystallization of mass around a nucleus is, inorganic as well as organic nature, an elementary form of order of things which belong together - a centralistic order. This order is not only a human mode of thinking, existing in the human world of imagination and developed because people demanded order; in fact it existed out of the inherent pattern of matter (Christaller 1966:14).

Of course centralistic order is obvious in human community life. The church, plaza, square, and park are all examples of central places within community situations. Therefore, central place theory has applications to within-site analysis as well as to inter-site considerations.

Christaller was influenced by Von Thuen but his approach was also shaped by other German geographers of the 19th and early 20th centuries. Kohl (1850) sought laws that determined the distributions and size of towns. Grademann also had an
important influence on Christaller. In 1926 he made the geographical distinction between rural and urban settlements. Grademann's work (1926, 1931) suggested that particular types of settlements are predominant within certain regions (Christaller 1966:1).

Perhaps the most influential aspect of Grademann upon Christaller was his concept of the "chief profession of a town." Christaller modified Grademann's original concept to mean "to be the center of its rural surroundings and mediator of local commerce with the outside world (Christaller 1966:16)."

Central place theory is a common approach to archaeological problems. But as Clarke (1977b) points out, these uses of central place theory have generally been limited to sites in an urban context, with elaborate economic systems. The ancient civilizations of Mexico, Central and South American have been analyzed through the use of central place theory.

Before I discuss a few of the examples of central place studies in archaeology, let me expound a bit on the theoretical orientation of this important analytical tool. Morrill (1970) points out two important concepts about central place theory. First, service centers are necessary for the distribution of goods and services. In addition, specialized goods, military protection or control are all organized from a central location. Second, the principle of least effort (Zipf 1965) is in effect. If all of the above mentioned services are available at one center which is centrally located, effort in obtaining the goods and services is minimized. Christaller's central place model combines these aspects with lattice theory, thus suggesting the "ideal pattern of settlement (Hodder 1972: )." Of course, what is "ideal" may not even exist in the real world and this becomes a fundamental problem with central place theory.

Wilmsen (1973) brings out two additional points that deserve mention here. First, there is a functional relationship between a network of localities and the territory in which these occur. Second, the sites of functionally similar territories and locations tend to be regular (Wilmsen 1973:10). In other words, Wilmsen realizes the importance of environmental considerations which also play a part in the distribution of settlements. Christaller's model is a purely economic one and it tends to neglect
environmental considerations. Cultural considerations are also neglected in the original use of the theory.

The most basic assumption of Christaller's central place model is that settlements occur in an unbound featureless plain, and that they are in a closed economic system as Von Thuen described.

Another problem with central place theory is discussed by Parr and Denike (1970). Their approach to central place analysis is with a diachronic outlook. They conclude that,

... systems were based on cost and demand conditions as they existed for the various goods at a particular point in time. In the real world it is highly unlikely that the composition of the hierarchy would remain stable through time. (Parr and Denike 1970:574).

This aspect is especially important and in my opinion is one of the major shortcomings of central place analysis as Christaller describes it.

These problems have been considered by archaeologists, and a number of important modifications have been made to Christaller's original theory. These modifications include an inclusion of the dominance of economic factors in the settlement and growth of centers. The rational behavior of consumers, and the congruence of spatial distributions of retail market centers with that of non-economic factors effecting settlements (Crumley 1979:151, Hodder and Orton 1976, Olsson 1966). Religious factors and central place theory have been neglected in archaeological applications. This is unfortunate since religious remains from archaeological sites in the form of architectural remains are commonly discovered, especially in the American southwest. For instance, do Anasazi sites with Great Kivas represent central places? I think that a strong case can be made in favor of such an analysis (Rohn 1982 class lecture).

Let us now discuss a few of the applications of central place theory to archaeological data. Hodder (1972) uses central place theory in his analysis of Roman-British towns. He also employed the concept of ranking, describing a hierarchy of sites.
Pollard (1980) discussing the protohistoric Tarascan state suggests that human settlements vary in two ways. First, they differ in the functions they perform themselves and for other settlements. Second, they differ in population size. She maintains that these variations do reflect differences in centrality and importance. She suggests that a large dense population is a measure of site importance. However, this equates site with settlement and we know this not always true. A very important site to the prehistoric inhabitants of a region may in fact be a site where no people live at all, such as a shrine or other religious structures.

The latter part of Pollard's analysis is more informative. In complex societies, she points out, there are several ways communities interrelate with each other.

A. As central places

B. As noncentral generalized places being served by central places commonly called hamlets of small villages.

C. As specialized places performing functions for nonlocal communities (Pollard 1980:78).

Pollard goes on to argue that these are hierarchically related and spatially distributed in predictable patterns.

Evans (1980) questions the use of central place theory or marketplace exchange as used by Smith (1980) in the southeastern basin of Mexico. Smith's argument, that the central place model was an important factor in the placement of Aztec towns is a purely economic one. Christaller would have been proud. Evans (1980) on the other hand, feels that environmental and political factors were far more important in the shaping of settlement patterns within the region. Both are probably correct, however, the importance of this exchange between Smith and Evans denotes how central place theory has been used in archeological situations. As Clarke (1977b) points out and stresses, the spatial models that were developed in geography were conceived in purely economic terms. In addition, most if not all of them were developed as tools to analyze post-industrial society. In their pure economic sense, they cannot be applied to prehistory. One cannot overlook the importance of market systems since it is market systems that provide us with the best examples
of central places (not considering religious features). However, market systems must not be analyzed at the exclusion of political environmental, or diachronic variables. With all of these aspects in mind, central place analysis can be a very important archaeological tool.

Let me suggest some possible archaeological situations close to home where central place analysis may be applicable. Do the large Puebloan towns in the Montezuma Valley of Colorado represent central places? As stated earlier, I feel that a strong case can be made for central places when one considers the religious features present in the form of Great Kivas at a number of these sites (Rohn 1982 class lecture). There may be additional information to support a central place analysis but this data is still buried beneath the ground. For instance, does the overall settlement pattern of these towns and their outliers suggest a central place type of situation. I feel that it does based upon the small amount of information that is known from the region. What we see are large towns like Goodman Point, perhaps surrounded by smaller pueblos similar to the Mustoe site. The interesting aspect here, as Rohn (1982 class lecture) has discussed, it the distinct and real possibility that the clay source for the Mustoe site is the Goodman Point ruin. If this is so, and the two sites are contemporaneous, can a case be made for a central place on the basis of raw materials for ceramics? Before such conclusions are drawn, data concerning the clay sources for the other pueblos around the Goodman Point ruin will have to be investigated. If all of the clay used in ceramics for all of the outlying sites around the Goodman Point ruin originated from the source at the Goodman Point ruin, a strong case can be made for central place status for the Goodman Point pueblo. Of course, other material, and social/cultural factors will need to be considered as well.

The Gravity Model.

A brief discussion of the gravity mode is in order since it has been applied to archaeological data (Plog 1976, Earle and Erickson 1977). The gravity model, first proposed by Olsson (1965, 1970) suggests that,

The amount of interaction between two cities is directly proportional to the numbers of people living in those cities, and inversely proportional to the intervening distance (Crumley 1979:146).
The first problem with the gravity model concerns demographic archaeology. How do we determine how many people lived in prehistoric sites. Only relative population estimates would need to be utilized however, Crumly further states,

The model nonetheless has severe practical limitations in its applicability for archaeological problems; minimally one must have either artifacts that are sensitive economic indicators (solving the equation for populations) or considerable historical evidence of interaction between one center of known and one of unknown location (solving the equation for distance). Such requirements necessitates well-dated sites distributed over a large area (Crumley 1979:49).

THE LEVELS OF SPATIAL ANALYSIS WITH SOME ARCHAEOLOGICAL EXAMPLES:

Clark (1977b:11-14) discusses the four levels of spatial analysis. He defines these as, (1) the micro level, (2) the semi micro level, and (3) the macro level. I will briefly discuss each of these, following Clarke's conclusions, and offer a few archaeological examples of each level.

The micro level of analysis is mainly concerned with the proxemic and social factors which describe spatial activity. Clarke (1977b) maintains that individual and cultural factors, at this level of social space, are more important than economic factors. The micro level of analysis is concerned with the spatial activity within structures.

At this level of analysis, a number of important contributions can be offered about how people organized and utilized their personal space. Flannery and Winter (1976:34) have suggested that the smallest spatial unit of archaeological analysis is the activity area. They define an activity as a spatially restricted area where specific or related tasks were carried out (Flannery and Winter 1976:35). The micro level of analysis has been used with some success to define male and female work areas (Flannery and Winter 1976, Hill 1966) and household specialization (Flannery and Winter 1976).

Lyman (1980) used the micro level of analysis to make inferences about kill distributions in prehistoric Nez Perce
villages. He was able to read bone distribution patterns on house floors which denoted kill distributions between family groups. Lyman states that;

Whatever the case, the distinct patterned sharing of the deer suggests a social or kinship regulation requiring one family to receive the anterior half while the other family receives the posterior (including the sirloin half (Lyman 1980:119).

Lyman also uses ethnographic data on the Nez Perce to further substantiate his conclusions.

Spatial analysis at the semi micro level is concerned with the spatial relationships within sites. Clark (1977b) maintains that at this level, social and architectural concerns are greater than personal requirements but economic interests are also important.

In their analysis of household activities at Oxacca, Flannery and Winter (1976) describe four types of activities evident at the within site or semi micro level of analysis. First, they describe a universal activity that is carried out by every household. This is food procurement and storage. Second, there is possible household specialization. This activity may in fact be discovered at the micro level of analysis but a large number of houses would need to be fully excavated prior to this type interpretation. Third, they describe possible regional specializations, such as shell working. Interestingly, this activity as well as the fourth specialization, what they call unique specializations could perhaps be recognized at the micro, semi micro, or macro level of analysis. Flannery and Winter (1976) use magnetite mirror production as an example of a unique specialization.

Winter's (1976) concept of the household cluster has become a popular tool in spatial archaeology at the semi micro level. Winter suggests,

a typical household cluster might consist of one house, two to six large storage pits, one to three graves, and various additional features, separated from the nearest contemporary cluster by an open area of 20-40 meters (Winter 1976:25).

Bogucki and Ryszard (1991) use Winter's concept to study the spatial layout of small habitation sites in Poland. They
conclude that it is a valid methodology for the analysis of small site situations.

In an interesting but somewhat inconclusive paper Stacy (1977) discusses hill sites with rock wall features or low rock walls located on hills adjacent to Sells phase prehistoric sites. Stacy falls back on the use of the ethno graphic analogy, which in this case is rather difficult to make. Although Stacy can make no real functional interpretation of these features, she does recognize their importance as spatial units associated with the village sites.

Since the hill sites are contemporary with and adjacent to these Sells phase village sites, they must have provided additional space for the performance of specialized seasonal or intermittent activities by the village inhabitants (Stacy 1977:15).

Perhaps the most important questions that archaeologists can ask about prehistoric societies with regard to space can be derived from spatial studies at the semi micro level of analysis. For example, Hill (1970), Longacre (1970), Dean (1970) and Rohn (1965, 1971) have addressed the problems associated with the analysis of prehistoric social organization. (see Rohn 1965, 1971).

Saile (1977) also discusses architecture and how it relates to prehistoric social organization and spatial concerns in Chaco Canyon, New Mexico. More will be said about Saile's work below.

The entire area of structural archaeology, which I will discuss below, relies on the semi micro level of analysis to make inferences about how prehistoric or historic cultures conceived of their spatial surroundings (see Fletcher 1977).

The macro level of analysis is concerned with the spatial relationships between sites. Clarke (1977b) concludes that geographic and economic models are most important at this level. However, Kay's (1975) analysis of Hopewell projectile points demonstrates that social distance can be measured between archaeological sites on the basis of tool manufacture. For the most part, geographical and economic factors are largely dominant at this level of analysis. Zipf's (1965) principle of least effort seems to be a common theme at the macro level of analysis. However the over use of this concept
can lead to very ethnocentric statements (Rohn 1982 class lecture).

Despite the problems of ethnocentrism, Zipf's concept has been used with some success concerning archaeological data. Green (1973) and Wood (1978) both use the principle of least effort to discover site settlement patterns in relation to utilized resource areas.

Clarke’s levels of spatial resolution are not clear cut nor are they exclusive to one another. The results of Flannery and Winter bear this out. The important contribution is that these levels provide the archaeologist with a set of bounds to work with and they make up the basic elements for the matrix of spatial relationships (Clarke 1977b:12-17).

THE NEAREST NEIGHBOR STATISTIC AND ITS APPLICATION TO ARCHAEOLOGICAL SPATIAL ANALYSIS:

One of the most common tools available to the archaeologists concerned with spatial questions is the nearest neighbor statistic. We owe this statistic to P.J. Clark and F.C. Evans who in 1954 first used this method to measure spatial relationships in plant populations. In addition, Clarke and Evans' use of this statistic was used to describe plant distributions objectively by assessing contrast between actual patterns and their theoretical counterparts (Pinder et al 1979:430). Hodder and Orton (1976) state that the nearest neighbor statistic permits one to describe a settlement pattern as regular, random, or clustered. The important assumptions to the use of this method is that only settlements which were occupied at the same time can be used in the analysis.
THE NEAREST NEIGHBOR STATISTIC

\[ R_n = 2\bar{d} \frac{n}{a} \]

\(\bar{d}\) = mean distance between a point and its nearest neighbor.

a = area concerned.

n = number of points

R = 0 which is a maximum cluster.

= 1 which is a random distribution

= 2.15 which is a maximum dispersion

From Clark and Evans (1954), Noisat (1978:112)

An additional consideration needs to be taken when the nearest neighbor statistic is used. The universe needs to be known, that is all of the sites within the area under consideration need to be identified (Noisat 1978, Clark and Evans 1954). Furthermore, the points which are compared by the use of this statistic need to be roughly equal. In other words, one cannot use this method to compare large towns with farming hamlets (Rohn 1982 class lecture).

Noisat's (1978) use of the nearest neighbor statistic in his study of Navajo settlement patterns is interesting since his post World War II to present winter-spring camps in the Sage Plain area show a random distribution around hogan clusters. Noisat concludes that

winter activities require the Navajo herder to range farther from the hogan than do summer activities. It thus appears that winter-spring camps are the most sensitive indicators of the extent of the traditional use area of the Bisti-Star Lake homesteads (Noisat 1978:114).
Whallon (1974) concludes that the nearest neighbor statistic has advantages over other statistical methods, namely dimensional analysis of variance, because it is free from problems of grid size, shape, and orientation.

Washburn (1974) used the nearest neighbor statistic to interpret Pueblo I – III settlement patterns along the Rio Puerco river in eastern New Mexico. She was able to show clusters of Pueblo I – III house locations with area suitable for field agriculture. Stark and Young (1981) have modified the nearest neighbor statistic for use on linear settlement patterns.

The nearest neighbor statistic can be quite useful to archaeologists dealing with spatial information. The important fact to remember is that this approach can be used at the micro, semi micro, or macro level of analysis.

STRUCTURAL ARCHAEOLOGY: SPATIAL ARCHAEOLOGY AND HARMONIC ORDER

Structural archaeology, if I may use that term, may represent another direction towards the analysis of how space was used by prehistoric and historic populations. This direction is concerned with how the population under study conceptualized space, and furthermore how their conceptualization is obtainable from archaeological remains, mainly architecture. The important features of human locational behavior were defined in Hall's (1966) work The Hidden Dimension. Space, whether it is architectural, personal, or conversational, is regulated by cultural preference.

They are plainly capable of estimating distances without being deliberately aware of the actual distance used and without the aid of any concrete measuring standard (Fletcher 1977:49)

Before we go on with this discussion of structural archaeology, let us first take a brief look at some of the historical background material.

Chang (1962) following the work of Sears (1961) made the distinction between "settlement pattern" and "community pattern" with regard to archaeological data. Chang argues that "settlement "pattern" served as a "catch all" term which needed to be defined in each particular case. Chang's solution to this dilemma would be to distinguish "settlement archaeology," that is the spatial aspects of prehistoric settlements which
includes ecological and cultural factors from "community patterns" or those aspects of settlement related to social psychology or sociology.

West (1970) following Sears (1961), Chang (1962) and Sanders (1967) describes the differences between "settlement patterns" and "community settlement patterns" for the site of Chan Chan in Peru. Sanders (1967) defined settlement patterns as "the distribution of human populations in a geographical region and the analysis of the factors responsible for the distributions (Sanders 1967:53)." Sears (1961) concludes that community settlement patterns are "strictly the social aspects of settlement patterning, including site community pattern-internal patterning of single communities (Sears 1961:226)."

Layton (1972) suggests that when the nature of social relations within settlements are investigated, two approaches may be used. First, one may attempt to learn how far social relations tend to have any constant features. Second, one should attempt to show how these relations within a particular settlement are restricted by rules more or less unique to that particular social setting (Layton 1972). Archaeologically these "constant features" should show up as part of the spatial arrangement of a culture. Draper (1973) suggests that it is the complete lack of space regulating features that is constant in !Kung camps. The spatial arrangement will include house plans, spacing between features, activity areas, and areas of trash disposal. Thus, these arrangements are restricted by cultural values and therefore should appear in the archaeological record as a type of "signature" for the particular culture. These arrangements of space need to be discovered, analyzed and tested cross culturally to get at the mental image of the use of space by the aboriginal occupants (Layton 1972).

Architecture is probably the best way to understand archaeologically the aboriginal concept of space, and it is architecture which is the main feature of Fletcher's (1977) approach. Saile (1977) who is an architect, suggests that there are two concerns in architectural studies. First, architecture deals with place, and place implies spatial organization. Second, spatial qualities may be ordered in a diffused manner or by sharp breaks separating private and public space. Saile further suggests the two major aspects of spatial organization with regard to prehistoric sites in Chaco Canyon. First, it is possible to compare different
sites, or different developmental stages at one site by outlining the spatial organization as indicated through architectural remains. Second, considerations of the manners in which the physical space - defining how elements can function - may give clues to the manner in which space was used by the prehistoric builders (Saile 1977:64).

Fletcher (1977:53) cites such examples as Eliade (1954), Moholy-Nagy (1969), and Rapoport (1969) as examples of ethnographic works dealing with cosmology and settlement form.

The basic theme of all of these studies is that settlement and house form are closely connected to the internally consistent categories and rules used by human communities. Structures are in effect standing representations for the consistent classification of other categories in the same cultural milieu (Fletcher 1977:53).

In addition,

structures are important not only for their materials function in providing shelter and storage but also because they form the coherent fram for community life and reflect its regularities (Fletcher 1977:55, emphasis mine).

The underlying assumption to Fletcher's brand of spatial analysis is "formal order of design based on consistent spacings (Fletcher 1977:57)." He points out that variation cannot be regarded as an inconvenience in the search for formal order. Variation, he states "may be an integral element of that order since variation in the dimensions of a structure is as much part of the visual contact of the community as any regularities (Fletcher 1977:61)."

CONCLUSIONS

In this paper I have discussed a number of topics dealing with the analysis of spatial data from archeological sites. As with most methodological approaches in archaeology, the historical development of some of our common spatial theories can be traced to the later part of the 1800's. The influence of Von Thuen cannot be overlooked in any of the "modern" spatial theories practiced today.
Spatial archaeology has its roots in the field of geography especially economic geography. This has been the source of many of the problems archaeologists have tried to deal with when applying these approaches to archaeological data. Most, if not all, of the spatial theories employed by archaeologists today; site catchment central place theory, gravity models, all stem from economic geography. In addition, these theories were developed in response to post-industrial society and therefore in their original state, have little use to archeologists. Much further work is needed in the development of catchment analysis, and central place theory before they can be applied to most archaeological situations. The concepts are valid, the mechanisms need some modifications.

The work of Fletcher and others doing spatial analysis at the semi micro and micro levels are, in my opinion, exciting and long overdue. Only when this type of analysis is performed, over a wide range of cultural settings, will we begin to understand the spatial structure and spatial variability of prehistoric societies.
FOOTNOTES

1. I am limiting myself to a discussion of archaeological patterning in this instance. However, cultural anthropologists as well as archaeologists need to be more concerned with the detailed recording of spatial features in ethnographic works.
BIBLIOGRAPHY

Barth, Frederick

Binford, Lewis R.

Bogucki, Peter I. and Ryszrd, Grygiel

Brown, Donald

Buttimer, A.

Chang, Kwang Chih

Christaller, Walter

Clarke, David L.
Clarke, David L. (editor)

Clark, Philip J. and Evans, Francis C.
1954 Distance to nearest neighbor as a measure of spatial relationships in populations. Ecology, 35:445-453.

Crumley, Carole L.

Dean, Jeffery S.

Dennell, Robin

Devore, Irven

Draper, P.

Earle, T.K. and Ericson, J. E. (editors)

Eliade, M.
Esser, A. H.  

Evans, Susan  

Flanner, Kent V.  

Flannery, Kent V. and Winter, Marcus  

Fletcher, Roland  

Frobenius, L.  
1898 Der ursprung der kultur. Forschungsinstitut fur kultur morphologie, Berlin.

Gilmore, David  

Gradmann, Robert  
1898 Das pflanzenleben der Schwabischen alb. Badischen botanischen Vernis, Stuttgart.


Hall, E. T.  

Hill, James


Hodder, Ian


Hodder, Ian and Hassal, M.

Hodder, Ian and Orton, Clive
1976 *Spatial analysis in archaeology*

James, P. E.

Jarman, M. R., Vita-Finzi, C. and Higgs, E.S.

Jet, Stephen

Katz, Pearl
1974 Adaptations to crowded space: The case of Taos Pueblo
Kay, Marvin

Kohl, Johan G.

Kroeber, Alfred L.

Kummer, Hans

Layton, Robert

Levi-Strauss, Claude

Leyhausen, Paul

Longacre, W.

Lyman, R. Lee

Moholy-Nagy, S.
1969 Matrix of Man: Illustrated History of Urban development.
Morgan, Lewis H.

Morril, R. L.

Nespor, Robert

Noisat, Bradley

Olsson, G.
1965 Distance and human interaction: A review and bibliography. Regional Science Institute, Philadelphia.

Ortiz, Alfonso

Parr, John B. and Denike, Kenneth

Parsons, J.R.

Pinder, D., Shimada, I., and Gregory, D.
1979 The nearest-neighbor statistic: Archaeological application and new developments. American Antiquity, 44:430-445,
Plog, S.

Price, James

Pollard, H. P.

Rappaport, Roy
1968  Pigs for the ancestors. Yale University Press.
1969  House form and culture. Prentice Hall.

Ratzel, F.
1896  Anthropogeography - the application of geography to history. J. Englehorn, Stuttgart.

Rohn, A. H.
1982  Class lecture, Anthropology 801

Roper, Donna

Saile, David G.

Sanders, W. T.
Schiffer, M. B.

Sears, W.

Smith, Michael E.

Stacy Pheriba

Stark, Barbara and Young, Dennis

Steward, Julian H.

Swan, Daniel

Washburn, D. K.

West, Michael

Whallon, Robert
Willey, Gordon

Willey, Gordon and Phillips, Phillip

Wilmsen, E. N.

Wilson, Edward O.

Wood, John

Zipf, G. K.
In brief, there is no reason and no excuse for not considering the shaman to be a severe neurotic or even a psychotic in a state of temporary remission (Devereux 1980:14-15).

It seems to me that the racial stereotypes of the past have been supplanted for readers like Devereux with a psychiatric stereotyping of whole cultural groups or, as in the present instance, the stereotyping of all shamans as neurotics (Opler 1961:1092).

The issue of the mental health status of shamans has a long and lively history (cf. Ackerknecht 1943). An example of this liveliness is in Opler's reply to an article by Devereux (1961): "Devereux's method is one of distorting and misquoting Chapter Four. . ." (1961:1091). This quote well illustrates the nature of the argument; the issue leads to polarity in views. That is, people tend to see shamans as either sane or insane. I have found no author who would take a position that could be construed as "middle of the road." The problem of the mental health of shamans is hardly likely to be resolved in this paper. A significant reason for this is that both sides of the argument have brought up good points in their defense; also, both sides have presented evidence in about the same frequency and which have about the same relative importance. That is, both sides can substantiate their claims equally well. I will briefly summarize the cogent views on this subject by probably the two most often quoted authors on this subject: George Devereux and Erwin H. Ackerknecht. After I summarize two representative stances, I will discuss four representative field examples of shamanic activity and also offer some personal observations on the subject.
George Devereux can hardly be accused of being ambiguous in his stance on shamanism. "Briefly stated, my position is that the shaman is mentally deranged. This is also the opinion of Kroeber, Linton, and LaBarre" (1980:15). It is necessary to note why Devereux has no problem with grouping all shamans as psychopathic. It is related to how Devereux defines normality and psychopathology and its relationship to culture. Devereux sees mental health status as being the manner in which the person manipulates cultural materials. That is, a normal person will utilize his cultural materials in a "present synchronic manner that is in conformity with reality" (1980:83). The mentally healthy person also has a "capacity to understand and experience culture as a system that structures man's life-space by defining 'appropriate' ways of perceiving, evaluating, and experiencing both material and social reality" (1980:83). By this definition a neurotic person who continues to recognize culture as something originally external that has been internalized, but once internalized, "the cultural material is unconsciously reinterpreted in a manner that gratifies the neurotic's distorted needs" (1980:85). In contrast, a psychotic is one with whom "culture traits continue to be utilized, but only in a subjective manner and almost without reference to their normal social context" (1980:85). So Devereux, by implication, has no problem with a "psychotic" being able to continue functioning in his social environment without necessitating some kind of protective institutionalization in his society. Further, this model implies that any whole segment of society, or any culture in toto, or even all people could be neurotic or even psychotic.

Devereux categorizes personality disorders into four ethno-psychiatric types:

1. "Type" disorders, relating to the type of social structure
2. "Ethnic" disorders, relating to the specific culture pattern of the group
3. "Sacred disorders, of the shamanistic type

Devereux does not define shamanism as consisting of people diseased in ways that are easily diagnosed in Western terminology, such as a paranoid schizophrenia or a hysteria, but he rather defines it as a unique kind of ethno-psychiatric psychopathology. Shamanism is not a symptom, but a disease to Devereux. He seems to believe that the acquisition of shamanistic powers is always preceded by a psychotic incident (1980:22).
He sees shamans as being in social remission (of their psychopathology) because they were once mentally diseased, received a "cure without insight," and are henceforth vulnerable to the eruption of old conflicts at any time (1980:17). He agrees with Ralph Linton that shamans are best clinically diagnosed as hysterics (1980:16). But not all hysterics are shamans because the "shaman's conflicts are characteristically located in the unconscious segment of his ethnic personality rather than in the idiosyncratic portion of his unconscious" (1980:17). What the shaman does is to pattern his conflicts and symptoms in the culturally conventional way of shamanism. The alternative to being a shaman for the novitiate hysteric is to be a 'private deviant' whose conflicts lie in the idiosyncratic portion of the unconscious; so this deviant cannot culturally pattern his or her conflicts in any way that will be meaningful to his neighbors (Devereux 1980:5-27). Devereux believes shamans are "deranged" in part because they believe in the efficacy of their rites. His real gauge for measuring mental health is definitely not an ability to live and function (in short, to be adjusted) successfully in one's native society; it is rather the "capacity of the person to make successful readjustments without losing the sense of his own continuity in time" (1980:64). He feels readjustment is impossible for the shaman because he is adjusted only to one marginal role even in his own culture, and so any readjustments, in or out of his own culture, would effectively negate the rules of the past universe that the shaman has been living in. Since shamans are psychopathic by definition, he wants to treat them to "deshamanize his shamanistic character without attacking his ethnic character structure" (1980:65). Although shamanism is a disease, it still has a vital function in the involved cultures. The shaman provides a sort of "corrective emotional experience"... (that is, the shaman effects) a repatterning of defenses without real curative insights (1980:17). This repatterning of defenses typically elicits support for the patient by the rest of the culture and frequently affects the loss of the symptoms of the disorder. A significant catalyst in helping to form Devereux's position on shamanism no doubt was his extensive field work with the Mohave Indians (1939b). Indeed the Mohave say that "shamans are both crazy and cowardly" (1937).

Erwin H. Ackerknect opposes Devereux. "Where possession does not occur as an illness but as a requisite of the 'medical profession,' it neither needs an ill person to become possessed nor does it make one mentally ill.
As might be anticipated, Ackerknecht's view of what is normal and what is abnormal differs from that of Devereux. He believes it is senseless to regard a person as abnormal cross-culturally because he exhibits certain fixed symptoms. As evidence of this he cites that a normal person of the Middle Ages could easily be considered abnormal today. He sees this as a paradox because we, although predominantly rather normal, are nonetheless descended from (pseudo) "neurotics" and "psychotics" (1943:38). He believes that a person is abnormal only when the majority of his "character reactions hinder social integration in a given period and society (1943:38).

We call in the following "autonormal" and "autopathological," those who are defined in their normality and abnormality by their own society, the only true definition of normality we recognize. We call "heteronormal" or "heteropathological" those who are regarded as normal or pathological according to the scale of our own society, a scale which is inadequate as long as we lack truly general notions of human psychopathology (Ackerknecht 1943:38, italics in original).

By "truly general notions of human psychopathology" he does not mean classifying groups or cultures as in one uniform state of health; rather he is referring to organic bases in neuroses and psychoses which he believes most probably exist (1943:36-37). Ackerknecht apparently contradicts his own definitional totality of autonormality - normality in order to account for the existence of such states as Nazi Germany. "A culture cannot be called pathological except under one condition: when the culture is driven to self-destruction by its own mental structure" (1943:54-55). An explanation for this contradiction is that the above "autonormality" method for defining cross-cultural mental illness is "a provisory (construct) and an expression of our limited knowledge (1943:39). Ackerknecht seems to believe that once psychiatry has sufficiently found all the organic causes of mental disease, the "minimum definition of abnormal human tendencies will be probably quite unlike our culturally conditioned, highly elaborated psychoses" (Benedict quoted in Ackerknecht 1943:39). Obviously he views the psychopathological definitions of his day as incomplete and perhaps not even touching on the central aspect: organic bases in psychopathology.
Another basic difference between Devereux and Ackerknecht is whether a psychotic incident necessarily precipitates shamanism.

Of course mental illness is not the only way to become a shaman. Young orphans may voluntarily become shamans. A special adventure accompanied by great danger may lead to shamanism. Shamans, e.g., among the Buriats, may be simply hereditary and transmitted by instruction. Or the "inspiration" may even be sold (Ackerknecht 1943: 41-42).

Ackerknecht sees the function of shamans as to "stupefy rather than eradicate evil" (1943:45). That is, the diseased spirits are not expelled but only pacified. Shamanism has a therapeutic effect:

We have to remember what a tremendous psycho-therapeutic power magic has not only for those for whom it is performed, but above all for the performer himself. It is a kind of psychological safety valve where too strong psychic pressure can be released (Ackerknecht 1943:46).

Ackerknecht offers a hypothesis for "ritual possession" as being a state of autohypnosis rather than hysteria, because it is voluntarily induced by drumming, singing, dancing or gazing (1943:49). He also emphasizes that the hallucinations Devereux would call symptomatic are often "the effects of an early implanted conception of a world where the natural and supernatural are not firmly separated" (1943:50).

Devereux cites in his favor neurotic or psychotic behavior in the shaman of the Paleosiberians, the Mongols, the Turkic people, the Finno-Ugrians, the South African Bantus, the Dravidians, the Vedda, and the Mohave (1961). Ackerknecht, correspondingly, cites in his favor the shamanic practices of the Cherokee, the Salteaux, the Murngin, the Manos of Liberia and even the Mohave (1943).

In the last portion of the paper I will offer my insight in the matter at hand, first by analyzing the views of Devereux and Ackerknecht, next by considering representative field cases and lastly, commenting on the work of some other authors on this subject.
Devereux (1980) describes fewer examples of deranged shamanic activity than Ackerknecht does of well adjusted shamans. Devereux (1961) cites many examples, but he only mentions the societal names and does not elaborate on them. The most striking aspect in Devereux's work is his all encompassing generalizations. "(Primitive) religion and in general 'quaint' primitive areas are organized schizophrenia" (1939a: 388 Italics in original) is one representative example. It is truly a remarkable mind that can conceive such simple solutions to such complex problems. A damning blow seems to be dealt to Devereux's argument by Ackernknecht's observation that a mental disease is not a prerequisite for shamanism. It could be argued that these are not true shamans for Devereux. It is obvious that the definition of what is and what is not a shaman is of vital importance in this issue. Yet, I could not find an explicit definition of shaman in Devereux (1980). Ackerknecht defined the term as the medical profession in primitive societies (1943:49). He also uses Loeb's dual differentiation of the "inspirational shaman" and the "seer." The inspirational shaman is "the (voluntarily) possessed, through whom the spirit speaks: the man, who exercises (sic) and prophesies" (1943:40, italics in original). The seer is "the 'non-inspirational' non-possessed medicine men, with whom the guardian spirit speaks and who do not exorcise or prophesy" (1943:41, italics in original). The visions and trances of the seer lack almost all objective "symptoms" like fits and seizures (1943:50). Would Devereux regard seer type medicine men as 'shamans' and ergo psychopathic? I think so. He leaves himself no room for compromise. The shaman seer is obviously not utilizing his cultural materials in conformity with objective reality. The seer believes in the power of his ritual. He is obviously deranged.

Equally as interesting as Devereux's probable classification of the "seer" as abnormal is Ackerknecht's classification of the "inspirational shaman" as normal. His logic is not only that the shaman is "autonormal" but also his ritual possession is under control and voluntarily induced by autohypnosis (1943:49). Here I see room for compromise in the issue. The seer could be the result of his acculturation into a society where the mundane is not well separated from the mystical; conversely, the symptoms of the inspirational shaman could probably be shown to correlate with the symptoms of some of the mentally ill in our own culture (cf. Silverman 1967).

Just as Devereux's chief fault is lack of documentation (as is the case with any scientific law that involves totality), Ackerknecht's chief fault is lack of a good model of cross-
cultural normality. He criticizes his "autonormality" concept himself, yet his whole argument is based on it. Ackerknecht's construct of "autonormality" is not too different in effect from Devereux's construct of shamanism as a unique type of ethnopsychiatric psychopathology. They are both the bases of their arguments concerning the normality of shamans and both are purely subjective creations.

Devereux brings up the significant point that shamans probably couldn't readjust anywhere else. But I don't think this is the essential gauge for normality. Devereux's reasoning leads to this: If one never exhibited any pathological symptoms and never moved anywhere, but he would exhibit symptoms if he moved elsewhere, he is nevertheless now and always mentally ill. On this point I am in closer agreement to Ackerknecht's belief of abnormality as hindering social integration. I perceive a potentially insurmountable problem in deshamanizing shamans. How does one, as Devereux suggests, attack the deviant shamanistic character (located in the ethnic unconscious) without changing the shaman's ethnic character structure?

The last remark that I will make concerning Devereux is that the Sedang Moi consider George Devereux to be a shaman because he found two neolithic hand axes which only shamans were supposed to be able to find (Devereux 1980:325). Since this is the case, I read Devereux cum grano salis because I realize he may be unconsciously reinterpreting his cultural material in a manner that gratifies his own distorted needs.

In ending the discussion of Ackerknecht, I think he exhibited insight into the origin of issues of this sort:

Psychopathological labeling seems to be foremost an expression for helplessness, a specific attitude of our culture towards the unknown. While the savage regards the incomprehensible as supernatural, the "civilized" Western man regards it as psychopathological (1943:33, italics in original).

I believe psychopathological labeling of this sort is the result of the recent successes of the medical profession in treating mental illness, and their continual quest to monopolize treatment of the mind (cf, Conrad and Schneider
1980:38-72). That is, if the medical establishment didn't have some initial successes in the field of mental illness (e.g., the discovery of an organic basis to general paresis and the "success" of the lobotomy), they wouldn't have been able to set up an illness model for mental dysfunction, and then Devereux and his cohorts couldn't diagnose groups as psychopathic and suggest ways of treating them.

A discussion of some representative field work cases is now in order. Gillin's (1948) ethnography of the San Louis society of Guatemala reported that in our society the shaman he observed would probably be labeled a schizophrenic. He based this on the subject's Rorschach protocol and these observed behavioral characteristics: "masklike countenance, flat emotional reactions, high development of fantasy life which is unshared with others, and typical disregard of opinions and reactions of the members of his social group" (396). Yet Gillin mentions, but seemingly overlooks, the point that not only is this shaman well adjusted to his society, he could be considered a model citizen. This shaman is a shrewd businessman, more wealthy than the average native, and he is often consulted for advice. A critical component in labeling someone a psychotic is his inability to function well in his society (cf. Houston, et al, 1979:574). Indeed, this shaman sounds like he could probably adjust well in our own rather competitive society.

Opler has done extensive field work with the Ute and Southern Paiute Indians of Colorado and Utah. It is germane to compare Gillin's shamanic behavioral description with Opler's shaman, who is mature, poised, serious (1959:98). What is the difference between poised and serious, and a masklike countenance? Perhaps the difference is in how the author perceives the underlying issue of the mental health of shamans. Opler's shaman is not only a psychic healer, he is also:

- responsible for all the healing and curing techniques developed in the culture, the setting of broken bones, the herbal materia medica, and the prescribing of such common "cures" as powdered sage-brush inhalents for upper respiratory congestion (Opler 1959:102-103, italics in original).

Also, in his psychic healing, the Ute shaman is a "seer" type shaman; and a major part of his therapy is a quasi-psychoanalytic dream analysis. This analysis is subject to rigid interpretive guidelines. This dream analysis is remarkably
like our own dream analysis, and it worked in their society. Implicit in Opler's observations is that both the physical healing and the dream analysis of the Ute shaman require a consistent marriage of the shaman with objective reality. But, of course, "The apodictic statement that the Ute shamans are rational and poised proves nothing, psychiatrically" (Devereux 1961:088). This is a good criticism, but comes from a closed mind. Devereux is condemning all the Ute shamans to the realm of the asylum without a sanity hearing. I could just as easily and logically (if I wanted to use logic as Devereux does) label all American physicians as neurotic (and indeed make "American Physicianism" a standard kind of textbook dementia) because I knew two physicians that were definitely neurotic. Just because no other physicians exhibit any neurotic symptoms has no bearing on the matter at all.

Ohnuki-Tierney (1973) has done ethnography with the Ainu of Sakha in Japan. The Ainu shamans are "inspirational" in that they are possessed by spirits and supposedly (but not always) lose cognizant ability during their trances. These shamans also are employed to locate missing objects or people. The shaman can exhibit unusual behavior. For instance, if he or she is possessed by the grass hopper spirit, the shaman may hop about as one. The usual indications of a predisposition toward shamanism come at puberty. Ackerknecht (1943) also notes this tendency and suggests it is the result of particularly intensified puberty. The predisposition to shamanism is thought to be at least in part hereditary. There is no apparent relationship between a person's social or economic position and his status as a shaman.

The above complex of traits might be indicative of psychopathology. This is impossible to determine with certainty because of the superficial nature of Ohnuki-Tierney's ethnography. The Ainu, however, "do not regard a shamanistic predisposition as a psychological abnormality or a sign of mental illness (Ohnuki-Tierney 1973:19). There are also strict procedures for rites which the shaman is obligated to follow. It is significant to note that the majority of shamans exhibit ium:aynu. Ium:aynu is a state of sudden spells of compulsive mimickry or nonsensical utterances over which the person so disposed has no control. The Ainu consider this state amusing rather than psychopathological, and see no connection between it and a predisposition to shamanism.

Centlivres and Centlivres (1971) have done ethnography with the shamans of Afghan Turkestan. The male and female baxsi,
or shaman, is one of the large number of specialized fortune
tellers, diviners and healers. The difference between them
and the other groups is that they

serve as the medium through which the super-
natural beings manifest themselves. The
diagnosis and cure of the basxi whether
he is man or woman, proceeds from trance
and ecstasy. Owing to their status . . .
both (the male and female Baxsi) operate
in private, secretly (172).

While the female baxsi is tolerated, the male baxsi is
the "most marginal, the least commonly used, and the most
derided" (171) of the various practitioners of divination,
exorcism, and healing. They practice their arts only three or
four times a year, so they have alternate jobs, e.g., gardener
or peasant. The male baxsi can use three types of therapy:
the first can be practiced by non-baxsi; the second involves
incantation and a formula presented to the patient; and the
third is the last resort, and its form is discretionary to
the shaman. The seance that Centlivres and Centlivres report
consisted of the baxsi uttering groans, inarticulate cries,
animal cries, and self-inflicted beatings.

An informant reported the baxsi was in a state of
"trunkenness," and that the baxsi can exercise some control
over the spirits that possess them. Shamanism is not hereditary
in this particular area, although it tends to be otherwise in
related areas. The neophyte shaman in this community must show
predisposition through dreams of melancholy. In reviewing
this case, one must remember that the bizarre behavior the
baxsi exhibited was the last resort therapy-wise, and the form
of the ritual was up to the design of the individual baxsi.
The other alternative treatments are mild and familiar to
the natives. Thus we may be dealing with a baxsi who exhibits
particularly pronounced deviant behavior. Whatever the case
is, no mention was made concerning his mental health status,
so it is likely that this individual functions normally in his
society. This baxsi probably lives a rather mundane life except
that people pay him to get "drunk" spiritually a few times a
year.

Joseph K. Long points out that if we don't acknowledge
the possibility of paranormal events, we have little other
choice than to classify shamanic trances and "hallucinations"
as psychopathological (1976:300-310). He believes in the
existence of some paranormal phenomena and suggest fieldworkers
stop ignoring this area.
The last author to be discussed is Silverman (1976). Silverman takes the most blatantly psychotic-like medicine men (the cream of the "inspirational shamans") and correlates the onset of their shamanism with the symptoms of the onset of reactive acute schizophrenia in our society.

The main difference between these shamans and our schizophrenics is the shaman is alleviated of much of his anxiety because he receives emotional support and collective solutions to his or her problems through the institution of shamanism. The chief fault with Silverman's article is a lack of adequate cross cultural examples.

Although the issue of the mental health of shamans most often leads to polarity in one's view, and hence an uncompromising attitude, there is room for compromise if we can show Silverman's correlations to hold cross-culturally, and if we can convince Devereux and his devotees that there may be some normal shamans. The notion of defining whole groups of people as psychopathic is due in part to a characteristic attitude of Western Society to label the unknown as psychopathological and then offering learned hypotheses for its treatment. Lastly, as Long as noted, we cannot disregard the importance of the paranormal just because we have not yet objectively discerned its origin and function.
REFERENCES CITED

Ackerninecht, Erwin H.

Centlivres, Micheline and Centlivres, Pierre

Conrad, Peter and Schneider, Joseph W.

Devereux, George

Gillin, John
1948 Magical Fright. Psychiatry 11:387-400

Houston, John P. et al.

Long, Josephy K.

Ohnuki-Tierney
Opler, Marvin K.  

Silverman, Julian  
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