

MESOAMERICA AS A CONCEPT: An Archaeological View from Central America*

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Since the term *Mesoamerica* was coined in 1943, it has been used widely as an inclusive analytical unit. Paul Kirchhoff's original definition was based on "geographic limits, ethnic composition, and cultural characteristics at the time of the Conquest" (Kirchhoff 1943, 94). He employed these criteria to delineate an area from northern Mexico south through Central America to the Gulf of Nicoya (1943, 98).

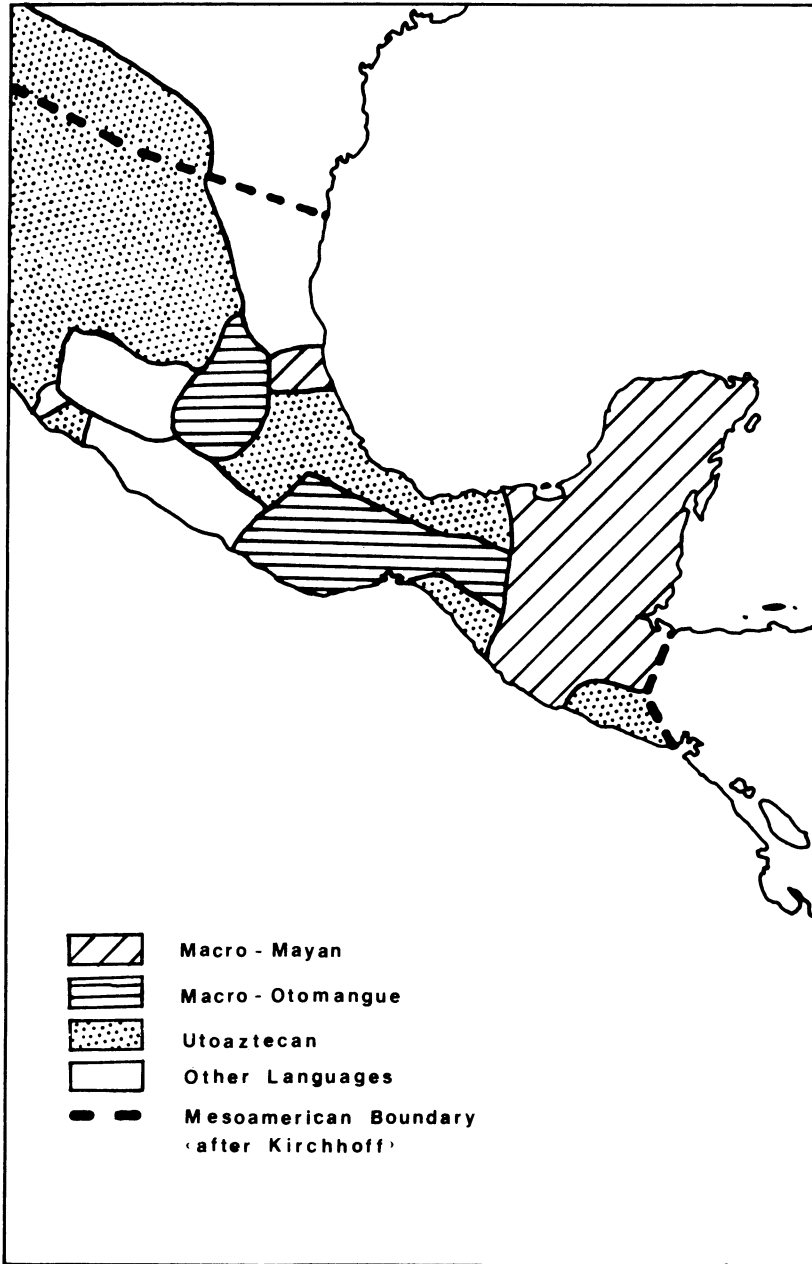
This definition has been reinterpreted and expanded over the years (as in Willey, Eckholm, and Millon 1964), yet an explicit restatement of the definition of Mesoamerica in terms of its present usage is lacking. Using data from recent archaeological research in Costa Rica and elsewhere in Central America, I will identify and evaluate the currently used definition of Mesoamerica. This reexamination will discuss the strengths and weaknesses of this frequently used concept as applied to Central America and will suggest alternatives that may replace Mesoamerica in the terminology describing prehistoric occupation in this area.

MESOAMERICA IN CONTEMPORARY PERSPECTIVE

According to the original definition of Mesoamerica as a culture area, it consists of a large geographic unit throughout which a few fundamental traits (such as agriculture and sedentism) diffused, along with some shared religious or philosophical concepts (Adams 1977, 12; Blanton et al. 1981, 246; Browman 1978, ix; Willey 1966, 460). The basic connection proposed by Kirchhoff to unite the groups comprising Mesoamerica was language, and the geographic boundaries of language groups (Macro-Mayan, Macro-Otomangue, and Aztecoid) became Mesoamerica's perimeter (1943, 94–95) (see figure 1). Within these

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FIGURE 1 Correspondence between Kirchoff's Mesoamerican Boundary and Boundary of Macro-Mayan, Macro-Otomangue, and Utoaztecan Speakers (from Johnson 1940)



linguistic boundaries, a number of shared traits were perceived as substantiating the existence of cultural homogeneity. A summary presented in table 1 shows that these traits relate primarily to subsistence, settlement, and religious or ceremonial activities, accompanied by traits relating to specialization, rank, dress, trade, and warfare.

In strictly archaeological terms, the use of Kirchhoff's list of traits characterizing Mesoamerica was limited by their frequently nonmaterial character. For example, autosacrifice and merchant-spies leave few characteristic artifacts, while screenfold books, sandals, and cotton cloth are perishable under most circumstances. In order to identify rubber, paper, or quail as ritual items, they would have to be found in an archaeological context unmistakably associated with ritual (such as burials, caches, and altars). Of the traits that can be expected to be recovered archaeologically, most are not unique to Mesoamerica as Kirchhoff defined the area. Metallurgy, for example, was practiced in Colombia, Panama, and Costa Rica before its techniques reached Guatemala or Mexico (Bray 1981, 153). Archaeological investigations and ethnohistoric accounts (Fernández de Oviedo 1976) have established that a number of plants (including corn, beans, cassava, pineapple, avocado, papaya, zapote, and spondia) were cultivated in Honduras and Nicaragua (Healy 1984, 34), Costa Rica (Blanco and Salgado 1980), and Panama (Smith 1980) during the time when they were supposedly present only in Mesoamerica.

These shortcomings in Kirchhoff's definition have been readily recognized, and gradual changes in the interpretation of Mesoamerica have been incorporated into archaeological literature and practice. Tremendous advances in New World research—including more intensive work, more clearly defined theoretical goals, and the investigation of hitherto unknown regions—have all led to changes in the concept of Mesoamerica as applied by archaeologists.

Following Kirchhoff, archaeologists writing in the *Handbook of South American Indians* called the non-Chibcha-speaking groups of Central America "the Meso-American Tribes" (Johnson 1948, 63; Steward 1948, 33). At about the same time, Kroeber defined Mesoamerica as a culture area delineated primarily by use of the permutating calendar (1948, 787–93). Subsequently, Willey, Eckholm, and Millon (1964) attempted to operationalize the definition further. They noted that Mesoamerica was a culture area based on a foundation of agriculture, sedentary village life, and possibly pottery making. Specific architectural features, domestic refuse, and types of craft work were described, based on data then available from archaeological fieldwork and on documentary sources and ethnography (1964, 446). In addition to applying their three basic criteria, these researchers proposed that settle-

TABLE 1 *Traits Traditionally Used to Define Mesoamerica*

<i>Category</i>	<i>Traits Present Archaeologically (Southernmost Occurrence)</i>	<i>Nonmaterial or Perishable Items or Traits</i>
Subsistence	Agricultural terraces Chinampas (Belize) Maguey Corn softened with ash Voiceless dogs (Nicaragua) Cooking plates for bread, or <i>comales</i> Ceramics (Usulután, Costa Rica) (Maya motifs, Costa Rica) ("Mixteca-Puebla" motifs, Costa Rica)	All cultigens except seeds Baskets Cotton items
Settlement	Stepped pyramids (El Salvador) Stucco floors Roads paved with stone (South America) Stone and clay construction (South America)	Hanging bridges Gourd rafts
Religious and Ceremonial Activities	Ball courts (El Salvador) Symbols for numerals (Nicaragua) Calendars (Nicaragua) Sacrifice of quail	Drums Books Writing Rubber balls Matrilineal clans Autosacrifice, flaying, burning Live heart removal Cannibalism Confession
Dress	Adornment of edge of ear	Turbans Sandals Cotton armor Rabbit-hair textiles
Specialization	Metallurgy (South America) Copper drilling tubes	Featherwork

ment pattern as well as a hierarchical form of social organization might prove characteristic of Mesoamerica (1964, 456–59).

Further, Willey and his team recognized that substantial regional variation occurred in cultural traits within Mesoamerica due to environmental and geographic variation as well as differing external contacts

TABLE 1 *Traits Traditionally Used to Define Mesoamerica*

<i>Category</i>	<i>Traits Present Archaeologically (Southernmost Occurrence)</i>	<i>Nonmaterial or Perishable Items or Traits</i>
Specialization	Ceramic production (South America) Lithic production	
Rank	Lip plugs Polished obsidian Pyrite mirrors	
Trade	Specialized markets (Nicaragua)	Warrior groups
Warfare	Clay bullets Lances Clubs with stone chips embedded	Poison weapons Trophy head cults Woven shields with two handles Wars to acquire captives

Source: After Kirchhoff 1943.

(1964, 462). They outlined sub-areas of Mesoamerica that have remained the major units of study of the area. This crosscutting of regional divisions has been achieved to some extent through examining particular social and economic structures, such as governing institutions, state formation, exchange systems, and ideological and symbolic systems.

The process of marketing and exchange has received particular attention from archaeologists. A range of structures were involved in dispersing goods throughout Mesoamerica, especially valuables used to mark status (Willey, Eckholm, and Millon 1964, 461–62). Markets have been examined as mechanisms for redistribution according to supply and demand (Spence 1982) and as structures used by specific classes to control access to goods. A hierarchy of trade mechanisms has been proposed (Renfrew 1977) from reciprocal exchange between two individuals to trade partners, itinerant merchants, periodic markets, permanent markets, and trade centers or ports of trade (Berdan 1978; Chapman 1957; Sabloff and Freidel 1975), where goods from a number of different regions were collected and exchanged among merchants (Sabloff and Rathje 1975, 8–9). More recently, markets and exchange have been used as possible indicators of membership in an inclusive Mesoamerican-type system in which exchanges of valuables among elites established political ties, while markets distributed basic commodities from producing to nonproducing sectors of society (Blanton et al. 1981, 234, 246).

Ideally, Mesoamerican sites can be identified by their characteristic agricultural economic base, which often evidences intensive cultivation carried out from permanent settled villages. Such villages are part of regional systems consisting of hierarchically organized sites, with resource procurement sites at the bottom of the pyramid and large urban centers with ceremonial precincts and periodic or permanent markets at the top. Social organization was similarly hierarchical, with clearly marked social strata. Again, agents of resource procurement and agriculturalists were the least powerful members of society, while artisans, merchants, military personnel, and a theocratic elite were the most powerful members (Adams 1977, 12). Religious and ceremonial symbols (the calendar and hieroglyphics) also characterize Mesoamerican regions, but the distribution of these features falls short of the boundaries of Mesoamerica as currently established.

Architectural features are shared throughout Mesoamerica, especially the stepped pyramid. Structures were often arranged in a quadrilateral pattern around a vacant "plaza" area. The builders constructed with stone, mortar, and plaster (Adams 1977, 12). Within structures, dedicatory caches are frequently found buried in a simple pit or placed in a specially constructed cist. Certain craft specialties may also be considered characteristic. Studies have focused on obsidian blade production (Healan, Kerley, and Bey 1983; Baudez and Becquelin 1973, 416), specific ceramic types (including Usulután, Thin and Fine Orange, and Plumbate), and fabrication of hematite mirrors (Grove 1974). Although substantial regional variation exists in architectural construction styles and materials, details of subsistence practices, and location of craft centers, the criteria listed above have been widely accepted (Adams 1977; Andrews 1977; Baudez 1967, 210–12; Baudez and Becquelin 1973, 415–16; Coe 1962; Healy 1984, 53, 55; Healy 1980, 335, 343–46; Sharer 1974, 174; Sharer 1984; Snarskis 1981, 25–40; Stone 1977, 3–6; Weaver 1981).

Willey, Eckholm, and Millon's presentation of an operationalized definition of Mesoamerica remained largely unaltered for a generation. Studies of settlement pattern, pottery types, craft specialization, trade, and a host of other topics ensued at sites throughout the Mesoamerican area (see appendix 1); this accumulation of data began to present new questions and resulted in changes in applying the concept of Mesoamerica. Scholars reacted to the increased amount of available data by adding to the list of characteristics of Mesoamerica and refining existing traits. For example, the criterion of caches was added to the definition of Mesoamerica in Honduras, based upon their prevalence in the Maya area (Baudez and Becquelin 1973, 415). The linguistic unity that had been assumed to have existed among Maya speakers was recast in more general terms as a preference for interaction among differing cultural

groups (Maya Lowlands, Guatemalan Highlands, and Oaxaca), because of their similar linguistic affiliation. Linguistic studies have pursued the extent of regional variation within the Maya language family. Research in the Maya area also resulted in defining more specifically the settlement pattern accepted as Mesoamerican (Ashmore 1981), and the possibility of a characteristic Mesoamerican pattern of social organization was again suggested (Ashmore and Willey 1981). Emphasis on ideology increased (for example, fatalistic cosmology, astronomy, and writing), as did attempts to explicate ideological features from the archaeological record (Rathje 1972).

As archaeology has evolved toward more refined, problem-oriented research and stronger theoretical statements have been used to guide fieldwork, the concept of Mesoamerica has been challenged. The fundamental assumption that Mesoamerica is a culture area rests on an earlier concept known as the age-area hypothesis. This hypothesis states that when diffusion is a vehicle for the spread of a trait, that trait will be most ancient at the point of origin and will decrease in antiquity as it is diffused further from the point of origin (Kroeber 1948, 561). Accordingly, Mesoamerican culture traits such as maize agriculture, settled village life, settlement pattern, and architecture should all have originated in one "nuclear" area, such as Central Mexico, and thereafter diffused outward, albeit at varying rates.

One would therefore expect maize agriculture to have originated somewhere in Mexico and to be found elsewhere at a later date. The situation appears to have been more complex than simple diffusion, however. It is believed that maize agriculture may have been underway in the highlands of Mexico by 7000 B.C. (Byers 1967), and in South America by 5000 B.C. (Mangelsdorf 1974), dates that would conform to a diffusion hypothesis. But evidence of maize agriculture that has been recovered at archaeological sites in Panama such as Monagrillo dates to around 3000 B.C., and it has been suggested that this trait arrived in Panama from the south (Cooke 1984; Dunn 1978). These data imply that factors other than diffusion must be considered in discussing the spread of maize agriculture.

Further, the origin of gold metallurgy in the New World also appears to run counter to a diffusion model in that it appeared earlier outside Central Mexico than inside this "nuclear" area. The earliest known gold artifact in the New World came from Peru, and it appears that metallurgical techniques diffused from south to north, reaching Mexico between 700 and 900 A.D. (Bray 1981, 153). Gold artifacts made in Costa Rica were apparently a valuable trade item and have been recovered at sites in northern Costa Rica and as far north as Chichén Itzá (Lange and Accola 1979; Lothrop 1952). Thus the spread of maize

agriculture and gold metallurgy both run counter to a strict diffusionist pattern.

ALTERNATIVES TO MESOAMERICA

Since the early 1970s, perspectives on Central America's role in New World cultural development have been changing. Alternatives proposed to a culture area encompassing Central America include the application of the models of frontier and boundary (Fox 1981; Healy 1984; Helms 1975; Lange 1976, 1979; Sharer 1974), interaction sphere (Freidel 1979; Smith and Heath-Smith 1980) and local evolutionary models (Creamer and Haas 1985; Drolet n.d.), acculturation (Ashmore, Schortman, and Urban 1982; Henderson et al. 1979; Leventhal, Demarest, and Willey 1982), core and periphery distinctions, and world system (Blanton et al. 1981). All have been utilized to examine the relationship between Central America, the Maya area, and Mexico in pre-Columbian times.

Frontier and Boundary

The frontier defined by Frederick Jackson Turner for the American West describes an established, cohesive society expanding into an undeveloped, relatively empty territory (Turner 1932). Archaeologists have applied this concept to delineate areas lying outside distinctive complex societies such as the Olmec (Lange 1976) and the Maya (Sharer 1978). Frontiers have also been used to describe change from related societies, like Mesoamerica as a whole, to those of another cultural pattern, such as Central America (Fox 1981).

In addition, the term *frontier* implies that the boundary of a culture area was a zone rather than a line. The shift from Mesoamerican cultural traits (such as quadrilateral arrangements of structures within settlements and pyramidal mounds) to Central American traits (such as dispersed settlement and circular structures) is one example of an archaeological frontier. In this case, shifts in ceramic types also take place across the frontier region.

Application of the concepts of frontier and boundary seems to have begun at the time when it was recognized that the zone south and east of a line drawn between Copán and Quelepa was not culturally homogeneous with the Maya area, and yet was not devoid of traits shared with it (Baudez and Becquelin 1973; Sharer 1974). The frontier model was used to explain the distribution of Mexican and Mayan material cultural traits throughout Central America, while keeping the area distinct from the Maya and other groups in terms of cultural development (Lange 1976, 179). At Los Naranjos, Honduras, Lange called Central America "non-Mayan Mesoamerica" (Lange 1976); but Fox cited

Guatemalan data to rule out a non-Mayan Mesoamerica by equating the eastern periphery of the Maya with the Mesoamerican boundary (1981).

Characteristics of a frontier include a combination of traits from the culture areas on either side without clear dominance of one area or the other. Phenomena of transition, frontiers usually shift through time, creating a pattern of change that may be repeated in contiguous areas at different times. Archaeologically, the mixture of traits from different culture areas is the clearest criterion that has been used to indicate a frontier. This characteristic includes the presence in the frontier zone of ceramics that come from the more developed culture area (Lange 1976, 223–24), and “strong indigenous traditions” (1976, 224), such as architecture, subsistence characteristics, and artifact forms. Mixture of traits can also be seen in blending of style and iconography, as in the decorations of Ulua polychrome ceramics along the Maya periphery in Honduras. Decoration of these ceramics with false glyphs and combinations of Mayan and non-Mayan motifs may indicate cultural mixture (Robinson 1978, 87–88, 92–93). In other locations, artisans of one area seem to have copied wholesale the pottery from another area (Day 1984, 54–56).

The original frontier model was used to explain a unidirectional change in inhabitants and material culture across North America resulting from European exploration and colonization. In contrast, prehistoric frontiers such as that of southern Mesoamerica appear to have undulated back and forth across an area rather than moving steadily in any one direction. A variant of the frontier model employs the concept of a buffer zone, or an area between two frontiers, to describe the Mesoamerican boundary. This approach depicts the frontier area as shifting and relatively impermanent (Lange 1979).

Central America has been suggested to be a zone of change or buffer between Mesoamerica and South America (Lange 1979, 224). In contrast to the concept of a frontier, a buffer zone implies that both areas were inhabited and distinctive, with a culturally mixed area between them. Change in the location of the buffer zone may then be examined as a response to changing forces such as politics or trade patterns in the adjacent culture areas.

In terms of Mesoamerica, the principal advantage of a frontier or buffer zone model is that it distinguishes Central America from Central Mexico and the Maya while maintaining that cultural interchange took place among these groups. One drawback to the frontier model is its assumption that a well-established group moved into a relatively empty area. In the Mesoamerican example, the frontier concept is used to stress negative evidence as to what is not Maya and not Mesoamerican. This approach focuses attention on the named group and diverts attention from the unnamed group, the inhabitants of Central America. An-

other problem with this model is that it has never been fully operationalized for use with archaeological data and tested along the Mesoamerican frontier at different points in time. No consensus exists as to what constitutes the area to be tested as a frontier or buffer zone. Fox placed the Mesoamerican frontier west of the Ulua and Lempa rivers in Honduras and El Salvador (Fox 1981, 321), and I suspect many Mayanists agree with Fox implicitly. In contrast, the Central American buffer zone as applied by Lange would extend from the Mayan periphery to Costa Rica (Lange 1979).

From the Central American perspective, the frontier model could be used to examine the autochthonous development that has been overshadowed by studies of more highly organized groups to the north. Until recently, information on long-distance trade was the data most frequently used to gauge these intercultural relationships. Impressive artifact forms and unusual materials are as difficult to quantify as they are easy to recognize and lead to an exaggerated view of external contacts. A more broadly based analysis of Central American society may hold greater promise. Comparing data such as settlement patterns, number and distribution of trade items and their contexts, subsistence base, materials and forms of artifacts and decorative motifs among three zones (the proposed frontier area itself and the adjacent regions of distinct cultural affiliations) might enable researchers to detect the kind of gradual change that characterizes a frontier zone.

Recent research in Costa Rica illustrates one application of this approach when contrasted with analyses based on linguistic and historic data. In Costa Rica, the presence of polychrome ceramics has been used to delineate the Mesoamerican boundary. Based on collections containing distinctive polychrome ceramics from sites dating from A.D. 800 to 1200, the Mesoamerican boundary was extended to the southern tip of the Nicoya Peninsula (Lange 1976, 180; Norweb 1964; Willey 1966, 460). Archaeologists assumed that the polychrome tradition continued until the conquest period in the Nicoya Peninsula, as was the case further north. The Nicoya Peninsula is also tied historically to Nicaragua to the north. During the early sixteenth century, inhabitants of the peninsula spoke languages related to those spoken by Nicaraguan groups and others further north. As part of Mesoamerica, the peninsula conformed to the limits of Macro-Maya and Macro-Otomangue speakers. Politically, Nicoya was a part of Nicaragua until the late nineteenth century. Geologically, the Nicoya Peninsula is also part of the same formation as northwestern Costa Rica and southwestern Nicaragua. Consequently, during the period when the Nicoya area was largely unexplored archaeologically, logical assessment of prehistoric relationships resulted in the unification of prehistoric Greater Nicoya.

Applying the frontier model to the Nicoya Peninsula, however, a

more fluid Mesoamerican boundary emerges. Polychrome ceramics were widely distributed on the peninsula until about A.D. 1200 (Creamer n.d.; Lange et al. 1974). Presumably, these ceramics were made on the peninsula or nearby (compare Abel 1978). Distribution of polychromes fell off sharply to the east and south during the same period, although Nicoya polychromes appear to have been traded for use as burial furniture (Lange n.d.). Only a few fragments of polychrome ceramics made after A.D. 1200 have been found at sites on the peninsula and adjacent islands, and none appear to have been locally made (Creamer 1983a, n.d.). Centers of production of polychromes after A.D. 1200 apparently shifted to northwestern Costa Rica and southwestern Nicaragua. No evidence has been found of exchange of polychromes to the south and east after A.D. 1200, as had occurred previously. This change indicates that at least one shift occurred in the boundary between polychrome makers and groups not making polychromes at about A.D. 1200. Further, ceramic trade seems to have declined correspondingly, and at the same time, the practice of placing Nicoya polychrome ceramics in burials ended in the Central Highlands and Atlantic watershed of Costa Rica. This trend appears to indicate a contraction, rather than an expansion, of cultural attributes called Mesoamerican.

While one would expect any boundary between groups to be defined by a polythetic set of traits varying somewhat through time and space, in this particular instance, the Mesoamerican boundary may be an artifact of history rather than culture. The inclusion of the Nicoya region in Mesoamerica was based upon geographic and linguistic unity with regions to the north proposed by proponents of the Mesoamerica model (Stone 1946; Johnson 1948), consistent with Kirchhoff's analysis. A positive consequence of recent research is that the somewhat misleading assumption that the Nicoya Peninsula was an important area for producing and distributing ceramics until the conquest is now being reexamined. Future examination of the frontier at other periods of time, especially during the period from 300 B.C. to A.D. 300 (prior to the epoch of polychrome production in Costa Rica), may provide further evidence of shifting frontiers in that region.

Mesoamerica as an Interaction Sphere

Another alternative to defining Mesoamerica as a culture area is to view the region as an interaction sphere, a one-dimensional association of otherwise separate groups. An interaction sphere comprises the area throughout which some specific activity takes place, such as trade or shared ideology. The concept of an interaction sphere was first proposed by Caldwell (1964) and was aimed at explaining the distribution

of the Hopewell phenomenon, a complex of nonfunctional artifacts made of exotic materials and exchanged throughout a large geographic area in which they were the only common symbols. Apart from Hopewellian artifacts, the member groups of the interaction sphere differed in both regional environmental conditions and material culture.

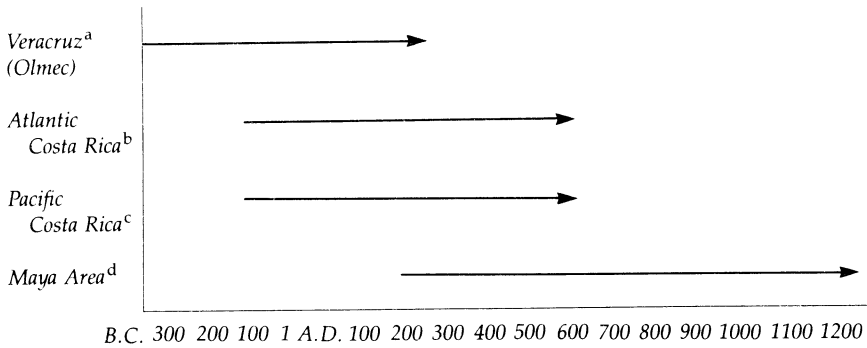
Recently, the interaction sphere has been discussed as an alternative model to a diffusion-based culture area encompassing what is presently called Mesoamerica (Abel-Vidor 1981; Freidel 1979; Smith and Heath-Smith 1980). This model suggests that intergroup contacts such as trade, warfare, and shared symbols of wealth and status illustrate contact among groups that may have differed in all other respects. Such a view helps to explain the simultaneous appearance of new traits across a large area (Freidel 1979, 51) and accommodates the first appearance of new technologies such as agriculture, metallurgy, and ceramics in peripheral locations (compare Bray 1981; Lothrop 1937; Smith and Heath-Smith 1980).

The interaction sphere model is valuable in explaining the broad distribution of unique and exotic goods or items requiring special technology (like metallurgy), which circulated throughout Mesoamerica, Central America, and northern South America in pre-Columbian times. For example, after 300 B.C., jade artifacts bearing Olmec motifs are found in archaeological sites from Mexico to Costa Rica. The principal sources of New World jade, however, were along the Motagua River in Guatemala. After A.D. 300, jade exchange gradually declined outside the Maya area. Within that zone, jade was worked and objects were placed in burials and caches until at least the Early Postclassic (A.D. 900–1200) (Proskouriakoff 1974, x).

It has been suggested that jade was traded throughout Mexico and Central America first by the Olmec and later by the Maya, but the motive for such interchange has never been well explained in light of the jade sources being located outside the consuming centers of the finished artifacts. Also, decorative motifs on jade have changed through space and time, and some pieces have been reworked. Further, researchers do not know what products were traded for jade, although luxury items of differing materials, status, and religion have all been suggested. Applying the interaction sphere model to the available information about jade artifact distribution, one can suggest that separate, overlapping interaction spheres make up the temporal and spatial patterning in jade distribution that has been recorded (see figure 2).

One interaction sphere functioned around 300 B.C., when a few Olmec-style jade artifacts reached Costa Rica from Veracruz and Costa Rican-style greenstone artifacts were exported at least as far as Cerro de las Mesas in Veracruz (Drucker 1955, plates 36–37). These artifacts have

FIGURE 2 Trends in Prehistoric Jade Distribution



^aDrucker 1955 ^bSnarskis 1978 ^cEasby 1981 ^dProskouriakoff 1974

been found in differing contexts—in tombs in Costa Rica and in caches at Cerro de las Mesas—and the Olmec-style jade objects in Costa Rica have sometimes been reworked (Creamer 1984; Pohorilenko 1981). This pattern suggests that a weak panregional tie such as trade in luxury items linked the two regions. An economic basis for interaction may explain the differing motifs and contexts. In this case, it appears that jade had value as a commodity as early as 300 B.C., yet the extremely small quantity of exchange suggests that valuables were a minor trade item and were likely to have accompanied other goods (Freidel 1979).

The least well-known link between regions that may have been forged by jade exchange is between the Atlantic and Pacific coasts of Costa Rica from about A.D. 1 to A.D. 500–600. Jade and greenstone artifacts were exchanged across the country. The few excavated contexts suggest that these items were placed in high-status burials (Snarskis 1978, 164, 237). The quantity is suggested by the large numbers of beads, axes, and other items dispersed in museums and from looted sites. The iconography of artifacts in both areas is similar, primarily birds and “axe-gods.” This pattern, and the fact that a nonsubsistence item not having a known source in either region of Costa Rica was exchanged, suggests that a rank- or ideology-based regional interaction sphere connected elite members of communities on both sides of the isthmus.

The distribution of jade among Maya sites between A.D. 300 and 1200 suggests a third interaction sphere, one based on common ritual observance. Most Maya jade pieces were placed in burials, and the ritual contexts of jade artifacts (when noted) were the elite sector of the sites. The temporal difference in circulation of jade in the Maya area, later than in Central America, and the consistent contexts suggest a shared regional system of symbols.

By dividing the distribution of jade into interaction spheres, archaeologists can isolate temporal and spatial contacts both within and between regions. This kind of analysis also brings out research questions that may lead to further insights. For example, figure 2 indicates that most jade trade fell off between A.D. 300 and 600, yet it continued within the Maya area until A.D. 1200. Does this contrast indicate that the Maya controlled sources of jade and limited distribution to the Maya area only? Also, in the areas where jade trade died out, was it replaced by other items such as polychrome ceramics made to be placed in burials or was it replaced by gold objects in those contexts?

The interaction sphere model is also useful in examining relationships between groups “inside” and “outside” Mesoamerica. Generally, artifact distributions that have extended between societies with differing levels of social complexity have been interpreted as trade of luxury items used as status markers by the less complex group. Smith and Heath-Smith (1980) have examined one such example, the distribution of ceramics bearing “Mixteca-Puebla” motifs, which are found from the Mixteca in Mexico to Costa Rica. They conclude that overlapping systems of ceramic production and distribution masked differing regional and extraregional interaction spheres, including evidence of a panregional “religion” during the Postclassic period (A.D. 900–1500). The Mixteca-Puebla ceramics of the interaction sphere within the Mixteca alone were not part of the same system, came from different periods, and circulated in a regional interaction sphere based on economic, rather than ideological, exchange.

The distribution of gold artifacts has not been analyzed from the interaction sphere perspective per se. But the earliest production of gold artifacts occurred in widely separated locations in western Mexico and southern Costa Rica. Contacts between those areas have been postulated to explain the nearly contemporaneous beginnings of gold working in these areas, although such ties can be disputed. Helms’s (1979) study of Panamanian chiefdoms during the late prehistoric and early contact period suggests that an interaction sphere encompassing Panama and northern Colombia employed gold artifacts to mark acquisition of the sacred lore tied to advancement in rank. Her study suggests that gold artifacts were signifiers in a system of symbolic knowledge. Important to the archaeologist is the fact that only gold artifacts would remain to mark such a spiritual interaction sphere after its demise.

A similar model might be applied to the distribution and contexts of gold artifacts in the Maya area, where they were employed as status and wealth markers until the contact period. Best known from the Sacred Cenote at Chichén Itzá, gold artifacts were not produced nor was ore mined in this area. It might be possible to elucidate some of the

systems of gold production as separate regional interaction spheres and trace their connections to the Maya area. The economic and symbolic roles of gold in each of the producing areas and in the major consuming centers might reveal some synergy between early producers and consumers that encouraged the production of gold in separated localities at the same early date.

The interaction sphere model is particularly useful in that it is not specific to a single geographic region, a drawback of models that seek to identify cultural features of a region and describe all external interaction simply as "trade." The principal drawback of using an interaction sphere model to describe Central America in relation to Mesoamerica is that although it may relate a single complex over long distances, it does not explain the interrelation among all parts of a cultural system. As a result, interaction spheres do not define geographic areas such as Mesoamerica. Instead, this model shows that interregional interaction consists of overlapping networks of contacts in a number of different contexts. These networks, or interaction spheres, do not necessarily share either temporal or spatial parameters. Efforts to outline specific regional boundaries are then confined to a particular configuration of artifacts at a particular point in time. To date, the problem with conceptualizing intergroup relationships solely according to the interaction sphere model is the lack of unifying structures among such spheres. Ideally, this model should be expanded to show the temporal and spatial interrelationships of economic, social, political, and ideological interaction spheres in order to create a fuller picture of prehistoric society.

Acculturation

Debate over the nature and extent of the Maya periphery is a subset of the controversy over Mesoamerica. Traditionally viewed as encompassing northwestern Honduras, southeastern Guatemala, and parts of El Salvador, the Maya periphery has received more intensive study than other parts of Central America (Ashmore, Schortman, and Urban 1982; Henderson et al. 1979; Leventhal, Demarest, and Willey 1982; Sharer 1974, 1978, 212; Thompson 1970, 84–102). It is not surprising, then, that scholars working in this area have recognized the need for an approach that considers temporal changes in cultural development as well as fluctuating geographic boundaries and external contacts.

One research team has proposed that the Maya were the dominant group during most periods and that acculturation processes may provide a model of relationships among different groups inhabiting the southeastern Maya periphery (Ashmore, Schortman, and Urban 1982).

Acculturation is the process by which contacts between two groups produce changes in one of them, with a resulting increase in similarity between both (Kroeber 1948, 425). General factors involved in acculturation have been presented, including differences in wealth, prestige, specialization and specialized activities, and interaction such as trade. This model has been operationalized archaeologically as a list of traits organized in groups by function, including technology, society, ideology, and location. Unlike Kirchhoff's trait list for defining Mesoamerica, however, intersite comparison showing that varying combinations of traits occurred at sites in relatively similar surroundings does not lead to a single homogeneous regional "type" (Ashmore, Schortman, and Urban 1982, 7). Rather, the recorded variation is seen as a reasonable representation of culture contact (1982, 9). A number of possible combinations may result. Consider, for example, the Naco Valley of Honduras:

As a working hypothesis, Late Classic La Sierra and Late Postclassic Naco [communities in the Maya periphery] are best regarded as basically Maya communities with strong ties to non-Maya Central America. . . . It would be naive to expect the distribution of typical Petén-type civic-ceremonial centers to reflect the Classic period limits of people of Maya cultural identity. In a sense, these centers are typical of Classic Maya culture, but it is misleading to suppose that they represent it fully. They reflect a constellation of functions dependent on particular local political, social, economic, and religious systems. (Henderson et al. 1979, 190–91)

The advantage to the acculturation perspective is that it integrates different types of interaction across space. Such a goal lends itself to describing a boundary in dynamic terms, apparently a feature of both the Mayan frontier and geographically larger New World frontiers. Further, the model takes advantage of a wide range of data, an improvement over the interaction sphere model.

In another example, the acculturation model is being applied in the Sula Valley, east of Naco. The Sula Valley is believed to have been largely non-Maya by the sixteenth century. But Mayan groups may have played a role in stimulating trade (Joyce 1985, 458–59). Maya-style artifacts and artifacts of Maya origin (such as obsidian blades, jade, and Usulután and Plumbate ceramics) have also been found throughout the area (Sharer 1984, 70–80).

To assess the impact of the Maya—a question of degree rather than of strict presence or absence—it is necessary to compare various kinds of activities (like subsistence, settlement, and trade) with Maya patterns. One such study has been carried out comparing Late Classic (A.D. 600–900) settlement patterns in a portion of the Sula Valley with the pattern of Maya area settlement (Robinson 1983). Settlement was compared in terms of the dimensions, total area, and height of plat-

forms, the main architectural features found during archaeological survey. Robinson concluded that "the Late Classic settlement system of the east side alluvial fans is characterized by regularly spaced prehistoric villages at perhaps environmentally and socially optimal locations. These centers are nucleated sites with the organization of the core of the settlement related to lowland Classic Maya community organization, but in actuality these sites are a regional, unique settlement form unlike any known from the Maya area" (n.d., 21). More studies of this kind are needed. Combined with analyses of settlement in other sectors of the valley or including other systems, such studies would begin to show the extent of acculturation along this frontier, a valuable insight compared to the linear boundaries that comprised the first step in this line of research.

Lamentably, much of the theoretical presentation associated with the acculturation model has appeared in concluding sections of excavation reports (Henderson et al. 1979, 190–91; Sharer 1978). Although this model presents a number of positive features, to date its theoretical and operational basis has not been thoroughly presented; the relationship between the general theoretical model and archaeological data also needs further elaboration. Greatest emphasis has been placed upon evidence of differential ranking that can be recovered at Maya sites (Henderson et al. 1979; Sharer 1978), while data that might be more readily recovered at non-Maya sites such as subsistence base and economic interaction have yet to be discussed (compare Creamer 1983b; Cooke 1979, 1981; Norr 1979; Gutiérrez 1983; Ranere and Hansell 1978; Smith 1980). For parts of Central America that have had contact with more highly developed groups such as the Maya, a refined acculturation model will prove to be a valuable research tool.

World System

The "world-system" model, as outlined by Immanuel Wallerstein (1976) on the basis of European data, proposes that economic relationships are the fundamental unifying ties among groups. This connection develops through the exchange of basic commodities (foodstuffs) among environmentally different areas. Over time, one area (the core) tends to produce finished goods, while the area providing labor and basic commodities becomes the periphery, establishing a pattern of exploiter and exploited (Chase-Dunn and Rubinson 1977, 454). According to this view, the division of the kinds of goods produced alters the existing division of labor, concentrating artisans and specialists in the core area and laborers in the periphery. The core thereby becomes the zone of greatest social hierarchy, while the periphery is the region where land and labor, the resources needed for the production of com-

modities essential for daily use, are most available. Core and periphery together comprise a world system. Geographic location and cultural traits may vary widely among inhabitants of the system, which is limited spatially only by the extent to which the economic system is shared (Chase-Dunn and Rubinson 1977, 453).

As applied to archaeology in the New World, the world-system model is limited by the extent to which the production of commodities for daily use can be demonstrated archaeologically. These goods would include maize, stone tools, cotton, other foodstuffs, and possibly building materials. Regions involved exclusively in the exchange of precious items are considered the external arena of a world system (Wallerstein 1976, 200). By definition, the areas that have been called Mesoamerican on the basis of exchange of valuables would be excluded. Usulután ceramics recovered from sites in Costa Rica exemplify the exchange of valuables from north to south, while imported Costa Rican-style jade at Cerro de las Mesas illustrates exchange from south to north. But no corresponding evidence exists of exchange of basic commodities at that time (300 B.C.–A.D.300) (Drucker 1955, plates 36–37; Stone 1977, 33). From about A.D. 500 onward, gold artifacts were exchanged from Colombia, Panama, and Costa Rica northward. These items have been recovered as far north as Chichén Itzá, Mexico (Lothrop 1952), and Utatlan and Zaculeu, Guatemala (Bray 1977). By the sixteenth century, the coastal portion of Honduras crossed by the gold trade was called “the land of gold, feathers, and cacao” (Roys 1972, 55).

Polychrome ceramics were also widely exchanged prehistorically, from Costa Rica to Chalchuapa and other sites in El Salvador (Sharer 1978, 72–73), from Honduras to Mexico (Diehl, Lomas, and Wynn 1974), and from Central Mexico and the Maya area to Costa Rica (Stone 1977, 61). Again, no concrete evidence has been found of economic interchange, although trade in foodstuffs almost surely paralleled that of valuables. Analysis of faunal remains can show when an animal—or bones, teeth, and feathers of an animal—has been traded into a region where it is unlikely to have lived (for example, birds of the humid tropics in dry areas, forest-dwelling animals like the tapir in areas that were cleared for cultivation). But the quantities traded are at issue rather than the existence of trade. It appears that economic interdependence was rarely achieved on even a moderate scale and seldom on a regional level outside the Aztec and Inca empires.

The world-system model has been modified to include trade in valuables in one application to prehistoric Oaxaca. This trade is described as a system of elite prestige maintained by ideological as well as economic processes, including prestige markers acquired through long-distance exchange (Blanton et al. 1981, 246–48). If this variant of the world-system model is applied to the New World as a whole, it may be

possible to include Central America with the Maya area based upon exchange of valuables. But economic interaction does not appear to have been intense enough to sustain a market-based economic system extending through Mexico and Central America. Although to date a world-system model that includes Central America has not been formulated, this model deserves attention because it attempts to employ economic criteria that have been overlooked in the other models mentioned.

DISCUSSION

This article has discussed models of interregional interaction that may be applied to what is called Mesoamerica and also to Central America. Each model varies in theoretical soundness, variables considered, success of research to date, promise for further testing, and in the ability to help researchers understand patterns of prehistoric behavior in these two areas.

The authors of all the models share an interest in interpreting prehistoric interaction among unlike groups (frontier or buffer zone versus nuclear area, core versus periphery, acculturation versus ethnic identity, world system versus external arena). Interaction is expressed in the archaeological record by artifact distributions, architectural features, burial contents, and subsistence components—criteria similar to those employed in the earlier definitions of Mesoamerica. While archaeologists cannot claim that a qualitative change has occurred in most of the kinds of data available to them, it is evident that improvements have been achieved in methodology and in the complexity of models used. The result has been a trend away from models of cultural unity—such as the concept of Mesoamerica—and interest has increased in the interrelationship between groups or specific events in time (Blanton et al. 1981; Lange 1976, 1979; Sharer 1978, 3:210; Henderson et al. 1979, 190–91).

It is not necessary to discard the term *Mesoamerica*, however. The concept of Mesoamerica will be most useful if it is combined with a model tailored to the research questions being addressed. Models that are primarily unidimensional, such as the interaction sphere, should ideally include some consideration of their position in the larger temporal and spatial framework of prehistory. For example, examining prehistoric exchange systems or specific technological systems (such as mining, stone tool making, pottery making, and metallurgy) would involve a spatial model in order to encompass source areas, the full range of exchange, and exchange processes. An interaction sphere might be an appropriate model to use in this case. Locational and geographic models (such as those used in Haggett 1965 and Hodder and Orton 1976)

provide options that could be incorporated into the interaction sphere model as well. In this situation, Mesoamerica would be the maximum area involved in the exchange processes under study, and only one point in time would be considered.

Ideology can also be examined with an interaction sphere model. Here Mesoamerica could be viewed as an ideological system including certain specific material, iconography, and social structural traits. A consistent set of symbols would indicate the maximum spread of the shared ideology, a boundary of Mesoamerica.

As part of culture contact models and in evolutionary models (Creamer and Haas 1985), Mesoamerica can be envisioned as the dominant group in a setting of polities of unequal power. Developmental models can address the question of how such inequalities arise. Evolutionary models such as the world-system approach can be employed to view economic systems as gradually changing, growing, and intensifying. Mesoamerica in this context would be an economic system with boundaries changing according to the degree of economic integration at different points in time. Other evolutionary models include cultural evolution (Fried 1967, 1975; Haas 1982; Sahlins 1968; Service 1975) and materialist models focusing on changes in mode of production, in addition to the world-system model based on capitalism (Pailes and Whitecotton 1979). Innovation may also be dealt with as a disruptive process, as "revolution" occurs along with technological advances within economic systems (Childe 1951). Unlike many other models, these approaches stress temporal continuity and usually attempt to explain culture change over time. Their strength lies in this long-term perspective, and consequently the spatial extent of such systems is often left vague or undefined. Not surprisingly, these models stir controversy over boundaries at different points in time.

The concept of Mesoamerica can be employed to indicate a portion of the New World in which the inhabitants interacted in a number of ways over an extended period of time. It can continue to be a valuable term for writers and researchers as long as the various "Mesoamericas" reflect particular research objectives. Needed now are close examinations of particular examples of Central American prehistory that are tested against specific hypotheses derived from the models discussed. While this approach is being used to some extent, such testing could profitably be pursued throughout Central America. By collecting new data and constructing models, researchers should come steadily closer to being able to account for change in interregional relationships through both time and space.

APPENDIX 1

EXAMPLES OF RECENT ARCHAEOLOGICAL RESEARCH IN MEXICO AND CENTRAL AMERICA

<i>Location</i>	<i>Published Reports</i>	<i>Focus</i>
Copán, Honduras	Willey and Leventhal 1979	Settlement
Sula Valley, Honduras	Henderson et al. 1979	Settlement
Valley of Mexico	Wolf 1976	Settlement
Quirigua, Guatemala	Ashmore and Sharer 1978	Settlement
Tikal, Guatemala	Haviland 1970	Settlement
Chalchuapa, El Salvador	Sharer 1978	Settlement
Guayabo, Costa Rica	Fonseca 1981; Hurtado n.d.	Settlement
Bay of Culebra, Costa Rica	Lange and Abel-Vidor 1980	Settlement
Boruca, Costa Rica	Drolet n.d.	Settlement
El Salvador	Demarest and Sharer 1982	Ceramics
Cozumel, Mexico	Freidel and Sabloff 1984	Trade, Settlement
Gulf of Nicoya, Costa Rica	Creamer 1983a	Trade
Tempisque Valley, Costa Rica	Baudez 1967	Ceramics
Gulf of Fonseca, Honduras	Baudez 1976	Ceramics
Los Naranjos, Honduras	Baudez and Becquelin 1973	Ceramics
Quelepa, El Salvador	Andrews 1976	Ceramics
Zapotitán Valley, El Salvador	Sheets 1979, 1982	Volcanism
Cihuatán, El Salvador	Bruhns 1980	Culture History
Cerros, Belize	Freidel 1979	Cultural Evolution

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