

**Polychrome ceramics from the northern Gran Nicoya area, Nicaragua**  
**A historical approach to the change of interpretation**  
**between 1840 and 2010**

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**Presented to the Faculty of Archaeology, Leiden University**

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**Leiden, December 15, 2011**

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## 1. Introduction

In this Bachelor thesis my goal is to discuss how the line of thought on polychrome pottery from the northern Gran Nicoya area, Nicaragua (Figure 1) has changed between 1840 and 2011. One of the reasons for wanting to do this is that since larger archaeological excavations are being organised it is quite useful to have concise reviews of what has been written already.

I will start of with a chapter that puts my work into a theoretical perspective. In order to justify what I have done, I will discuss different theories about using a historical approach to archaeology. Apart from a general history of archaeology, the subjectivity that is inevitable in a historical

approach to archaeology will be discussed, but also how this can be eliminated to get a higher level of objectivity. Through the application of a historical approach in this thesis it is tried to achieve a certain level of objectivity. According to Trigger a higher lever of objectivity can be attained since a historical approach offers us a vantage point from which we can easily recognise the subjectivities in a research so they can then be eliminated. Also the relationship between high-level and middle-level theories can be seen more clearly in this way.

After that, I have divided my thesis in different chapters according to distinct modes of thought or approaches. The division follows Willey and Sabloff make in *A History of American Archaeology* (1980). In The Classificatory-Descriptive Period (1840-1914) I will not only discuss what Willey and Sabloff have to say, but I will also incorporate some of the interpretations from Lothrop's *Pottery of Costa Rica and Nicaragua*. This book is not from this time period, however, it is a classic example of a classificatory and descriptive work. It is written in a transitional stage between the Classificatory-Descriptive and the Classificatory-Historical periods and contains characteristics of both periods. The Classificatory-Historical Period will be divided into two subchapters: The Concern with Chronology (1914-1940) and The Classificatory-Historical Period: The Concern with Context and Function (1940-1960). The fourth chapter is The Explanatory Period (1960s and 1970s). To this division I will add another chapter, called Current Interpretations (1980-2011).

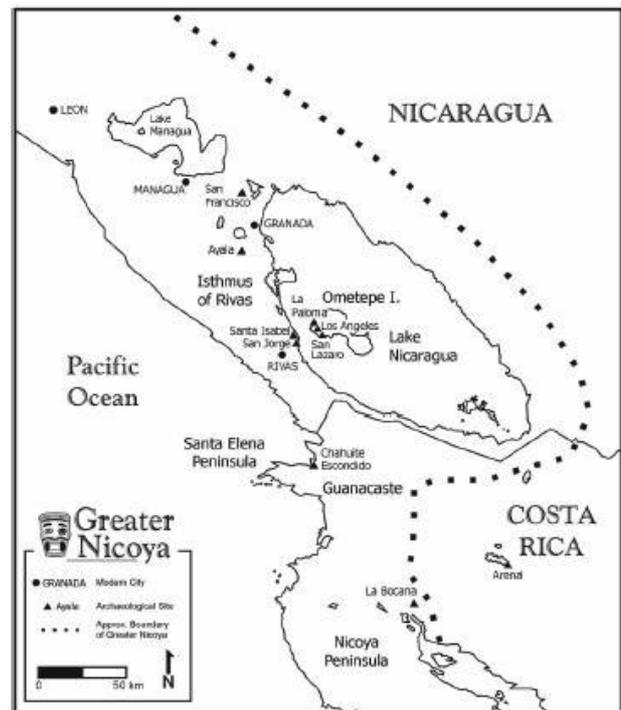


Figure 1: Lower Gran Nicoya (McCafferty and Steinbrenner 2005, 132)

Apart from this practical division into different time periods, there is one more chapter. The influence of Mesoamerica on polychromes from Nicaragua is a chapter that discusses in further detail the influence Mesoamerica had on polychromes from the Nicaraguan or northern part of the Gran Nicoya area. Comparisons with different cultural areas to the North are often made and these will be discussed in some detail. The opinions of different authors are listed here and the conclusion that northern Gran Nicoya belongs to the periphery of Mesoamerica is drawn.

### 1.1. Geographical reference

The term ‘Gran Nicoya’ as a geographical and cultural reference area was first proposed by Albert Holden Norweb in 1961 and it refers to the most southern part of Nicaragua and the northern part of Costa Rica (Van Broekhoven 2002, 19). According to Norweb the Gran Nicoya area does not have clear borders and restrictions, but is more of an outskirts of the Mesoamerican area of influence (Norweb 1961 in Van Broekhoven 2002, 19). Lange divides the Gran Nicoya area in a southern and northern sector. Langes geographical definition of Gran Nicoya can be seen in

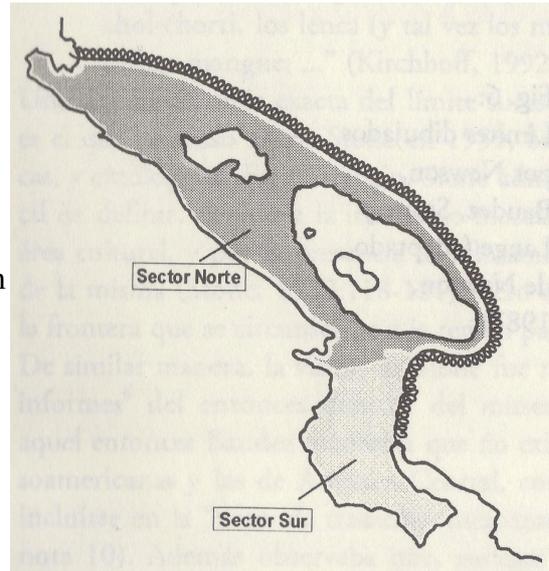


Figure 2: Gran Nicoya divided into northern and southern sectors, adapted from Lange (1984) (Van Broekhoven 2002, 21)

[Figure 2], with the emphasis on the lower and dry areas of the Pacific of Costa Rica and Nicaragua including the eastern and north-western borders of the following water masses: the Gulf of Nicoya

in Costa Rica, and the lakes of Managua and Nicaragua in Nicaragua. Also it includes the interior of the mentioned gulf and lakes. In the southern sector, the interface of water and land with significant evidence of human occupation the most predominant is that of salted waters and, in the northern sector, the sweet waters (Lange 1984, 167).

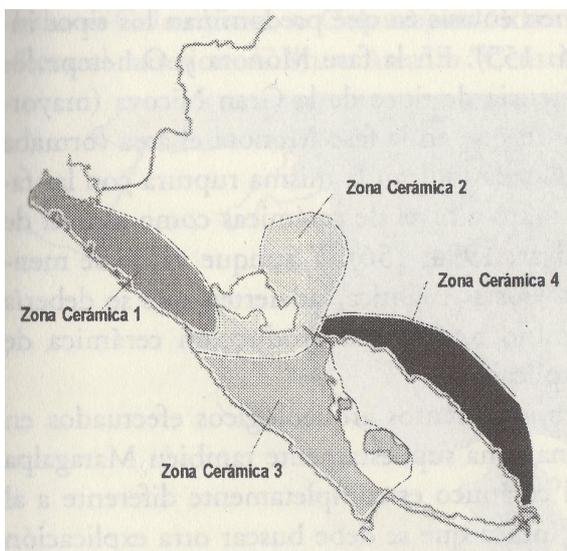


Figure 3: Ceramic zones, adapted from Lange 1984 (Van Broekhoven 2002, 21)

According to Lange we can further divide these sectors into zones. We can distinguish four ceramic zones (Figure 3) (Lange 1992, 53) . Zone 2 has two

main characteristics: the high percentage of the type of ceramic that preceded the Gran Nicoya, and the high percentage of polychromes in comparison to Zone 1 (Lange 1992, 60). Also you find local variations that you will not find to the North or South of that region . This division of the northern and southern part lies roughly on the border between Nicaragua and Costa Rica.

According to Healy (1980) different peoples lived in the Gran Nicoya area, among which the Chorotega Mangué and the Nicarao. The Nicarao occupied two main areas; the Rivas Isthmus and the Island of Ometepe in Lake Nicaragua. The Chorotegans were the inhabitants of all of Pacific Nicaragua and at one time of all Nicaragua and northwest Costa Rica as well. When the Nicarao arrived, the older occupants of the Rivas area fled to the more southern Nicoya. The Nicarao were heavily influenced by Mesoamerica in rituals, language, art, calendar and customs. However, they did also pose a number of traits that can be subscribed to the southern American cultural heritage while some important Mexican traits are missing. This is also supported by the archaeology of Rivas. Healy tells us that at the time of the conquest, the Chorotega occupied a territory that roughly coincides with what we today call the Gran Nicoya subarea, with exception of Rivas which was taken by the Nicarao shortly before the arrival of the Spanish (Healy 1980, 336). The name “Chorotega” (McCafferty and Steinbrenner 2005, 284) is a corruption of the term “Cholulteca” which is the name for a person from Cholula. It is also the name of a river that flows into southwestern Honduras, which is another region that was inhabited by the Chorotega. The names of the Pre-Hispanic peoples that occupied the Gran Nicoya area holds valuable information.

Although some doubt the interpretative and explicative value of the concept of a coherent Gran Nicoya area because, according to Braswell et al., the elites of the Nicaraguan and Costa Rican part did not participate in the same network of interaction (Braswell et al. 2002, 34). However, Lothrop (1926), Norweb (1964) and Baudez (1967: 192), among others, have all stated that there are a significant similarities between southwestern Nicaragua and northwestern Costa Rica and therefore these two areas can be included under the same heading of the Gran Nicoya Archaeological Subarea (Healy 1980, 311). In this thesis the concept of Gran Nicoya as an archaeological subarea will be maintained.

## **2. Theoretical framework**

Interpretations of archaeological data differ through time, just like the theories about looking at that data set constantly change. In this chapter we will look at the theories on a historical approach to archaeology – which is the methodology that has been applied throughout this thesis. For this theoretical framework, I consulted Bruce G. Trigger's work *A History of Archaeological Thought*.

Trigger recognises the fact that a historical approach to archaeology is subjective (Trigger 1989, 4). However, Trigger believes that a special vantage point is offered through this historical approach. From this vantage point the dynamic relations between archaeological interpretation and its social and cultural environment can be examined. The perspective of time offers a different insight in the ties between archaeology and society, which cannot be offered by other disciplines such as sociology or philosophy. With a historical approach a researcher can easily identify the subjective factors by looking at the circumstances of and changes in interpretations of the archaeological record. It is not possible to fully eliminate the bias of the observer, or the biased influence on the observers interpretations, but through this method the changes of gaining more objective and wholesome insights into the past are increased. A historical perspective yields a perspective from which subjectivity, objectivity and the gradual assemblage of knowledge can be looked at (Trigger 1989, 1).

### **2.1. Approaches to the history of archaeology**

Willey and Sabloff's division of *A History of American Archaeology* (1980) into four successive periods (Speculative, Classificatory-Descriptive, Classificatory-Historical and Explanatory) implies that in archaeology descriptive and classificatory objectives predominated for a long time before the development of momentous theories to explain archaeological data (Trigger 1989, 4). Some kind of theory, however, is implied by the mere characterisation of data as being either important or unimportant, which is something that occurs in every descriptive historical study. In the past, these theories were not often explicitly formulated by archaeologists which contrasts with current works in which theoretical proposals are systematically elaborated (Trigger 1989, 5).

Trigger writes about Kuhn's (1970) concept of a research paradigm from his book *The Structure of Scientific Revolutions* (Trigger 1989, 5). The definition of a research paradigm is a

commonly accepted canon of scientific activity, which includes laws, theory, applications and instrumentation, that provides a model for a consistent tradition of scientific research. The scientific community sustains this tradition and it is propagated through textbooks that are controlled by that very community. Until the 1960s, theories were in a pre-paradigmatic state and theories were not bundled properly and put into a comprehensive system yet. However, Trigger is convinced that if you look closely the theories from before the 1960s reveal more comprehensive and consistent concepts than is often thought.

Kuhn's concept of scientific revolutions is sometimes combined with an evolutionary view of the development of archaeology, for instance by Sterud (1973) (Trigger 1989, 5). According his new theory, each successive phase in the advance of archaeological theory can be qualified as a paradigm because there is enough internal consistency in each period. This inspired innovators to recognise anomalies and inadequacies in common archaeological interpretations and the direction of archaeological research was changed. These new paradigms not only changed the importance that was given to archaeological data but also determined which problems were regarded as important or unimportant (Trigger 1989, 6).

Some critics argue that it is possible for a discipline to be characterised by a few functionally different types of paradigms simultaneously. Possibly, these are only loosely related to each other and may be changing at different rates which produces a general pattern of change that should be called gradual instead of abrupt (Trigger 1989, 6). Trigger writes about the three different types of paradigm that are differentiated by Masterman (1970): metaphysical, which is about the world view of groups of scientists; sociological, which defines what is accepted; and construct, which supplies the tools and methods used to solve problems (Trigger 1989, 6). These types of paradigms cannot constitute 'the' paradigm of a certain era on its own. Another point of criticism on Kuhn's concept comes from Barnes (1974) who argues that Kuhn has ignored the important factor of competition and mobility between rivalling 'schools' as cause of change within a discipline (Trigger 1989, 6). Binford and Sabloff think the complexity of the subject-matter of the social sciences lead to the fact that there are more conflicting schools than in the natural sciences (Trigger 1989, 6). Because of this, it might be so that individual paradigms can exist next to each other and replace one another quite slowly.

A different view, consists of the assumption that sciences do not undergo revolutions but experience rather gradual changes or progression and argues that the history of archaeology consists of a cumulative growth of knowledge containing information about the past (Trigger 1989, 6). Various different phases succeed each other, but the line between two phases is not very strict; there

are no radical breaks or transformations. According to some archaeologists, the development of archaeology itself follows a unilinear and inevitable course. The data base continuously expands and new interpretations are seen as the gradual elaboration, polishing and alteration of an existing body of theory. This view does not deal with the frequent lack of systematic development of ideas of archaeologists (Trigger 1989, 7).

Trigger discusses a third view which sees the development of theory in archaeology as a non-linear and often unpredictable process (Trigger 1989, 7). In this view changes are thought to have been caused not by archaeological data but by new ideas about human behaviour which come from other social sciences. These new ideas may indicate the social values which show fluctuations in popularity. This means archaeological interpretations do not change in a linear manner, which means data are regarded more comprehensively and satisfactorily. Instead of this, different perceptions of human behaviour can radically change archaeological interpretations and that new information shows that previously seemed important is now of relatively little interest. This is in accordance with Kuhn's view that when a paradigm shifts it does not only select new subjects as being important, but is also deflects attention from subjects that might have been seen as important for study in the previous paradigm. The big contrast between this view and the evolutionary views is that in this view changes in theoretical orientation are not always seen as resulting in the forward movement of archaeological research.

A group of archaeologists are doubtful about the interests and concepts change significantly throughout different periods within archaeology. Sometimes, ideas that are thought to be quite modern are in reality rather old (Trigger 1989, 7). However, this does not mean that when ideas are persistent and recurrent in the history of archaeology there is nothing new at all in the interpretation of data. These ideas must be seen in the frameworks of the time in which these ideas prevailed. The significance to the discipline is derived from these frameworks. If the frameworks change, their significance changes as well (Trigger 1989, 8). Sometimes not enough importance is ascribed to particular ideas and not enough attention is paid to the changing context they are in which will lead to archaeologists underestimating the level of significant change that characterised the developing interpretations of archaeological data.

Regional diversity is seen by many archaeologists as one of the main characteristics of archaeological interpretation. For instance, Clarke (1979) and Klejn (1977) have treated the history of archaeology as a history of regional schools (Trigger 1989, 8). Clarke thinks it is a recent development that archaeology is no longer a series of different interpretations, each with a local body of theory and a favoured manner of description, interpretation and explanation. These regional

traditions in archaeological interpretation have always been quite clear. An aspect of this that has not yet been looked at quite enough, is the nature of their variances. Although cultural differences are important, different interpretations from archaeologists from different national traditions can be assigned to a few general orientations. These types of general orientations are colonialist, nationalist and imperialist or world-orientated. In geographically remote countries these types have replicated themselves. Also the archaeology of one nation might switch between the different types when its political circumstances change.

According to Trigger these regional traditions have not taken into account the substantial intellectual exchange that lies at the basis of the development of archaeology in every part of the world during the nineteenth and twentieth centuries (Trigger 1989, 9). Also, archaeological thought from Western Europe and the Soviet Union have greatly influenced each other while their archaeological traditions were very ideologically opposed. Both areas influenced each other despite the fact that every form of scientific contact whatsoever was not only difficult, it was always also dangerous.

Rouse (1972) notes that little attention has been paid to what affect the disciplinary specialisation within archaeology itself has on the manner of interpreting archaeological data (Trigger 1989, 9). Different orientations on this account may cause as many differences as the regional traditions. Each specialisation, with the specialisations being Classical archaeology, Egyptology, Assyriology, Medieval and Palaeolithic archaeology, uses its own methods to study archaeological data. Although several of the specialisations have developed in intellectual isolation from each other for long periods of time they still have shared interpretative concepts, even though they have been estranged even further through the devison of their jargons, historical connections, sporadic interaction and common methodological interest (Trigger 1989, 12).

## **2.2. The history of archaeology**

The social milieu of an archaeologist influences their interpretations, because this social milieu determines the questions that are asked and the answers they find convincing (Trigger 1989, 1). Nowadays it is mostly the social context, where archaeologists work and live, what influences the scientific research (Trigger 1989, 12). Positivists are convinced that as long as satisfactory data are available and their analysis is done according to scientific methods, the results of this research is independent of the beliefs and prejudices of the researcher. Other archaeologists, however, believe

changing social conditions constantly influence the questions archeologists ask as well as the answers they find acceptable. This is so because although the findings concern the past, they are seen to have implications for the present or implications for human nature in general (Trigger 1989, 13).

Archaeology has been strongly influenced by the attack launched by relativists against the concept of science as being a rational and objective undertaking (Trigger 1989, 13). These attacks root in the anti-positivism of the Frankfurter Schule that stresses that the social conditions have influence on what data are seen as important and the interpretation that follows. This view has been supported with Kuhn's paradigmatic concept and it is stated that scientific knowledge does not differ from other cultural beliefs in any way. Also Feyerabend (1975) argues that there is no such thing as an objective criterion for the evaluation of theories so science should not care so much about strict rules but let personal preferences and aesthetics evaluate rival theories (Trigger 1989, 13). These kinds of theories have gathered quite a following, especially among self-styled critical archaeologists in Britain and the United States. Some archaeologists argue that over time the awareness of social bias will cause a higher level of objectivity, while others sustain in thinking that even the most basic archaeological data is construction of the mind and therefore can not be independent of the social milieu in which they are used (Trigger 1989, 13-14). More extreme formulations conclude that archaeological interpretations are controlled entirely by their social environment instead of by any objective piece of evidence. The two extremes can be called hyper-positivists versus hyper-relativists, with the first believing that solely the quality of archaeological data and of analytical techniques can regulate the worth of archaeological interpretations and the latter believing that archaeological data should be given no role, but instead archaeological interpretations should be explained by means of social and cultural loyalties of the archaeologist (Trigger 1989, 14).

In the past, archaeology was practiced by the aristocracy, but nowadays, it is a science of the middle class (Trigger 1989, 14). Because archaeology may yield information about human origins, the relationship between archaeology and society is quite complex and important. Therefore one could argue that archaeology is an utterance of the ideology of the middle class and also to try to discover to what point changing archaeological interpretations will reflect the changing fortunes of the group itself. These changes have also caused the questions that are asked and the theories behind them to change. Again, subjectivity is part of the equation here. Throughout history, archaeology has been used to prove political, social or religious points (Trigger 1989, 3). We must note, however, that the concept of a middle class is not a unitary phenomenon and that archaeology

must not be associated with the entire middle class, but only with a part of it that largely consists of professionals (Trigger 1989, 15).

The relationship between interests and ideas are resolved by many different factors and their context (Trigger 1989, 15). Therefore, a direct correspondence between archaeological interpretations and class interest can not be expected. Instead, the ideas that influence archaeological interpretations should be seen as tools for a social groups to accomplish their goals. The connection between archaeology give way to examining the connection between archaeology and society, without having to deny the importance of individual psychological characteristics and cultural tradition.

According to the most radical relativists archaeology has been influenced by many different internal and external factors and especially by the archaeological data base itself (Trigger 1989, 15). Archaeological data have accumulated over centuries and new data are seen as a test of earlier interpretations. The decision of what data are collected and what method is used to do so is determined by what an archaeologist finds important, which is a reflection of the theoretical assumptions of the archaeologist. A reciprocal relationship can be seen between the collection of data and its interpretation with both factors being open to social influences (Trigger 1989, 16). Data recovered in the past are often inadequate or not appropriate for the solving of problems that are regarded as important later in time. This is partially because archaeologists were not familiar with techniques that would become important in later times, but also because new perspectives can often open up new series of investigation (Trigger 1989, 16). Although archaeological data are recovered continuously, the results of their interpretations are often not as cumulative as many archaeologists think. Mostly, archaeologists base new conclusions on what their predecessors deduced from the past instead of on the actual evidence their predecessors used for their own conclusions (Trigger 1989, 16).

Some other factors that influence what archaeologists can study are the resources that are available for research, the institutional environment of the research and the types of investigations that archaeologists are allowed to undertake form societies and governments (Trigger 1989, 16). Archaeologists must keep their sponsors satisfied in order to keep their support. Furthermore, Rosen (1980) notes there are social restrictions for the excavation of certain sites, for instance for cemeteries or religious places (Trigger 1989, 16). When all these factors are considered it may be concluded that there quite a constraint may be employed on the research and interpretation of archaeologists.

Up until the twentieth century there are not many archaeologists that are trained in the actual

discipline. Instead they came from different disciplines and brought with them skills and viewpoints from different fields, such as from the study of classical and biblical material or others that had been educated in physics and biology (Trigger 1989, 16-17). According to Chapman (1979) significant differences can be seen in the work of professional archaeologists that were trained in humanities or natural sciences (Trigger 1989, 17).

Developments in physics and biology have also influenced archaeological interpretation (Trigger 1989, 17). Today the collaboration between archaeologists and natural scientists has become routine, often this collaboration is one sided as archaeologists are mere recipients. Research in the natural sciences is only sporadically instructed by archaeology, although sometimes discoveries in the natural sciences have been of great importance to archaeology. Examples of this are radiocarbon dating and pollen analysis which have not been developed by archaeologists, but have provided new insights of great value. This is a technique that has been used and gained importance in Nicaraguan archaeology since approximately the 1980s. Since that time, radiocarbon dating is heavily relied on and has caused old chronologies to be reevaluated and more accurate.

The rapid growth of electronic means of processing data has caused somewhat of a revolution in archaeological analysis which was no bigger than the revolution caused by radiocarbon dating (Trigger 1989, 18). Because of these new electronic types of data processing it is possible to very easily correlate large amounts of data. This allows archaeologists to look for detailed patterns and test complex hypotheses. Also, different mathematical approaches have developed for the study of change although sometimes the mathematical aspects are not emphasised as much as the underlying concepts for their application to archaeological problems (Trigger 1989, 18).

The changing theories of human behaviour that have come from the social sciences have also affected the interpretation of archaeological data (Trigger 1989, 18). Especially concepts from disciplines with which archaeology has strong ties, i.e. ethnology and history, have greatly influenced archaeology. However, these are not the only disciplines that have influenced archaeology: concepts from geography, sociology, economics and political science have had their influence on archaeology.

What has been learned from the archaeological record is an established belief that also has significantly influenced the interpretation of archaeological data (Trigger 1989, 18). Often, it happens that interpretations of the past are adapted to changing general views, instead of critically looked at even if the general view in which this interpretation was formulated had been rejected. Because of this it can be so that specific thoughts can persist and further influence archaeological interpretations a long time after their abandonment.

### **2.3. Archaeological interpretation**

Archaeology can be defined as a social science because it tries to describe what happened to groups of human beings in the past and draw general conclusions about cultural change (Trigger 1989, 19). A difference from other social sciences is archaeologists cannot directly observe the actions of the people they study and they also cannot reach the thoughts of these people in a direct way, such as through written texts. Instead of all of this, archaeologists have to extrapolate human behaviour and ideas from the material remainder of the things used and made by human beings and which physical impact that had on the environment. The interpretations of the archaeological data depend on how human behaviour of today is understood and also of how this reflects in material culture.

Trigger (1989, 19-20) discusses three different levels of classification for archaeological theories: high, middle and low theory categories. This division can lead to a systematic understanding of archaeological theory and the process of thought process.

Klejn (1977) describes low-level theories as empirical research and its generalisations (Trigger 1989, 20). Generalisations are usually based on uniformities that are observed repeatedly and can be proven wrong by observing a contrary case. At the basis of these generalisations lays the observation that artefact types or attributes occur repeatedly in association to one another and this correlates with a geographical locality or dates to a certain period. Apart from these generalisations, behavioural assumptions can be made, but those can often turn out to be incorrect, unproved or misleading (Trigger 1989, 21). Low-level generalisations never describe human behaviour because from that point of view, they are regularities that have to be explained rather than explanations on their own accord.

Raab and Goodyear (1984) define middle-level theories as generalisations that try to explain the regularities between different sets of variables in different cases (Trigger 1989, 21). Generalisations from the social sciences should hold cross-cultural validity and refer to human behaviour. They must also be adequately specific so they can be tested through the application to particular data sets. To archaeologically test a middle-level generalisation Binford's (1981) middle-range theory can be used (Trigger 1989, 22). This theory uses ethnographical data for the establishment of valid relations between archaeologically observable events and the archaeologically unobservable factor of human behaviour. The difference between middle-level and middle-range theory is that middle-level theory exclusively treats human behaviour and middle-range theory must treat both human behaviour and traits that can be observed by archaeology.

Binford's middle-range theory can be seen as a sort of middle-level theory. Middle-range theory is very useful in the testing of middle-level theory in relation to archaeological data.

High-level theories have been described as abstract rules that clarify the relationships between the theoretical propositions that are important for the understanding of the foremost categories of phenomena (Trigger 1989, 22). In this level of theory there are no theoretical formulations that relate uniquely to archaeology but rather to the social sciences in general because the theories refer to human behaviour exclusively. Often synthetic theories within the social sciences are not as generally accepted as in the disciplines of the natural sciences. Idealist approaches are often composed less elegantly than their materialist counterparts, however, it still is an inspiration for the social sciences. They resemble religious dogmas or creeds in the respect that they cannot directly be confirmed or falsified. The credibility of high-level theories is influenced by the success or failure of the middle-level theories that are dependent on them.

The indirectness of the tests, combined with the fluctuation in the popularity of high-level generalisations seems to be influenced mostly by social processes instead of scientific examinations of the logically related middle-level theories which makes it hard for archaeologists to distinguish between the three materialist positions that have been discussed above (Trigger 1989, 23).

In an ideal case, a logically coherent relationship could be established between high, middle and low levels of theory and also a correlation between middle- and low-level generalisations and observable data (Trigger 1989, 23). A debate has been going on about whether to construe middle-level theory in a deductive manner, as being interrelated concepts from high-level theories, or in an inductive manner, as being construed from low-level generalisations and data. According to Watson et al. (1971) and Binford (1972) the deductive approach holds that clarifications about human behaviour should only be based on laws which are stated as hypotheses and which are tested against sets of data (Trigger 1989, 23). The people in favour of the deductive approach try to establish explicit and logical links between high- and middle-level theory. Salmon (1982), Gibbon (1984) and Gallay (1986), by contrast, write that hyper-inductivists see general theory as the ultimate goal that can only be accomplished after vast amounts of reliable generalisations have been established at the low and middle levels (Trigger 1989, 23-24). What is believed to be a reasonable explanation of archaeological data is coloured by many implicit assumptions about human behaviour. High-level concepts can easily be ignored if the risk of the implicit ones disturbing the archaeological interpretations are taken into account. The most successful theories involve a combination of the two approaches. Explanations can be formulated inductively as well as deductively. Lowther (1962)

gives three criteria that must be answered to in order for their status as scientific theories to be accepted. Firstly, it depends on the logical coherence both internally and with other descriptions of human behaviour. Secondly, it depends on the establishment of a satisfying compatibility between them and any other logically related empirical generalisations. Thirdly, they have to be compatible with a corpus of factual evidence (Trigger 1989, 24).

The form of the generalisations are often disagreed on (Trigger 1989, 24). In the positivistic tradition it is accepted that laws should be universal, meaning that the statements they provide about relations between variables are true no matter the time period, region in the world or specific cultures studied. Often the universal generalisations are seen as a reflection of an undifferentiated human nature.

Another group of archaeologists maintains that there are few general laws about human nature (Trigger 1989, 24). Most generalisations apply only to societies that have a shared or closely related mode of production. It is maintained by economic substantivists, such as Polanyi (1944, 1957, 1966) and Dalton (1961), that the rules and forms of economic behaviour are very much changed by evolutionary processes (Trigger 1989, 25). The distinction between worldwide generalisations and more confined ones may not be as far-fetching or absolute as their advocates maintain. Sometimes generalisations that are specific to one type of society can be rewritten to a universal generalisation, while universal generalisations can be rewritten with more detail and turned into applying only to a specific class of society. This process, however, may cause a great loss in content and significance.

The third, and last, type of generalisation is a generalisation that only applies to an individual culture or a group of historically linked cultures (Trigger 1989, 25). This kind of generalisation is quite important since most cultural patterning seems to be of this kind. No persuasive manner has been found to move past speculation in the interpreting of the meanings of such patterning within the archaeological record in a situation in which historical documentation or ethnographical data are not accessible. When these are not available, these regularities stay at the level of empirical generalisations.

### **3. The Classificatory-Descriptive Period (1840-1914)**

The speculative mode still remained important in the Classificatory-Descriptive Period. The main concern of this period, however, is like the title implies: the description of archaeological remains, especially monuments and architecture, and their classification. In this period, archaeologists try to make archaeology into a systematic and scientific discipline. They did not yet succeed in its entirety, but they were able to lay the foundations for the achievements of the twentieth century (Willey and Sabloff 1980, 34). Although this period was concerned with developing systematic in classification, description and typology in archaeology (as well as anthropology) became more defined and were eventually taught at universities, there was little concern for chronology (Willey and Sabloff 1980).

Lothrop (1926) remarks that in the descriptive period not a lot of attention was given to proper naming. Groups would be named after local varieties instead of combining groups and naming them as an entirety. Lothrop himself tries to come up with correct names for different types of pottery. For Lothrop (1926) the designation Nicoya Polychrome Ware includes the painted pottery from the region between Ometepe Island in Lake Nicaragua and the Gulf of Nicoya. There are, of course, local variations, but there is still such unity that they are discussed as one group.

Throughout his book, Lothrop (1926) connects Gran Nicoya ceramics to ceramics from the Maya area. He especially sees Mayan influence in the iconography. In Chapter V, for example, he states that the Human Figure and especially the Seated Human Figure are obviously related to the patterns and iconography that can be found in the Maya area in the period of the Old Empire. He continues with a comparison of Maya and Nicaraguan ceramics. He does not deny the fact that there are differences, but he keeps stressing the similarities. Lothrop also compares the iconography found on Nicaraguan ceramics with the iconography in Mexican codices and Aztec iconography. He even compares Nicaraguan ceramics with the South American cultural area. This last comparison is not made a lot in the first half of the twentieth century, since then it was generally thought that the Nicaraguan Gran Nicoya ceramics were influenced by the Mexican cultural heritage. Lothrop, however, recognizes that the ceramics of the Pacific area of Costa Rica and Nicaragua have very few features in common with southern American ceramics (1926, 411). He also proposes that even if the Inca and Aztec empires did not have direct contact, the Isthmian peoples had contacts with both the northern and southern areas. This would explain the resemblances with both the North and the South. This concept is called cultural diffusion.

Lothrop states that classification is not an end in itself, but it is a means to facilitate description (1926, 105). Although Lothrop's work can thus be put in the Classificatory-Descriptive Period, he already has his concerns about chronology and context. Because of the haphazard way in which most collections have been accomplished, there is no place for the segregation of local wares and neither for determination and chronology. It is also difficult to distinguish between two distinct concepts when context and chronology are lost or just unknown. In his summary Lothrop discusses more general problems. He tries to justify the lack of context by stating that he knows it is lacking and the reader should be cautious of that. Later on, he amplifies the importance of context and chronology by saying it is chronology that is the key to the understanding of the development of culture. Studies on chronologies have gotten a boost through the decipherment of Maya and Aztec calendars which from then on could be linked to the Christian calendar (Lothrop 1926, 393). Lothrop then argues that that Nicaraguan ceramics can be cross-dated with Mayan or other Mexican ceramics of which the dating is known. This can be done because of the stylistic comparisons between the ceramics of both traditions.

Another thing that is not typical for the Classificatory-Descriptive Period, but which shows Lothrop's work is a transitional work from this period into the next, is the attempt to say something about the culture behind the ceramics. It is no longer about just classifying and describing the ceramics you find, but from now on it is also about trying to gain knowledge from these ceramics to say something about the people who made them. The Nicoya Polychrome Ware, as Lothrop calls it, is found in the area of the Nicarao (1926, 390). Certain designs, however, have been taken from Maya sources and indicate that the Nicoya Polychrome Ware antedates the arrival of the Nicarao in Nicaragua. Therefore, Lothrop concludes, most of the Nicoya Polychrome Ware must be produced by the Chorotega. They also might be the ones that produced other wares discussed by Lothrop. According to Lothrop Nicaraguan wares are influenced by Mexican cultural heritage through Mexican warriors who came to Nicaragua and married women there (1926, 391). Since women presumably were the potters, this is how the Mexican religious symbolism was introduced: by the men of the tribe.

The work that Lothrop has done has had a big influence on further research of Nicaraguan archaeology and ceramics. He asks questions about chronologies, nomenclature and the cultural background which are quite rare for his time. Researchers have picked up on these questions and have tried to answer them more fully. Lothrop is convinced that the people from Gran Nicoya looked to the North for cultural direction and this is a thought that still prevails today.

#### **4. The Classificatory-Historical Period (1914-1960)**

##### **4.1. The Concern with Chronology (1914-1940)**

Willey and Sabloff (1980) state that the beginning of this period is marked by the rise of stratigraphic excavations as the drive for chronological control of data. This started in 1914 in American archaeology and from then on spread through the rest of the Americas. Seriation became linked to stratigraphy and together they supported the search of chronology. Stratigraphy and seriation were also applied in typology and classification, which dominated the previous period. Classification was no longer only a means to describe artefacts, but it is now also a means to plot culture forms in time and space.

Sometimes it was tried to make these culture-historical attempts into more substantial cultural contexts. The relationship between archaeology and ethnology, which is prevalent in American archaeology, quickly led to the use of ethnographic analysis in interpretations of use and function. Ethnographic sources can help us in understanding of the archaeological record, but also the culture history of the peoples it belonged to. In the case of Nicaragua mostly theories about different migration waves have been proved by ethnographic accounts. Lothrop (1926), Healy (1980) and McCafferty and Steinbrenner (2005) all used of this method in the context of the migrations of the Nicarao and Chorotega. Lange (1992) also uses ethnographic sources to support his find that there is a big difference between Ceramic Zone 3 and 4, which we will see later on in this thesis.

This close alliance of American archaeology and ethnohistory is called the Direct Historical Approach (Willey and Sabloff 1980). The method of this approach is working back into prehistory from the documented historical horizon. This involves sites on which indigenous peoples have lived in early historical times. The excavation of these sites reveals artefacts that can then be associated with these peoples. When other sites nearby are found that show resemblances to the first one, they can be linked together. Again, ethnohistorical accounts come into the picture here. This does not only happen in Nicaragua, but also, for instance, in Mexico where codices can help in interpreting and explaining archaeological finds.

For the first time, chronology starts to play a role in archaeology. In North and Middle American dating would be absolute dating through respectively dendrochronology and the Maya calendar. When this is not available, like in Nicaragua, relative chronology prevailed (Willey and Sabloff 1980). Lothrop has used stylistic features to make a relative chronology. He used the

method of cross-cultural dating to date ceramics. Lothrop sees comparisons between stylistic features from the Maya and Gran Nicoya areas and since Maya ceramics can be dated exactly because of the calendrical system. By comparing ceramics of both regions a chronology for Nicaraguan ceramics can be established.

#### **4.2. The Concern with Context and Function (1940-1960)**

Willey and Sabloff (1980) show us that in the latter half of the Classificatory-Historical period archaeology is seen as the periphery of ethnology and social anthropology. Archaeologists were not supposed to contribute to the larger problems of cultural understanding. Because of this liminal position of archaeology, archaeologists started to redefine their goals. Focus shifted to context and function and was sometimes even concerned with process. However, the main preoccupation of the Classificatory-Historical period, the concern with chronology, was not rejected. In this period of time, revolution not yet came about, but it was a time of transition still.

The contextual-functional approach can be divided in three of the following headings. The theme of the first heading is the hypothesis that artefacts are the product or material relics of social and cultural behaviour. In other words, archaeologist tried to ascribe use and function to archaeological artefacts. In the interpretations, context played a big role for the first time since attempting the achievement of this goal. Lothrop (1926) has acknowledged the fact that context was missing from his research since he studied museum collections. Norweb (1964), however, uses material from excavations so in his case context could be studied as well. The second heading concerns itself with settlement patterns. The way in which man had manifested himself in nature and landscape in relation to other men should hold important clues to the socio-economic and socio-political understandings. Dennett et al. (2001, 394) suggest that Izalco-style Usulután wares have served as prestige goods used in a local way to enhance status differentiation and for the regional forming or maintaining of socio-economic and socio-political ties. The third approach relates culture to the natural environment. It involves itself with man and his resource base. Although this approach is sometimes referred to as cultural ecology in this period, it differs from the ecosystem approach of the more recent years. Healy (1980) notices that shellfish remains are generally lacking in Rivas, but in the coastal areas habitations were begun in the Early Polychrome Period. The number of habitations and of the population itself might explain the higher diversity in diet and why the economy was intensified.

To enforce the contextual-functional approach, archaeology was supported by different scientific disciplines. Above all, radiocarbon became very important since it could provide absolute dates which means that archaeologists were, at least in part, freed of their concerns with chronology which created more space for research on cultural history and development. This, however, does not mean the concern with chronology had completely disappeared. There now was the possibility to refine or correct older sequences and new chronologies were made for regions that were before untouched. For Nicaragua this means that the reliance on relative chronologies started to decline since they could be checked with C14 dating. In this thesis, the first author that uses radiocarbon dating is Norweb (1964), but more important in this process are Vázquez et al. (1992-1993) and McCafferty and Steinbrenner (2005). They have used radiocarbon dating to really change and improve the accepted chronology for Gran Nicoya. This will be discussed in greater detail in chapter 6.

## 5. The Explanatory Period (1960s and 1970s)

In 1964 Norweb published an article about *Ceramic Stratigraphy in Southwestern Nicaragua*. He starts with a brief summary of what has happened in the field of Nicaraguan archaeology up until his publication. In this paper, Norweb publishes the outcome of excavations on Ometepe Island and he compares the ceramic sequence with those that have already been established for the Isthmus of Rivas. A general outline for cultural development in the Gran Nicoya area is also given (Norweb 1964, 551)

Norweb presents a chronology that resembles the chronology that Coe presented for northern Costa Rica (Norweb 1964, 552). This chronology consists of four periods which have been established not by absolute dating but is based on diagnostic modes of pottery decoration. From oldest to youngest these periods are: Zoned Bichrome Period, Early Polychrome Period, Middle Polychrome Period, Late Polychrome Period. Norweb justifies the use of the same chronological sequence for both northwestern Costa Rica and Pacific Nicaragua by the similarities between the ceramic sequences (Norweb 1964, 552). He does, however, recognise the fact that the correlation between the two regions is not very exact, especially in the Late Polychrome Period in which the ceramics from Pacific Nicaragua show only slight typological variation with the Middle Polychrome, which differs strongly from from northwestern Costa Rica.

Norweb goes on with describing the different ceramic periods (Norweb 1964, 552-553):

The *Early Polychrome Period* is marked by simple polychromes. They can be bichromes (white-on-red and black-on-red) with and additional colour as a decoration. Later ceramics from this period are red and black polychromes with a natural background or an orange slip. The designs are mostly geometric or linear and only now and then a motif occurs.

The *Middle Polychrome Period* is defined by polychromes with white, buff or cream slips and are decorated in black, red and orange. Bowls and pear-shaped jars are very common. These bowls and jars are supported by conical or zoomorphic tripod feet but also by annular bases. Also, zoomorphic adorns can often be seen on jars. Wide horizontal bands of colour rims, bold life motifs, silhouettes, dots and vertical coloured bands were used as designs for rim decoration. Utility wares were mostly striated or brushed and include the zapatero, or shoe, effigy form.

The first part of the *Late Polychrome Period* is distinguished by Vallejo Polychrome, which displays a soft paste and blue-gray paintings. The second half is characterised by Luna Polychrome.

A regional sequence is presented for the Rivas region which is based on excavations on the Isthmus of Rivas (Norweb 1964, 553). Four periods are presented, but Norweb recognises that there are some gaps in the cultural continuum. This sequence has been summarised in the following table:

<b>REGIONAL SEQUENCES IN SOUTHWESTERN NICARAGUA</b>		
<i>Major Periods</i>	<i>Rivas</i>	<i>Ometepe</i>
Late Polychrome 1200 – 1600 A.D.	? Las Lajas	? Alta Gracia
Middle Polychrome 800 – 1200 A.D.	El Rosario La Virgen Apompua	El Rosario ?
Early Polychrome 400 – 800 A.D.	? Palos Negros San Roque	? Palos Negros San Roque
Zoned Bichrome 0 – 400 A.D.	San Jorge Avilés ?	?

*Table 1: Regional sequences in southwestern Nicaragua  
(Adapted from: Norweb 1964, 553)*

Norweb goes on discussing the results of an excavation on Ometepe Island in 1961 (Norweb 1964, 555). The ceramic material that has been recovered indicates the four periods listed above, but does not show a cultural continuum. There is a apparent break between the Early Polychrome San Roque and Palos Negros and the Middle Polychrome El Rosario periods. All three phases are greatly resemble their counterparts from the Rivas area. The end of the Palos Negros phase was set on AD 792 by means of radiocarbon dating.

The next section of Norwebs article provides a chronology for southwestern Nicaragua and compares it with that of Mesoamerica (Norweb 1964, 556). He takes the dates from radiocarbon dating done by Bodez and Coe in 1961 (Norweb 1964, 556). The comparative chronology he proposes can be seen in Table 3.

The Early Polychrome coincides with most of the Maya Classic and is dated on AD 400-800. The Nicaraguan San Roque and Palos Negros types show little similarities which suggests localised development (Norweb 1964, 556). However, Norweb sees some influences from Mesoamerica between the end of the Palos Negros period and the beginning of the Middle Polychrome.

By the beginning of the Middle Polychrome of AD 800-1200, which corresponds to the Maya

Classic and much of Toltec Chichen, most evidence of earlier ceramic styles has been wiped out and Mesoamerican control is absolute (Norweb 1964, 557). Papagayo Polychromes display many Classic Mayan designs, while other traits, i.e. zoomorphic tripod feet, seem to come from the Cholula-Vera Cruz region in Mexico.

<b>CORRELATION OF SOUTHWEST NICARAGUA WITH MESOAMERICA</b>			
<i>Date</i>	<i>Peten</i>	<i>Yucatan</i>	<i>S. W. Nicaragua</i>
1600		Conquest	
1400		Mayapan	Late Polychrome
1200			
1000		Toltec Chichen Florecent	Middle Polychrome
800	Tepeu		
600			Early Polychrome
400	Tzakol	Regional	
200	Matzanel		Zoned Bichrome
A.D. 0			
B.C. 200	Chicanel	Late Formative	

*Table 2: Correlation of southwest Nicaragua with Mesoamerica  
(Adapted from: Norweb 1964, 556)*

The Late Polychrome Period spans the latter half of the Mesoamerican Postclassic and early historic times and is dated on AD 1200-1600 and is characterised by the intensification of Central American relationships displaying Mixteca-Puebla motifs on Vallejo Polychrome in its initial phases and includes Quetzalcoatl and Earth Monsters as the Wind God (Coe 1962 in Norweb 1964, 557). In the ultimate phases of the Late Polychrome cultural associations become indistinguishable. The Luna Polychrome combines forms from the Middle Polychrome of which no Central or Mesoamerican prototype is known (Norweb 1964, 557).

At the end of his article Norweb very briefly discusses “Cultural development in southwestern Nicaragua” (Norweb 1964, 557). Norweb starts off with saying that although the people from the Zoned Bichrome Period represented the first validated cultures, there must have been peoples in Nicaragua before that time. Of this no accounts have been found however. He then states that the cultures from the Zoned Bichrome were not at all primitive (Norweb 1964, 558). What is surprising is the apparent lack of proof for incipient cultivation or high dependence on food collecting. This is surprising because of the relatively late start of the sequence in comparison to Peru or Mesoamerica. Metates, manos and sedentary villages a stable society that was based on maize production (Norweb 1964, 558). Norweb explains this level of development not so much by a result of local culture

phases, but rather by diffusion or migration from outside peoples.

During the Zoned Bichrome sites were scarce which indicates a relatively small population (Norweb 1964, 558). From the Early Polychrome Period, however, populations started to grow. This can be seen in the increase of villages in number and size. These developments might be paralleled by the regional growth which is also characteristic for the Mexican and Maya Classic periods, a uniform and indigenous culture reaches from the Gulf of Fonseca to northwestern Costa Rica (Norweb 1964, 558).

The Gran Nicoya area becomes an integrated part of Mesoamerica for the first time by the time of the Middle Polychrome Period (Norweb 1964, 558). This takes place shortly before the collapse of the Maya Classic and might even be a consequence of the cultural disruptions to the North. Coe does not agree on this; he feels that the entire development of Gran Nicoya is Mesoamerican in nature (Coe 1962 in Norweb 1964, 558). The population reaches its highest point in this time period and frequent, heavily occupied sites occur. In contrast to the Early Polychrome, regional variation in ceramic styles is now widespread (Norweb 1964, 558).

The beginning of the Late Polychrome is not marked by a strong break with the previous period (Norweb 1964, 558). The regional distribution is quite the same as that from the Middle Polychrome. The biggest difference between the two periods is that in the Late Polychrome strong Mexican elements appear on some local types. In this period Luna Polychrome was manufactured in a partially of total historical context and this may account for some inundation of unidentified external influences. Sites are fewer and are typically found on islands such as Zapatero and Ometepe, which may indicate a declining population that retreated to more protected areas (Norman 1964, 558).

In 1970 Baudez wrote a book on Central America and although this falls under the heading of "Explanatory Period", it is more of a descriptive than an explanatory work. Baudez lists different types of ceramics and some other artefacts throughout different periods of time in different areas, but there is no further explanation or context of the ceramics. Baudez shortly states that Nicaragua and Central America in general have been under the influence of Mesoamerica, but he does not really specify or underpin why this is so, apart from some small examples which he does not support by further evidence. Later on, he gives some information about the Nicarao and the Chorotega, but this does not go into great detail and does not turn into a well supported argument or cultural history. Apart from the influence of Mesoamerica, he also pays attention to the influence from South America, but again, these statements are not fully supported by other evidence.

The difference between the two publications discussed above is very apparent and this could be explained by the objective or audience for who the texts were written. Norwebs article is a scientific publication dealing with the results of excavations and addressing scientific problems such as chronologies or seriation and the culture history. The book Baudez wrote, on the contrary, was not written for a scientific audience. His book was written for a series of books that are an introduction to different culture areas worldwide. Therefore it is not so strange that his book does not go into as much detail as Norwebs publication.

## 6. Current Interpretations (1980-2011)

### 6.1. Ceramics

Healy (1980) takes a new approach to analysing ceramics. He combines two systems into what he thinks is the best way to analyse ceramics, although he recognizes that others may not be entirely satisfied with his approach. There are two main ways of analysing ceramics.

The first is Modal Analysis, in which the most basic unit to classify are individual ceramic traits which are called modes. A mode can be any significant trait, such as slip, form or a class of vessel supports. Modal Analysis is particularly useful when ceramics are badly preserved and all that is available is one specific mode. It can also be applied in computerized cluster analysis. There are, however, some disadvantages, especially for inter-site comparisons. It is an easy method to analyse individual sherds or groups of sherds from one site, but because the modes are so specific and hard to recognize this method is not very useful to compare different sites. The comparing of different sites, however, is exactly what Healy tries to do.

The second is the Type-Variety system of ceramic analysis which was in use in studies on southern Mesoamerica and was developed in the late 1950s and early 1960s. This is a system that is based upon “attribute clustering”. In this system, the significance of attribute clusters is stressed. Ceramics are divided according to combinations of decorative, shape, technical and design modes. They are named, however, after decorative modes such as slip, colour and surface manipulation (Sable 1975 in Healy 1980). In *The Archaeology of the Rivas Region, Nicaragua* Healy himself uses the Type-Variety system.

He tries to balance between detailed descriptions and a more general approach. For every type of ceramics, he has a list of criteria he discusses. This list does not only contain a classification of ceramics and a description of form, materials and production, but it also contains a discussion of its context and a cultural aspect. He has the criteria of intra and inter site locations and contexts and cultural significance. This method is something quite new since it contains different approaches all in one analysis. Another thing that is quite new in Healy's approach is the fact that he not only describes the outer appearance of the ceramics, but he has also done research on what kind of clay it is made of, what kind of temper is used and how it is fired. This kind of approach is a more compositional approach to ceramics. Healy tries to achieve what he calls a “wedding of the two major classificatory systems” in order to come to a more complete and exact image of the ceramic

assemblages (Healy 1980, 80).

In 1992 Lange et al. have published a book on the *Archaeology of Pacific Nicaragua*. Just like Healy's publication this is a work that integrates all parts of archaeology and does not only focus on ceramics. In contrast to Healy who focusses on Rivas, Lange discusses the entire Nicaraguan part of Gran Nicoya, i.e. Pacific Nicaragua. He divides the entire Gran Nicoya area in different sectors and zones. Lange divides Gran Nicoya in a northern, i.e. Pacific Nicaraguan and southern, i.e. Costa Rican zone (Lange 1984, 167) (see also: Figure 2). Lange then further divides the northern sector in to four different zones (see also: Figure 3) and shortly discusses the specific traits of that zone (Lange 1992, 58-62).

In Ceramic Zone 1, the León/Chinandega to Managua area, Gran Nicoya ceramics are generally lacking, apart from an occasional white-slipped Papagayo or Vallejo Polychrome (Lange 1992, 58). With the use of chemical analysis the differences between the ceramics from this zone and comparable ceramics from other zones can be seen. For instance, the Usulután ceramics from Zone 1 consist of finer paste and temper than Usulután ceramics from the south. Ceramic Zone 2 consists of the areas around northern Lake Nicaragua and Lake Managua and has a higher percentage of Gran Nicoya ceramic types, but also local types such as Managua Polychrome that do not appear outside this zone (Lange 1992, 60). Chemical analysis supports the strength of the local ceramic traditions and that of the regional Gran Nicoya types. In comparison to Zone 1, there are much more polychrome ceramics in Zone 2, although Usulután-like ceramics are fewer here (Lange 1992, 60).

Ceramic Zone 3 stretches from Santa León to Rivas and Ometepe and Zapatera islands are included in Ceramic Zone 3. This zone fully lies within the Gran Nicoya subarea, based on ceramic records (Lange 1992, 60). Again, this is strengthened by chemical analysis. Ceramic Zone 4 lies within the area of Chontales (Lange 1992, 62). Typical for Zone 4 is the fact that some sites have abundant potsherds while they are almost absent on other sites. A characteristic incised ware has been proven chemically distinct from the rest of the Gran Nicoya chemical groups. The little white-slipped pottery represents the Middle and initial Late period Papagayo Polychrome which demonstrates that there were some isthmian ceramics on the eastern shore of Lake Nicaragua. Except for the few Papagayo Polychromes there is a great contrast with Zone 3 at the western side of Lake Nicaragua. This division is supported by ethnohistorical sources in which a social, economic, political and religious boundary was indicated between the peoples of both sides of the lake (Lange 1992, 62).

Dennett, Platz and McCafferty (2011) have recently written an article that analyses the ceramics of the site of La Arenera in a very different manner than the authors discussed before. The

core of their analysis is a preliminary compositional analysis. This means that the exact composition of different sherds is dissected and the origins of the sherds are traced quite precisely. The goal of this article is to understand more of the provenience of the Usulután-types and Rosales Zoned Engraved ceramics (Dennett et al. 2001, 394). Probably Rosales type ceramics have been produced and then imported from the Isthmus of Rivas. For the Usulután-style two different paste types have been distinguished and both appear to have been manufactured in Pacific Nicaragua. This conclusion had already been made by Healy (1988) and Lange (1992), but this was the first time petrological compositional provenience was studied in this much detail (Dennett et al. 2001, 394). In this study of provenience the influence from Mesoamerica is seen once again, at least of the ceramic sphere of the southeastern periphery (i.e. Honduras and El Salvador) of Mesoamerica. The suggestion is made that Izalco-style Usulután wares have probably served as prestige goods used for local status differentiation and for the regional forming or maintaining of socio-economical and socio-political ties (Dennett et al. 2001, 394). The approach used in the article could be seen as a modern variant of what Healy has done in his research. The approach of Dennett et al. is a beta scientific approach which does not only discuss the individual traits, or modes, but also uses different clusters of attributes to describe ceramics.

The methods used in this chapter differ from the methods used in earlier chapters. From the this time onwards a beta scientific approach becomes more and more important to analyse ceramics. Earlier, stylistic features were at the base of analysing ceramics and from there on information about cultures and interaction between cultures was deducted. Now other, more exact methods of analysing are added to this which makes the information more complete and is supported by a broader spectrum of evidence. Another thing that has become more important is comparing different sites. This, again, is not only done by stylistic comparisons, but also by comparing for instance composition and provenience of the materials that have been used.

## **6.2. Chronology**

Chronology is one of the frequently discussed topics in Nicaraguan archaeology. In Mesoamerica the calendrical system is used to link artefacts to our own Gregorian calendar. This method provides us with exact dating in archaeology. A system like this, however, is absent in Nicaragua because there is no Nicaraguan equivalent to the Mesoamerican calendrical system. From the start of archaeological research in the Gran Nicoya subarea, there have been discussions about chronology

and many different chronologies have been proposed and then rejected.

Healy proposes a relative and absolute chronology for the Rivas region and combines techniques such as cross dating and seriation with C14 dating (Healy 1980, 295). The use of C14 dating often functions as a cross-check on validity to see if the relative seriation dates are viable. Seriation is a method that places artefacts in approximate chronological order that is based on the small-scale changes in form or style (Darvill 2002, 385). The assumption is that single artefacts or assemblages that have the most similarities must be the closest to another in time and space. Once the seriated sequence has been accomplished, one has to decide which is oldest and which is youngest (Healy 1980, 296). Based on seriation, sequences can be linked to absolute chronologies if one or more of the artefacts can be dated. The product of seriation is a relative cultural framework which makes chronological differences visible in a geographic form. This type of chronology is especially useful in regions where there has been little or no prior fieldwork (Healy 1980, 296). When applied to the Rivas region, this system tells us the change and replacement of ceramic types is orderly and only at some point shows more dramatic changes. Healy has made a four-period chronological framework. The chronological sequence had been subdivided into appropriate periods and sometimes into smaller, temporal units or phases. Through seriation one can never tell exactly when a certain ceramic type is introduced and when it vanished because there are some sporadic examples which show up before or after the areas of more continuous distribution on the chart. It is, however, possible to indicate the peak concentrations of a type's production (Healy 1980, 299). Seriation does show the introduction, culmination and decline of a ceramic type. The next step in the making of the chronology of the Rivas region was the cross-cultural analysis. In this analysis, the dating of units from one area is done by correlating them with units of another area of which the dating is known. Rouse describes this type of analysis as synchronization (Healy 1980, 299). After this, radiocarbon dating was used to verify the relative sequence and to place Rivas on steady ground for cross-cultural comparisons. Although Healy bases his absolute chronology of the Rivas region on the C14 dating of 39 sherds of different diagnostic pottery types, there is only one among them of the Rivas region (Healy 1980, 305). However, Healy states that the similarities between the ceramic sequences of Nicaragua and Costa Rica strongly suggest a close relationship between the two regions and their dating is parallel or maybe even similar (Healy 1980, 305-306). The method used for dating of ceramics from both regions is cross-cultural dating.

Over a decade later Vázquez et al. (1992-1993) present a new chronology of the entire Gran Nicoya area (Table 4) in the context of the *Taller sobre el Futuro de las Investigaciones Arqueológicas y Etnohistoricas en Gran Nicoya* in Playa Cuajiniquil, Guanacaste. One of the main

differences in the nomenclature of the previous and the new chronologies is that in the new chronology the periods are named after geographical features or areas which, through archaeology, seem to have been the most important at that time, instead of naming them after the most prevalent type of pottery. This new chronology seems, therefore, more useful for archaeology in general instead of just ceramics. This different mode of thought is not only applied to the chronology, but

<b>TRANSFORMACIONES DEL ESQUEMA CRONOLOGICO DE GRAN NICOYA</b>	
<b>NUEVA CRONOLOGIA</b>	<b>CRONOLOGIA ANTERIOR</b>
<b>Período Ometepe (1350-1550 d.C.)</b> (Ometepe Period)	<b>Período Policromo Tardío</b> (Late Polychrome Period)
<b>Período Sapoá (800-1350 d.C.)</b> (Sapoá Period)	<b>Período Policromo Medio</b> (Middle Polychrome Period)
<b>Período Bagaces (300-800 d.C.)</b> (Bagaces Period)	<b>Período Bicromo en Zonas y Policromo Antiguo</b> (Linear Decorated and Early Polychrome)
<b>Período Tempisque (500 a.C.-300 d.C.)</b> (Tempisque Period)	<b>Período Bicromas en Zonas</b> (Zoned Bichrome Period)
<b>Período Orosí (2000-500 a.C.)</b> (Orosí Period)	<b>Período Formativo Medio</b> (Middle Formative Period)
<b>Período Arcaico (8000-2000 a.C.)</b> (Archaic Period)	<b>Arcaico</b>
<b>Período Paleoindio (¿10 000?-8000 a.C.)</b> (Paleoindian Period)	<b>Paleoindio</b>

*Table 3: Transformaciones del esquema cronológico de Gran Nicoya (Transformations of the chronological scheme of Gran Nicoya)*  
(Adapted from: Ricardo Vázquez et al. 1992-93, 248)

throughout the article. The new chronology is not only based on ceramics, but also on other classes of data, like settlement patterns, funerary customs and calibrated C14 dating (Vázquez et al. 1992-1993, 246). Even with this new method of incorporating different types of information, the amount of absolute dates remains quite low. There is a disbalance between the northern and southern part of the Gran Nicoya area in which the absolute dates of the Nicaraguan, i.e. the northern, part are very few (Vázquez et al. 1992-1993, 246). In this part, the dependence on cross-dating is much higher, mostly the correlation of ceramics.

McCafferty and Steinbrenner (2005a) wrote an article with the main argument that the ceramics which are diagnostic of the Ometepe period are supposed to be in the Sapoá period. They validate their argument through C14 dating of ceramics that supposedly were of the Ometepe period

but were actually dated much earlier (McCafferty and Steinbrenner 2005a, 131). This poses a problem to the relationship between the two periods. There are further implications than just the nomenclature or periodisation. Both Ometepe and Sapoá period are associated with certain waves of migration. The migrations of the Chorotega and the Nicarao had been linked to the accepted chronological sequence of Gran Nicoya as proposed by Vázquez et al. The beginning of the Sapoá period is associated with the migration of the Chorotega, while the Ometepe period is associated with the arrival of the Nicarao (McCafferty and Steinbrenner 2005a, 135). If the correlation between the periods and their diagnostic types of ceramics is correct, this new find not only has impact on the interpretation and periodisation of ceramics, but also on the interpretation of sites where these types of ceramics are found.

### **6.3. Comparative Analysis**

As we have seen earlier, Lothrop (1926) already makes a comparison between the cultural areas of Nicaragua and Costa Rica and other cultural centres, such as Mesoamerica and South America. Healy picks up the track in comparing different cultural areas and trying to say something about the relationships between those areas (Healy 1980, 311). He examines the relationship the Rivas region has with all of the surrounding areas, inside and outside of Nicaragua. Healy compares the ceramic sequences and phases, ceramic types and chronologies of different areas with each other, without contrasting the more general cultural background. In this chapter, ceramic sequences of different areas are compared, but in the next chapter it is tried to say more about the culture to which the ceramic sequences belonged.

Healy does not take the Gran Nicoya area as a whole, but he makes a separation between the Nicaraguan and Costa Rican parts, although the ceramic sequences and chronologies are very alike (Healy 1980, 311). Healy states that the phases and periods of both the northern en southern sectors of Gran Nicoya are very alike and the ceramic types are often identical to each other. Consequentially, the fluctuations and interrelationships between the northern en southern sectors can be seen and also with regions farther away (Healy 1980, 312). In the most general sense, Healy says that the bond between the Rivas and Guanacaste areas is the closest in the Zoned Bichrome Period, quite similar in the Middle Polychrome Period and least similar in the rest of the Pre-Columbian periods (1980, 312). Although this correlation is noted, there are, of course, also some differences. For instance, some important Guanacaste types are missing from the Rivas region

(Healy 1980, 313). In Early Polychrome ceramic assemblages there is a little less correlation between the two regions than in the preceding period. This may be due to the growth of the local traditions.

Something that stands out in Healy's comparative analysis is the fact that the Middle Polychrome Period "Nicoya Polychromes" (Lothrop 1926) or Papagayo Polychromes (Healy 1980) seem to have been manufactured or at least originated in Nicaragua and then spread out over a large area (Healy 1980, 314). This style was traded as far out as Honduras and El Salvador and even Central Mexico (Healy 1980, 315). The Gran Nicoya subarea is unified through the wide distribution of mostly Papagayo Polychrome during the Middle Polychrome Period. The traditions that started in the Early Polychrome Period were also maintained throughout the Middle Polychrome Period. The reason why this period stands out from the rest, is the wide distribution of its ceramics which is something that is largely unknown in other periods. Although contact between Rivas and Guanacaste remains in the Late Polychrome Period, a splitting of the two regions can be seen (Healy 1980, 315). In the entire Late Polychrome Period, there is less intermixture of ceramic types than was the case in earlier periods. It also seems that by the Late Polychrome period Guanacaste looked southward and Rivas northward for cultural direction (Healy 1980, 215). From about AD 1200 the northern and southern regions of Gran Nicoya gradually drifted into different directions and fell into two contrasting cultural spheres of influence: respectively the Mesoamerican and Lower Central and South American areas.

Healy also researches the relationship between the Rivas region and the Atlantic part of Nicaragua (1980, 316). He suggests that there is little proof of trade connections or other forms of contact between the Gran Nicoya subarea and the eastern lowlands between 800 and 1200 AD and as it seems, Pacific coastal Nicaragua has been quite isolated. There has also been little contact with another proximate area, namely the Diquis Delta on Costa Ricas Pacific coast.

Regarding the cultural areas to the South of Rivas, Healy states that there are only general similarities in ceramic sequences (Healy 1980, 317). Sometimes the painted styles are vaguely similar. It seems as though in the Formative horizon in Middle America we have the Zoned Bichrome wares which are closely related to the Mesoamerican cultural tradition and the Scarified Wares which are related to Lower Central America and South America (Healy 1980, 319). Healy proposes to draw a line to demarcate the boundary of Mesoamerican influence right under the Rivas region. Although Guanacaste has close ties with Rivas, it is not under a real influence from Mesoamerica (Healy 1980, 320). The similarities between Rivas and other areas rapidly declines to the South of the Nicoya Peninsula.

Healy notes some alliance between Rivas and El Salvador, although this remains quite limited (Healy 1980, 321). The Salvadorian Usulután Ware is an important early Mesoamerican and Central American trade ware. This is also found in the Rivas region, however in small quantities (Healy 1980, 321). Another similarity comes from the Middle Polychrome Period. There is a similarity between the motif on an eastern Salvadoran polychrome sherd and on Mandador variety Papagayo Polychromes from Rivas (Healy 1980, 322). The motif probably is an abstract toad or frog, which is also common in other areas of Mesoamerica. After the Middle Polychrome Period, however, there is not any other clear evidence of contact between Rivas and Salvador.

According to Healy there are not many ties between Rivas and Honduras (Healy 1980, 323). The most apparent is from the Middle Polychrome Period in which a Papagayo Polychrome vessel was recovered from a tomb in Copan, along with some Tohil Plumbate vessels (Healy 1980, 324). However, no Classic Maya pottery has been found and therefore it must be dated after the collapse of Copan, during the Early Postclassic Period of Mesoamerica (900-1200 AD).

Healy shows that resemblances of the Rivas region ceramics can be found as far North as the Maya area (Healy 1980, 325). In early periods, this only concerns monochrome and bichrome pottery. From the Early Polychrome horizon (300-800) there are some connections between the Maya and Rivas regions (Healy 1980, 325). These are, however, quite general. The Maya orange base polychromes vaguely remind us of the first Rivas polychromes specifically the Gonzales Polychrome (Healy 1980, 326). The change from monochrome and bichrome painting to polychrome ceramics seems to have happened around the same time in both regions. Other things that appears at roughly the same time in both regions, are flanged bowls and composite silhouette bowls. It seems like there has been overlap in the Gran Nicoya Middle Polychrome Period and the Maya Late Classic (Healy 1980, 326). This can be seen in similar vessel forms, because of the use of Mayan or Mayoid motifs in the Rivas region. In Middle and Late Polychrome Periods the influx of some central Mexican motifs is visible as well. There are instances in which the “step fret” and “stepped pyramid” are found on Papagayo Polychrome varieties, as well as on Mombacho Polychrome-Incised (Healy 1980, 326). There even are some examples of vessels that have Mexican deities depicted or a plumed serpent on them. Also there is a strong resemblance in the geometric motifs of Rivas ceramics and the Mixteca-Puebla designs from Cholula.

#### 6.4. Culture History

For decades, archaeologists have tried to extract information from the pottery about the culture to which it belongs. No longer is the sole objective to describe and classify or the function of the pottery, but from now on the people behind the ceramics are explored. By comparing different types of ceramics in different times and regions the story behind the pottery is extracted. The first person to really try this for southwestern Nicaragua is Healy in 1980. He researched the artefacts that Willey and Norweb excavated in the Rivas region, but which they themselves never analysed (Healy 1980, 5). In doing this, he not only looked for the people behind the pottery, but he also tried to find connections with other cultural regions to the North and South. His objective is to identify the inhabitants of Rivas of the Zoned Bichrome Period in the larger context of a more general Central American culture (Healy 1980, 331). In contrast to the previous chapter, which was about different styles of ceramics, this chapter is about the people that produced these ceramics.

Healy proposes a culture history of the Rivas region (Healy 1980, 329). He tried to trace back all the way to when Early Man entered Central America, but unfortunately, and unlike North and South America, there is not a lot of evidence for this. There is only little data on Early Man mostly from fluted projectile points. What makes it even harder to extract information about Early Man is the fact that the contexts of these finds most of the time are far from ideal since they have been lost when the artefacts ended up in private collections. The artefacts do not tell us an awful lot about the life ways of the peoples to which they belonged. Healy writes that there was virtually nothing known about the pre-ceramic times in Nicaraguan prehistory.

Even though the earliest testimony of pottery making peoples in the Americas dates from roughly 3000 BC as far South as Ecuador, the earliest evidence of occupation in the Rivas area dates to the Zoned Bichrome Period (350 BC – AD 300) (Healy 1980, 330). The main evidence for this derives from pottery, which was well made and recognisable by its zonal decoration. Despite being the first evidence of aboriginal occupation in Rivas, the pottery is definitely not crude. This seems paradoxical, but considering the relatively late appearance of ceramics in contrast to other Mesoamerican or Peruvian regions, it is not that odd (Healy 1980, 330). Healy also points out the many stylistic ties Zoned Bichrome pottery has to a pottery style that prevailed in Mesoamerica in the Middle Preclassic Period (1000 BC), in spite of the big time lag between the Nicaraguan and Mesoamerican pottery styles (Healy 1980, 330). The greatest similarities, however, are found in nearby Guanacaste, Costa Rica. Through the finds of parallel or identical (traded) types of pottery it is suggested that the Gran Nicoya subarea might originally have been settled by one and the same

cultural or ethnic group which produced pottery (Healy 1980, 331). It seems as though the Rivas peoples have been influenced by Mesoamerica, and no matter which ethnic group they belonged to, it does not look like they have penetrated Central America further South than northwest Costa Rica (Healy 1980, 331). In conclusion, we could say that Rivas was developing within and influenced by wider cultural traditions, but at the same time it was relatively isolated from the epicentre and developments of those cultures (Healy 1980, 311; Lange 1992). If you relate the peripheral geographical position of Rivas to the Andean and Mesoamerican areas, this characterization is not inappropriate. In general it appears that the cultural ties have been more northerly than southern. Evidence for this can be found in the ceramic styles and from the solid, modelled figurines (Healy 1980, 311).

Healy goes on with saying that the Zoned Bichrome Period sites are located close to the isthmus shores of Lake Nicaragua and also on Ometepe Island itself (Healy 1980, 331). Although there was no faunal or floral evidence recorded, there was a fragment of a metate that points to maize production. Also, “sinkers” were found which hints to reliance upon fishing. Hunting has probably always been important, although projectile points seem to have lacked throughout the Rivas sequence, but this is not unusual for Lower Central America (Healy 1980, 331). This lack of stone projectile points might be explained by the employment of bone or fish points and fire-hardened wooden shafts instead of using stone ones.

Elsewhere in the subarea, manos and metates or other indicators for subsistence seemed to be lacking (Baudez and Coe 1961 in Healy 1980, 331). The ceramic remains from Rivas show a complexity that suggests an advanced cultural achievement of the region in Zoned Bichrome times (Healy 1980, 332). This high cultural level is generally only attained with a subsistence based on farming, which was not the case here. Although archaeological proof is not always found, Healy is convinced the population of the Zoned Bichrome Period of Rivas relied on subsistence farming (Healy 1980, 332). They complemented this with with fishing, hunting and gathering practices to complete their diet.

A new type of ceramics marked the beginning of the Early Polychrome Period (AD 300-800) (Healy 1980, 332). The Early Polychrome “cuspidor” bowl form and hollow, mammiform supports together with new types of pottery mark a different period in Rivas ceramics. Another commonly employed feature of this period is a glossy, graphite black paint which is found on several Early Polychrome ceramic types. Very typical for this period is the Gonzales Polychrome, which is characterized by abstract designs painted in red, outlined in black, on an orange to cream ground. In Guanacaste there is a similar type of pottery, called Galo Polychrome, which is also an important

pottery type. This helps to solidify the statement that Gran Nicoya subarea is one unified cultural zone during this time. Apart from these types, it is mostly localized pottery which does not seem to have been exchanged beyond regional boundaries (Healy 1980, 332).

During this time, it appears the reliance on maize production was greater (Healy 1980, 333). This is supported by a larger diversity in mano and metate types in Rivas, but also there is a more diverse tool assemblage which implies working of the land and the clearing of the forest were intensified. Tripod chili graters were found in Rivas and Nicoya for the Early Polychrome Period. All of this suggests an increase in reliance upon foodstuffs such as peppers, nuts, berries and perhaps even acorns which were being utilized more during this period. Lange points out, however, that the shift might not show a change in subsistence, but it might as well be a shift from wooden tools to nonperishable ones (Lange 1971 in Healy 1980, 333). There is not a lot of evidence for shellfish gathering in the Rivas region, but outside that area it increased and coastal habitations were founded. The number of habitations and thus probably also their populations may explain why the diet grew more diverse and the economy was intensified (Healy 1980, 333).

For the Early Polychrome Period it is hard to see external cultural ties. Local Rivas pottery types are not suitable for the tracing of cultural contacts (Healy 1980, 333). Healy sees resemblances, however general, between Rivas Early Polychrome Period ceramic and Classic Maya orange base polychromes (Healy 1980, 334). It is interesting that the hollow, mammiform feet appear in the Maya lowlands at about AD 100-300 for the first time, which is just prior to their appearance on the Early Polychrome graters of Rivas.

Healy gives a few examples of contact with the North. Firstly, there is the occurrence of “napkin-ring” ear spools which show up in Rivas in the Early Polychrome Period, but are already present in Mesoamerica for many centuries (Healy 1980, 334). Secondly, the solid, red painted figurines seem to have a “chacmool”-like depression in their chest, which until today is interpreted as evidence for human sacrifice and heart removal, which is obviously an important feat in Mesoamerican ceremonialism. Also, jades have been found in the Nicoya area which are reminiscent of Early Classic jades from the Maya region.

All put together, quite some data suggest continued Mesoamerican contact between AD 300-800, which roughly coincides with the Mayan Classic Period (Healy 1980, 334). Despite all of these indicators of external influence and contact, we should keep in mind that Rivas was a rising power in the Lower Central American region that started to gain importance, which developed mostly independently until about AD 800.

The Middle Polychrome Period gives way to new types of ceramics and there is somewhat of a sharp break with the earlier traditions in Rivas pottery (Healy 1980, 334). Two different types of pottery come into existence: white based Papagayo Polychrome and a utilitarian ware called Sacasa Striated. Vessel forms are also subjected to change. In these new forms, chronological ties with the Mesoamerican Fine Orange ceramics can be seen (Smith 1958 in Healy 1980, 335). Polychrome pottery flourished in the Middle Polychrome Period. Papagayo Polychrome seems to have been highly valued, since we see a distribution of the pottery type throughout Central America.

From now on, polychrome painting is no longer restricted to pottery, but it is also applied to other kinds of ceramics such as figurines (Healy 1980, 335). These figurines are mouldmade and hollow and are found in larger quantities. The number of stone artefacts like manos, metates, pestles and celts increase in the Rivas Middle Polychrome Period. A projectile point fragment and the only obsidian were also recovered from this period.

Another difference from the previous period can be seen in the large amount of bone and shell that has been found (Healy 1980, 335). On many of these skeletal remains evidence of additional human activity can be found, such as knife blade cut marks and break points. It seems that both fishing and hunting were important in this period. The number of marine molluscs has increased as well. String saw cuts on shells show us there must have been a well developed shell industry which must have produced shell bead, among other things.

Healy thinks the explanation for the drastic change in Rivas cultural patterns could be intrusion from Mexico (Healy 1980, 335). In the Middle Polychrome Period we see a very large amount of Mayan and Mexican motifs. These have already been noted by Lothrop (1926), among others. According to Healy, the Mesoamerican motifs are important evidence of the Chorotegan migrations to the Rivas area at around AD 800 (Healy 1980, 336). It is not just the obvious alteration of almost all facets of Rivas cultural traits, but this is also supported and clarified by ethnohistoric legends. This means that the people of the Middle Polychrome Period must have been aware of what was happening in the Maya area to a fair extent. Therefore, they must have been settled in the Nicoya subarea a little while prior to the Classic Maya collapse of about AD 900 (Culbert 1973 in Healy 1980, 336). The Chorotegans came from Chiapas, Mexico and migrated to Lower Central America. This gave way to contact between the Chorotega and the Maya (or at least Mayoid peoples) that lived along the coastal and overland route to the Nicoya subarea.

Apart from the Maya motifs that are found, Healy also speaks about designs that could be classified as Mexican. An example of this is the Mixtec-looking “stepped fret” motif which is seen in Rivas ceramics for the first time during the Middle Polychrome Period (Healy 1980, 337). This

suggests that there was contact between or at least knowledge of Rivas and Postclassic Mexico. If you take this into consideration, a terminal date of AD 1200 for this period seems validated.

In conclusion, Healy states that the “Mesoamericanization” of the Rivas region begun a few centuries before the Spanish arrival under the Chorotega and was further intensified when the Mexicanized Nicarao arrived (Healy 1980, 339). The Nahuatl speaking Nicarao were a Mesoamerican tribe that fled the Mexcian plateau because of its instability right after the collapse of Tula in the Postclassic Period. After a long migration throughout Central America they displaced the Chorotega around Lake Nicaragua and in the Rivas area.

## **7. The influence of Mesoamerica on polychromes from northern Gran Nicoya**

Most authors have tried to find links between prehistoric Nicaragua and cultures either to the North or the South. Mostly, authors attempted to link the Nicaraguan culture history to Mesoamerica, or to the Intermediate Area in case of the lower Pacific coast (Lange 1992). Especially Maya or, in more general terms, Mexican influences are often emphasised. We also find this emphasis on Mesoamerican influence on Gran Nicoya in just about all the literature on Nicaraguan pottery, and thus throughout this thesis. Some authors think this influence was more significant than others, but nevertheless, it is always stressed that such an influence existed. The idea of Nicaragua looking North for cultural guidance goes back to the beginning with Lothrop (1926) and carries all the way to McCafferty and Steinbrenner (2005). McCafferty and Steinbrenner (2005) argue that the cultural affiliation between Gran Nicoya and Central Mexico can be seen in linguistic, historical and archaeological evidence. This cultural affiliation begins in the Sapoá Period (ca. 800 AD) and continues into the Ometepe Period to the Spanish conquest in the early 1500s.

Most authors write about Gran Nicoya as being the outskirts of Mesoamerica. This is generally accepted since there are quite a few similarities between Gran Nicoya and the Maya area, but often they are not very striking. Lothrop (1926, 132) remarks the likeness of the Maya and Nicaraguan depictions of “the seated human figure motive”. Another reason why Lothrop is convinced the peoples from Nicaragua had a connection with those of the Maya area, is the typical long nose that is found on polychromes of pure Maya type, but is also not peculiar to Nicaragua. Healy (1980) also discusses the similarities between the Rivas region ceramics and those of the Maya area. From the Early Polychrome horizon (300-800 AD) some general connections between the two regions can be seen. The Maya orange base polychromes, for instance, remind us in a way of the first Rivas polychromes such as the Gonzales Polychrome. The change from monochrome and bichrome decorating to polychrome decorating seems to have happened at roughly the same time in both regions. Flanged bowls and composite silhouette bowls are also found at the same time in both regions. This makes us think there must have been an overlap in the Gran Nicoya Middle Polychrome Period and the Maya Late Classic. This because Mayan or Mayoid motifs are to be found throughout the Rivas region. In some instances we can see the “step fret” and “stepped pyramid” motifs on the Papagayo Polychrome varieties, as well as on Mombacho Polychrome-Incised. Sometimes Mexican deities or plumed serpents are depicted on vessels. Also strong resemblances can be seen in the geometric motifs of Rivas ceramics and the Mixteca-Puebla designs from Cholula.

Healy suggests that the Gran Nicoya peoples must have looked mostly to the North for cultural direction and according to him quite some data suggest continued Mesoamerican contact between AD 300-800, which roughly coincides with the Mayan Classic Period (Healy 1980, 334). In spite of these examples of influence from the North, we cannot say that the Gran Nicoya area was influenced by the Maya area to a great extent. Healy writes that Rivas developed within and was influenced by wider cultural traditions, but was relatively isolated from the epicentres and developments of those cultures all at the same time (Healy 1980, 311; Lange 1992).

Healy (1980) thinks intrusion from Mexico might have caused some drastic change in Rivas cultural patterns. Lothrop (1926) already notes a lot of Mayan and Mexican motifs in the Middle Polychrome Period. Healy thinks of the Mesoamerican motifs as being important evidence of the migrations of the Chorotegans to Rivas around AD 800. This is supported by the change in material culture and supported by ethnohistoric legends. Apart from the Maya motifs, Healy also speaks about designs that could be classified as Mexican. An example of this is the Mixtec-looking “stepped fret” motif which is seen in Rivas ceramics for the first time during the Middle Polychrome Period (Healy 1980, 337). This suggests that there was contact between or at least knowledge of Rivas and Postclassic Mexico.

McCafferty and Steinbrenner see similarities between the Mixteca-Puebla stylistic tradition and some Rivas styles. The Mixteca-Puebla style concerns itself with religious themes, the pantheon of deities (Quetzalcoatl and Tlaloc) and the 20-day calendrical system and is best represented in Mixtec- and Borgia-group codices originating from modern Oaxaca and Puebla, Mexico (McCafferty and Steinbrenner 2005). The style, however, is not limited to codices, but is also found on polychrome pottery, sculptures, murals and textiles. Elements from the Mixteca-Puebla stylistic tradition have been identified on polychrome pottery styles from Gran Nicoya dating between AD 800-1520 (Day 1994 in McCafferty and Steinbrenner 2005). These elements are often depicted as symbols, i.e. a cut shell for Quetzalcoatl's pendant or goggle eyes for Tlaloc. Figures are easily recognisable because of their colourful and caricature-like depiction. These symbols were used by many different cultural groups. The Mixteca-Puebla style and its symbols and iconic images were spread throughout Mesoamerica by the Olmeca-Xicallanca, who were traveling merchants that operated in the area where the Quetzalcoatl cult was present (McCafferty and Steinbrenner 2005, 287). Most probably there was no such thing as a large-scale movement of Nahua Nicarao that resulted in a population replacement, more likely is the idea that there was minor contact, perhaps through elite interaction with trading partners to secure prestige goods for international exchange (Helms 1993 in McCafferty and Steinbrenner 2005, 287). This theory

contrasts with Lothrop's theory on how the Nicaraguan wares have been influenced by what he calls Mexican cultural heritage. Lothrop (1926, 391) argues that Mexican warriors took the cultural heritage to Nicaragua. These warriors married Nicaraguan women and since women were potters this is how Mexican religious symbolism was introduced in Nicaraguan pottery.

Michael Smith and Cynthia Heath-Smith divide the concept of Mixteca-Puebla into three components: religious iconography, pictorial manuscript style and polychrome pottery (McCafferty and Steinbrenner 2005, 282). These categories are not always mutually exclusive, but it implies that when polychrome pottery is found, it does not necessarily mean the total cultural package of 'Mixteca-Puebla' traits is present.

McCafferty and Steinbrenner (2005) tell us Mixteca-Puebla style iconography in Gran Nicoya first appeared on Sapoá Period Papagayo Polychrome pottery and extends into the Ometepe Period on related types. The Santa Isabel assemblage does not feature many clear indicators of Mixteca-Puebla style. Some 'cut shell' designs are to be seen on Granada Polychrome which possibly relates to Ehacatl, the wind god. However, less iconic design configurations have been found on Papagayo varieties such as Casares and Mandador. These closely resemble pottery from the Cuaxiloa Matte type from Cholula's Early Postclassic period.

As said before, most authors try to link the Gran Nicoya area to the Maya or Mexican cultural areas. However, there is an exception, namely Braswell et al. (2002) who specify this and argue that there are definitely similarities between the pottery styles of Nicaragua and Mexico throughout different time periods, but they see most similarities with Honduras and El Salvador instead (Braswell et al. 2002, 29). This conclusion is also supported by Dennett et al. (2011). The similarities between ceramics of Nicaragua and Honduras are not limited to technology or common forms, but are also seen in the decoration techniques and specific iconographic motives. The parallel evolution of the ceramics of both regions indicates that the relation between the two regions was more than just commercial or sporadic exchange. This implies a shared ideology and shared notion of aesthetics during a long period throughout several centuries (Braswell et al. 2002, 33). The interregional interaction was quite intensive a long time before the peoples of Mesoamerica (i.e. the Nicaraos and Chorotegas from Mexico) came to Gran Nicoya.

In conclusion we can say that throughout time authors have searched for the culture areas that inspired the Gran Nicoya area. The level of agreement among the different authors is quite striking. Although Lothrop (1926) shortly discusses the influence from Peru to the South, the thought that Gran Nicoya sought its cultural direction to the North is most prevalent. Many examples of influence from the Maya area, or more general from Mexico, have been given. This evidence, in

short, consists of pottery styles and motifs, migration streams, exchange and linguistic evidence. The main exception to this is the article of Braswell et al. in which they argue that the influence from Honduras and El Salvador is greater than that of Mexico, a conclusion that is supported by Dennett et al. (2011). El Salvador and Honduras have been described by Dennett et al. as being “the traditional southeastern periphery” of the Mesoamerican cultural area (Dennett et al. 2011, 391). Although there may be some differences in opinion and the evidence may vary, it almost seems as though the influence from Mesoamerica on polychromes from the northern sector of Gran Nicoya is presupposed by every archaeologist and that research is based on finding evidence to support this supposition or hypothesis. This influence from Mesoamerica is the common factor in all the research done on polychrome ceramics from northern Gran Nicoya, Nicaragua, since the line of evidence starts in the Classificatory-Descriptive Period with Lothrop and continues all the way to Current Interpretations with the last publication in 2011. Although there are many examples of similarities between northern Gran Nicoya and the cultural areas to the North, Nicaragua has developed in a relative isolation. Although the Gran Nicoya area has had links to the North, it has never been heavily influenced by this area, but has developed on its own pace. It always has had a liminal position. Therefore I think we could conclude that Gran Nicoya can be classified as the periphery of Mesoamerica, just like Honduras and El Salvador, instead of being in the cultural centre.

Although there is a lot of evidence that supports the hypothesis that the Nicaraguan part of Gran Nicoya is influenced by the North, we should also keep in mind that there is a discrepancy in information from the cultural areas to the North and the direct South of the Gran Nicoya area. The dissimilarity in the amount of data available from both areas does not necessarily mean there is less or no correlation with one of those areas. To fully prove that the cultural influence came from Mesoamerica and not from for instance Costa Rica and Panama, further research should be conducted there so the hiatus in information can be filled.

## 8. Conclusion

The Gran Nicoya area is the area around lakes Nicaragua and Managua and stretches into northern Costa Rica. Often the Nicaraguan part of Gran Nicoya is referred to as the northern part and the Costa Rican part as the southern part. The Gran Nicoya area has been inhabited by many peoples, among which the Nicarao and Chorotega. The migration of these peoples has been studied by different authors and presumably they come from Mexico, which can also be seen in the stylistic tradition of the polychrome pottery that is found in Nicaragua.

In the Classificatory-Descriptive Period (1840-1914) Lothrop looks at ceramics from Nicaragua and Costa Rica in a very systematic manner for which he uses a classificatory-descriptive approach. Apart from describing and classifying ceramics, Lothrop also concerns himself with the naming of ceramics. He starts naming ceramics after local variations instead of naming them after a bigger group of combined styles.

Influence from the Maya area is already presumed by Lothrop. In order to do this, he does not only look at ceramics but also at iconography. He also sees similarities between Nicaraguan ceramics and the iconography from Mexican codices and the Aztec cultural area. Although Lothrop does look South for a cultural connection, he does not see strong ties with the Peruvian area.

Lothrop concerns himself with chronology and context, which is why he is a little ahead of his time. The problem with this, however, is that context is lost in the collections Lothrop has researched and with that a lot of information about wares and seriation is lost. Lothrop notes that context and chronology are important in understanding the development of culture. According to Lothrop Nicaraguan ceramics can be cross-dated to Maya and Aztec ceramics (and thus their calendar) because of the stylistic comparisons between the styles.

Another progressive component in Lothrop's work is the concern with the culture behind the ceramics. Lothrop concludes that the Nicoya Polychrome Ware has been made by the Chorotega because of the clear resemblance with Maya styles that antedate the arrival of the Nicarao. He also argues that Mexican cultural thought has been brought to Nicaragua through warriors that married women there. Mexican religious symbolism got introduced to Nicaraguan pottery styles by the women that married Mexican warriors, who were potters.

Although Lothrop's work is mainly a classificatory-descriptive work, it also holds aspects which show that he was ahead of his contemporaries. It is not mainstream to include chronology, context or cultural history into a classificatory-descriptive work, but this is exactly what Lothrop

has done. In later times, these concerns are common ground for all archaeologists.

In the first half of the Classificatory-Historical Period (1914-1960) there was a Concern with Chronology (1914-1940). Seriation and stratigraphy were linked together and they they were used for chronology, typology and classification. Classification had changed from simply describing artefacts to a means to plot culture forms in time and space. Ethnology was used in archaeology to support migration theories. This connection between archaeology and ethnology is called the Direct Historical Approach. Since no absolute dating through a calendrical system was possible in Nicaragua (unlike in Mexico), relative chronologies were relied upon.

In Current Interpretations (1980-2011) ceramics, chronology, comparative analysis and culture history are of the biggest interest. It starts with Healy's new method for analysing ceramics: by combining the Modal Analysis and Type-Variety system into one. Apart from decorations and the physical form of the ceramics, he also discusses context and cultural traits. Healy looks tries to find connections between sites and their cultural significance. He also starts researching the methods that are used to produce the ceramics such as the type of clay, tempering and firing.

In 2011 Dennett et al. used a new approach to analysing ceramics called preliminary compositional analysis and it is used to trace the origins of the ceramics by looking at the material of which it consists. The provenience of the Usulután-types and Rosales Zoned Engraved ceramics has been researched in particular. Again, influence from the North can be seen, especially from Honduras and El Salvador, the periphery of Mesoamerica.

In Nicaragua dates cannot be linked directly to the Gregorian calender. Relative chronologies were most important until C14 dating gained importance from the 1980s onwards. Seriation has also become important as a tool for chronology and provides with a relative cultural framework which makes differences in chronology visible. Healy does not see many drastic changes in the Rivas sequence. Seriations are used for cross-cultural analysis or synchronization. Healy used C14 dating to verify the relative sequence.

Vázquez et al. (1992-93) come up with a new chronology. The periods are now named after the most important places of a certain time instead of after the type of pottery that was most prevalent, making this chronology more useful for archaeology as a whole instead of just ceramics. The dependence on cross dating is still quite high which is caused by the fact that there are less data available from the northern sector than the southern sector of Gran Nicoya.

In 2005 McCafferty and Steinbrenner wrote an article which again changes the chronology. According to them, the diagnostic ceramics of the Ometepe period actually belong to the Sapoá

period. They validate this through C14 dating on sherds that were from the Ometepe period but turned out much earlier. This is not just a problem of nomenclature since both Sapoá and Ometepe periods are associated with certain migration waves: the Sapoá period was linked to the arrival of the Chorotega, while the arrival of the Nicarao to the Ometepe period.

Healy makes a Comparative Analysis between the cultural areas of Gran Nicoya and other cultural centres to the North and South. In order to do so, he compares ceramic sequences and phases, ceramic types and chronologies of different areas. The comparison of more general cultural backgrounds is saved for the heading of culture history.

Healy divides the Gran Nicoya area into a northern and a southern area, although the Nicaraguan and Costa Rican parts have many similarities. The bond between the Rivas and Guanacaste areas is the closest in the Zoned Bichrome Period, the areas are quite similar in the Middle Polychrome Period and least similar in the rest of the Pre-Columbian periods. According to Healy the Papagayo Polychromes have been manufactured or at least originated in Nicaragua and then spread out over a larger area. Papagayo Polychrome was found in Honduras, El Salvador and as far North as Central Mexico. The wide distribution of ceramics in this period is unknown to other periods.

Healy sees ties between Rivas and El Salvador, especially in Usulután ware, which is an important early Meso- and Central American trade ware. After the Middle Polychrome Period, however, there is not any other clear evidence of contact between Rivas and Salvador. He does not see many ties with Honduras.

From the Early Polychrome horizon (300-800) there are some general connections between the Maya and Rivas regions. The Maya orange base polychromes vaguely remind us of the first Rivas polychromes specifically the Gonzales Polychrome. The change from monochrome and bichrome painting to polychrome ceramics seems to have happened at about the same moment in the Rivas and Maya areas. It seems like there has been overlap in the Gran Nicoya Middle Polychrome Period and the Maya Late Classic. Step fret and stepped pyramid motifs occur in the Middle and Late Polychrome Periods implying influence from central Mexico. He also sees resemblances in the geometric motifs of Rivas and the Mixteca-Puebla designs from Cholula.

In the subchapter Culture History the objective of describing the peoples behind the pottery is discussed. Different types of ceramics from different times are compared to find out the story behind the ceramics. The main evidence of the earliest occupation of the Rivas area is from the Zoned Bichrome Period (350 BC – 300 AD) and consists of pottery. Although this is the first

pottery that has been found in this region, it is not crude at all. This is so because ceramics appear relatively late in this area. Identical styles in Rivas and Guanacaste suggest that the entire Gran Nicoya area was occupied by one ethnic group at that time. Rivas was developing rather isolated although it lies between two cultural traditions. Healy sees more ties with the cultural areas to the North than to the South.

From the Early Polychrome Period (AD 300 – 800) new types of ceramics started developing. Characteristic for this period is the Gonzales Polychrome, which is defined by abstract designs painted in red, outlined in black, on an orange to cream ground. In Guanacaste a similar type of pottery, called Galo Polychrome, exists. This type is also important and helps to solidify cultural unity of the Gran Nicoya subarea during this time. The increased numbers of manos and metates indicate a higher reliance on maize production. Also more tools that are related to farming have been found. This shift might not be a shift in subsistence, but a shift in choice of material.

For the Early Polychrome Period it is hard to see external cultural ties and only few have been found. Baudez and Coe say the black-on-red bichromes can be linked to Black Line styles of Panama. Healy sees resemblances, however general, between Rivas Early Polychrome Period ceramic and Classic Maya orange base polychromes. The hollow, mammiform feet appear in the Maya lowlands at about AD 100-300 for the first time, which is just before their appearance on the Early Polychrome graters of Rivas.

Quite some data suggest continued Mesoamerican contact between AD 300 – 800, which roughly coincides with the Mayan Classic Period. Despite all of these indicators of external influence and contact, we should keep in mind that Rivas was a rising power in Lower Central American region, which developed mostly independently until about AD 800.

Healy explains the changes in cultural patterns by intrusion from Mexico. In the Middle Polychrome Period a very large amount of Mayan and Mexican motifs can be seen. These Mesoamerican motifs are evidence for the migration of the Chorotega around AD 800, which is also supported by ethnographic accounts. The initiators of the Middle Polychrome Period must have been aware of what was happening in the Maya area and herefore they must have settled in the Nicoya subarea a little while prior to the Classic Maya collapse of about AD 900. The Chorotegans came from Chiapas and migrated to Lower Central America. In this way contact was established between the Chorotega and the Maya (or at least Mayoid peoples) that lived along the coastal and overland routes to the Nicoya subarea.

Most authors have tried prove influence on Nicaragua from cultures either to the North or the

South. Mostly, Nicaraguan culture history is linked to Mesoamerica, or to the 'intermediate area' in case of the lower Pacific coast (Lange 1992). Especially Maya or Mexican influences are often emphasised. This emphasis on Mesoamerican influence on Gran Nicoya can be found in just about all the literature on Nicaraguan pottery. The degree of influence differs according to various authors, but nevertheless, the fact that this influence exists is never really doubted. The idea of Nicaragua looking North for cultural guidance goes back to the beginning with Lothrop (1926) and remains in current times when we look at for instance McCafferty and Steinbrenner (2005). McCafferty and Steinbrenner (2005) argue that the cultural affiliation between Gran Nicoya and Central Mexico can be seen in linguistic, historical and archaeological evidence. This cultural affiliation begins in the Sapoá Period (ca. AD 800) and continues into the Ometepe Period to the Spanish conquest in the early 1500s.

The influence from the Mixteca-Puebla stylistic tradition, however, is not discussed as often as that of Mesoamerica, but is discussed by McCafferty and Steinbrenner in 2005. The Mixteca-Puebla tradition concerns itself with religious themes, deities and the calendrical system. The tradition can be seen on a variety of artefacts, among which polychrome pottery. Mixteca-Puebla elements have been identified on Nicaraguan polychromes between AD 800-1520. These elements are often depicted as symbols. The Olmeca-Xicallanca spread the Mixteca-Puebla style through Mesoamerica. In Gran Nicoya, the iconography of the Mixteca-Puebla style first appeared on Sapoá Period Papagayo Polychrome pottery and extends into the Ometepe Period on related types. However, less iconic design configurations have been found on Papagayo varieties such as Casares and Mandador. These closely resemble pottery from the Cuaxiloa Matte type from Cholula's Early Postclassic period.

Braswell et al. (2002) recognise the most clear evidence of influence in the ceramic traditions not of Mexico but of Honduras and El Salvador. The parallel evolution of the ceramics of both regions indicates that the relation between the two regions must have been more than just commercial or sporadic. It implies a shared ideology and shared notion of aesthetics throughout several centuries.

In conclusion we can say that what binds all authors together is the search for the culture areas that inspired and influenced the Gran Nicoya area. It is quite remarkable that most authors agree on this point, which is not something we see often in science. Many authors research different possibilities, but the hypothesis that cultural influence comes from the North prevails. Many examples of Mayan influence, or more general from Mexico have been given by various authors such as Lange, Healy, Norweb, McCafferty and Steinbrenner. This evidence, in short, consists of

pottery styles and motifs, migration streams, exchange and linguistic evidence. The main exception to this is the article of Braswell et al. in which they argue that the influence from Honduras and El Salvador is greater than that of Mexico. Dennet et al. describe El Salvador and Honduras as being “the traditional southeastern periphery” of the Mesoamerican cultural area (Dennet et al. 2011, 391). Although opinions and evidence may somewhat from one author to another, the influence from Mesoamerica seems presupposed by all archaeologists when it comes to the northern sector of Gran Nicoya. It seems as though research is based on finding evidence to support this supposition or hypothesis. Once again, this is influence from Meseoamerica is the common factor in all the research done on polychrome ceramics from northern Gran Nicoya, Nicaragua. The line of evidence starts in the Classificatory-Descriptive Period with Lothrop and continues all the way to Current Interpretations with the last publication in 2011. Although there are many examples of similarities between northern Gran Nicoya and the cultural areas to the North, Nicaragua has developed in a relative isolation. Therefore I think we could conclude that Gran Nicoya can be classified as the periphery of Mesoamerica, just like Honduras and El Salvador, instead of being in the centre of its cultural influence.

#### *Future research*

One of the main problems in the study of the archaeology of Nicaragua, including the polychromes, is the fact that there is not an awful lot of literature available on this subject, especially if it is compared to the rest of Mesoamerica. The problem with Lothrop's work is that it consists out of museum collections and also Healy's work poses a problem since he uses material that is excavated by others and much of the context has been lost. Only in more recent years, archaeologists have been excavating and immediately researching and publishing their finds. This is exactly what should happen more often. The prevalent hypothesis that the Nicaraguan part of Gran Nicoya has been highly influenced by Mesoamerica, and especially Mexico, is also something that can be attested by more research. Not only in the Maya and Gran Nicoya areas themselves, but also in the areas to the South of Gran Nicoya. In this way it can be made sure that the high level of similarities with the Mesoamerican cultural area is indeed caused by cultural influence and not by the fact that information of the cultures to the South is scarcer.

## 9. Abstract

The research of polychrome ceramics from northern Gran Nicoya, Nicaragua started in a classificatory and descriptive manner, had (and has) many concerns with chronology but has slowly but steadily evolved into a discipline that tries to explain the culture behind the pottery. In order to do so, many different techniques have been used. Decorations and forms are examined and compared to those of other culture areas from the very beginning. Also, the function of the ceramics are researched. In later times the clay of which the ceramics are made itself is also examined and conclusions about provenience and links between different areas can be made. Although the methods that each author applies are different, the common thought in all of the research on polychrome ceramics from northern Gran Nicoya is the hypothesis that it is influenced by the Mesoamerican culture area to the North, more than the Peruvian culture area to the South. The main influence is thought to come from the Maya area and apart from that Aztec influences can be seen. The Mixteca-Puebla stylistic tradition has also left its mark on Nicaraguan ceramic styles. Other authors stress the high level of resemblance with ceramic types from Honduras and El Salvador. In spite of the many examples of influence from the North, Gran Nicoya has still developed in a rather isolated fashion. Therefore I think Gran Nicoya belongs to the periphery of Mesoamerica, just like Honduras and El Salvador, instead of being in the centre of its cultural influence. It is also generally accepted that the Nicarao and Chorotega came to Nicaragua in different migration waves. This is supported by archaeological as well as ethnographic evidence. Furthermore, a general theory of the history of archaeology is discussed which leads us to the conclusion that the historical approach to the study of ceramics provides a special vantage point from which subjectivities from different authors can be filtered out so a higher level of objectivity is achieved.

### 9.1 Samenvatting

Het onderzoek naar polychroom aardewerk van noordelijk Gran Nicoya, Nicaragua is begonnen met een classificerende en descriptieve aanpak en heeft veel problemen (gehad) met de chronologie, maar langzaam maar zeker veranderde de discipline in een die de cultuur achter het aardewerk uit probeert te leggen. Om dit te kunnen bereiken, zijn vele technieken gebruikt. Decoraties en vormen zijn onderzocht en van meet af aan vergeleken met andere cultuur gebieden. Ook zijn de functies van het ceramiek onderzocht. Later werd de klei waarvan het aardewerk gemaakt is onderzocht en conclusies over de herkomst en links met verschillende gebieden kunnen zo getrokken worden.

Ondanks dat elke auteur zijn eigen methodes gebruikt, loopt er een rode draad door al het onderzoek naar polychroom aardewerk van noordelijk Gran Nicoya. Dit is de hypothese dat noordelijk Gran Nicoya is beïnvloed door het Mesoamerikaanse cultuurgebied in het noorden, meer dan door het Peruaanse cultuur gebied in het zuiden. Er wordt gedacht dat de grootste invloed van het Maya gebied komt en dat daarnaast ook Azteekse invloeden gezien kunnen worden. De Mixteca-Puebla stylistische traditie heeft ook haar stempel gedrukt op Nicaraguaanse ceramiek stijlen. Andere auteurs benadrukken het hoge niveau van overeenkomsten met aardewerktypen van Honduras en El Salvador. Ondanks de vele voorbeelden van invloed van het noorden, heeft Gran Nicoya zich nog steeds in een relatieve isolatie ontwikkeld. Daarom denk ik dat Gran Nicoya tot de periferie van Mesoamerika behoort, net als Honduras en El Salvador, in plaats van tot het centrum van culturele invloed. Dat de Nicaraos en Chorotega naar Nicaragua kwamen in verschillende migratie golven is ook algemeen geaccepteerd. Dit wordt ondersteund door zowel archeologisch als etnografisch bewijs. Verder is er een algemene theorie van de geschiedenis van de archeologie besproken waaruit wij de conclusie kunnen afleiden dat een historische aanpak van de studie naar aardewerk een speciaal standpunt biedt van waaruit de subjectieve factoren van verschillende auteurs eruit gefilterd kunnen worden zodat een hogen niveau van objectiviteit wordt bereikt.

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