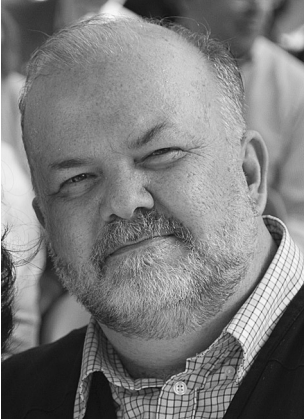


Mikko Louhivuori

Understanding Neolithic Southern Levant

Case Studies of Archaeological Semiosis in Action





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Preface

This study dedicated to the interpretation of Prehistoric symbols has a long personal history that began over thirty years ago in Helsinki University. While I was a student of the Septuagint expert Professor Ilmari Soisalon-Soininen I truly fell in love with the ancient world of the Old Testament, its languages, people and cultures. My short participation as a student volunteer in Beer Sheba excavations and my attendance of lectures by Professor Yohanan Aharoni literally changed my life. These experiences motivated me towards specialising and focusing my studies on Near Eastern archaeology. For my licentiate thesis entitled *A House for the Gods* (1976) I attempted to penetrate the minds of prehistoric people in order to understand the deeper roots of Canaanite temples and ultimately the Biblical Temple of Jerusalem.

The study was an exploration founded on my theory which was founded on the reasoning that the building of houses began in the Levant during the Neolithic period while at the same time archaeological discoveries demonstrated the rise of anthropomorphic goddesses. Consequently, my hypothesis claimed that perhaps the first temples were constructed as houses for the anthropomorphic gods. My problem with this study was the great difficulty in dating and comparing the published material because of the paucity of evidence of prehistoric sacred buildings in the 1970s. Even more seriously, I did not have a strong theory upon which to build my ideas and the work remained highly speculative.

Today, the remarkable discoveries from Epipaleolithic sites in Syria and Turkey, especially the temple at Göbekli Tepe¹ have demonstrated that the basic reasoning of my hypothesis was wrong. We now know from the archaeological record that the first temples were built at a time when only animals were depicted in the monumental art. On the conclusion of the licentiate, I continued with my doctoral thesis, *Continuity and change in pottery in the Early Bronze I period in Israel* (Louhivuori 1988) at the Hebrew University of Jerusalem under the guidance of Professor Amnon Ben-Tor.

¹ Schmidt 2006

This work, which was highly technical, tried to illuminate - with the help of pottery studies - the transition from the Chalcolithic to the Early Bronze Age Period.

A decisive turn in my quest in understanding the prehistoric roots of the Biblical temple came from my discussions with Professor Antti Laato at Åbo Akademi University, Turku, Finland. His *History and Ideology in the Old Testament Prophetic Literature: A Semiotic Approach to the Reconstruction of the Proclamation of the Historical Prophet* (1996) contains a thorough introduction to the thinking of Charles Sanders Peirce. Laato's approach was novel at the time since a far more natural and popular choice would have been to apply the linguistically-oriented Semiotics based on Ferdinand de Saussure's thinking and its foundation of Structuralism.

I had a chance to discuss the application of semiotics to prehistory with many experts at the *International Conference on Archaeology* in Copenhagen, 1996. At that time de Saussure and structuralism had fallen from fashion and there was an increasing realisation that the approach to archaeological interpretation was important but in some ways also quite problematic.

Professor Laato patiently explained to me the difference between the dyadic and triadic signs and thereby gave me the foundations for applying Peirce's Semiotics to my subject. Later developments have brilliantly proven the point made by Laato as there has been a quite recent discovery of Peirce by archaeological theorists and his semiotics have been applied to some case studies, for example by Robert Preucel (2006) on pre-Colombian American cultures. The difference between the sign models of Peirce and of de Saussure are indeed much more far reaching in consequences than a superficial examination would presuppose.

This current study is not an attempt to solve the question of the origins of Levantine sacred architecture. The structures that may have special character are part of a much broader group of symbolic signs that must be studied holistically rather than individually. To simply concentrate on structures and what was found in them is not sufficient. The material is fascinating yet highly complex and becomes increasingly difficult to comprehend as new discoveries add to our knowledge about Levantine Neolithic. Therefore, I have chosen to focus my attention on my distinguished

colleagues, the archaeologists who either discovered the symbolic signs or have written accounts based on the primary material: John Garstang and Kathleen M. Kenyon at Jericho, Denise Schmandt-Besserat at ‘Ain Ghazal, and Yosef Garfinkel and Michel A. Miller at Yarmuk. In addition, my attention is directed to the highly original and challenging ideas of David Lewis-Williams and I have included his generic interpretations on symbolism at ‘Ain Ghazal.

This work is based on the analysis of published studies only and I have purposely avoided personal communications about the subject with those who could be reached. I believe that this allows for both consistent and thorough analytical work which in itself represents a semiotic process accounting for my personal and subjective views in my endeavour to produce a critical assessment of their archaeological semiosis in action.

I would like to gratefully acknowledge the encouraging and inspirational supervision of Professor Antti Laato at Åbo Akademi University, Turku, for his invaluable suggestions and friendship.

I wish to thank the numerous individuals and colleagues who engaged with my work and discussed the ideas of this book with me. I am especially indebted to Dr. Ianir Milevsky, Dr. Eliot Braun and Dr. Hava Katz for their valuable contributions.

I wish to thank Mr. Kauko Suontama and Ms. Silvia Krapiwko for their help in creating the illustrations used in this manuscript.

I would like to express my appreciation to the Waldemar von Frenckells Stiftelse for the scholarship supporting this research.

I owe my deepest gratitude to my dearest Nimeh for her immeasurable support, guidance and endless patience. This work would not have been possible without her. To our children, I thank you for your assistance and encouragement.

Soli Deo gloria

Chapter 1. Archaeological Semiosis and the Archaeological Sign in Semiotics

The subject of this book is the study of the processes of archaeological semiosis; to examine how archaeologists give meaning to discoveries. These analyses are based on the branch of semiotics originally developed by Charles Sanders Peirce over a hundred years ago but that have only recently gained stronger interest by those theorists of archaeological research who have come to realise the limitations of the more influential de Saussurean branch of semiotics.² It is therefore important to stress that *archaeological signs* are not the main subjects of this research. The intention is not to provide yet another interpretation to Pre-Pottery Neolithic detached skulls or to the other discoveries analysed in the case studies.

In 1955 towards the end of the season of excavations at Tel Jericho led by Kathleen M. Kenyon, a group of plastered skulls were discovered that prominently gave a human face to the Pre-Pottery Neolithic cultures (see Figure 1). These powerful archaeological signs can still today make a very strong impact on viewers often causing wonderment and amazement.³ This discovery gave Kenyon an almost insurmountable challenge of interpretation. What on earth were the intentions of the prehistoric people of Jericho in detaching heads from the deceased and modelling plastered faces on them? What function did these heads serve for the inhabitants of the society? Who and why were individuals chosen for such bizarre treatment?

² These two main branches of semiotics are discussed later in detail. Today, there are many other branches that have evolved from the two pioneering systems. As examples: cognitive semiotics, bio-semiotics and music semiology.

³ “They were all most remarkable as realistic human portraits. One was very much more beautiful than the rest. The photograph (Pl.20 B) of it still in position in the ground never fails to produce a gasp of astonishment when I show it on the screen in a lecture” (Kenyon 1957, p. 62.)



Figure 1: Powerful archaeological sign from Jericho, drawing by Kauko Suontama

From a semiotic point of view, Kenyon was placed in a very interesting situation in attempting to answer such questions. The purpose of semiotic philosophy is to examine how humans (and other life forms) give and express meaning in a process called *semiosis* by producing, using and understanding signs.⁴ Semiotics is a vast field of research, hence, in this book I concentrate solely on one aspect that we may call ‘*archaeological semiosis*’. By this term I am referring to all the various semiotic processes through which a modern archaeologist tries to give meaning to discoveries from the ancient past.

The main focus of the discipline of archaeology is an attempt to understand the human past on the basis of the material evidence that has survived the ravages of time. *Semiosis* is a word coined for the process of human beings giving meaning to objects; it is representative of the entire process of translation, interpretation or giving meaning to the sign. The philosophy that studies signs and sign systems is called *Semiotics*, the term comes from the Greek word *semeiotikos*, interpreter of signs.

⁴ The term comes from the Greek word *semeiotikos*, interpreter of signs. The word was used by John Locke *An Essay Concerning Human Understanding*: “All that can fall within the compass of human understanding, being either, first, the nature of things, as they are in themselves, their relations, and their manner of operation: or, secondly, that which man himself ought to do, as a rational and voluntary agent, for the attainment of any end, especially happiness: or, thirdly, the ways and means whereby the knowledge of both the one and the other of these is attained and communicated; I think science may be divided properly into these three sorts” (Locke [1823] 1963, p. 174.)

Archaeology is the study of material evidence surviving from past cultures and civilizations. Hence, giving meaning to prehistoric finds – objects – without the help of history and written texts is termed ‘*archaeological semiosis*’. Of essence, *archaeological semiosis* highlights the challenges in making sense and giving meaning to mute manmade objects, type series, as well as distribution patterns, functions of structures, sometimes highly complicated deposits of layers, patterns of settlement and other finds from the distant past of humanity.

Umberto Eco (1976, p. 7) defines semiotics elegantly:

Thus *semiotics is in principle the discipline studying everything which can be used in order to lie*. If something cannot be used to tell a lie, conversely it cannot be used to tell the truth: it cannot in fact be used ‘to tell’ at all. I think that the definition of a ‘theory of the lie’ should be taken as a pretty comprehensive program for a general semiotics (Italics by author).

In his semiotic theory, Eco applies Peirce’s branch of semiotics. In the Peircean model of *semiosis* there is an interaction between the *representamen* (*sign vehicle*), the *object* (*referent*) and the *interpretant* (*sense*).⁵ However, this philosophy based on the *triadic sign* has until now had considerably less impact on archaeological theory than that of the *dyadic sign* used in de Saussure’s branch of semiotics. de Saussurean semiosis defines the sign as consisting of a *signifiant* (the signifier) and a *signifié* (the signified).⁶

The difference between the triadic and dyadic definition of sign is itself surprisingly significant. The aim of semiotics is to describe the process of interpretation in such a

⁵ CP 5.484.

I will be following the standard abbreviations to the main references of Peirce’s works as follows:

CDPT = *Commens Dictionary of Peirce's Terms*.

CP x:y = *Collected Papers of Charles Sanders Peirce*, volume (x), paragraph(y).

EP x:y = *The Essential Peirce: Selected Philosophical Writings*, volume (x): page (y).

NEM x:y = *The New Elements of Mathematics by Charles S. Peirce*, volume (x): page (y).

W x:y = *Writings of Charles S. Peirce: A Chronological Edition*, volume (x): page (y).

The detailed referencing of volumes and works is found in the bibliography.

⁶David Chandler’s (2006) ‘Semiotics for beginners’, started as a website describing Semiotics largely from the de Saussurean point of view. This quite helpful online introduction has since been also published as a book (Chandler, 2007).

general manner as to allow the interpretation of signs to carry as many possibilities in all potential ways. After over a century of development, it has become apparent through the application of semiotic philosophy to the sciences and humanities that the model of the triadic sign provides a considerably better foundation for exploring the maximum number of interpretations for a sign.

Recently, there has been a surge of interest amongst archaeologists in applying the Peircean model of semiotics to their work. Robert W. Preucel has published two historical case studies using the processes of semiosis based on the triadic sign. Since the subject is relatively novel among world archaeologists, Preucel's book begins with a lengthy introduction to the life and thinking of Peirce. The works of Peirce, perhaps the greatest of all American philosophers, according to Preucel, are not very well known in his home country (Preucel 2006). Preucel's first case study is based on Brook Farm in West Roxbury, Massachusetts. 'My concern is to identify how architecture and the built environment mediated the different philosophies of Transcendentalism and Fourierism' (Preucel 2006, p. 17); the second case study examines "how Pueblo Indian people reconstituted their world following the Pueblo Revolt of 1680. The semiotic deployment of rhetoric, architectural form, and pottery design as material practices that collectively enable the Pueblo cultural revitalization movement" (*idem.*).

These semiotic case studies concentrate in a particular way on the person who is trying to give sense to an archaeological discovery. On what Ground he or she proceeds to give meanings and what kind of methodology is used. Archaeology of the prehistoric periods is in this sense very illuminating because of the lack of texts and the freshness of the findings when entirely new cultures or items are brought to light. For example, Kenyon's valiant efforts to provide interpretations for the detached skulls from Neolithic Jericho are an excellent subject for students of archaeological semiosis for three particular reasons. Firstly, at the time of her discovery no comparable sites were known from anywhere in the world to allow for comparative studies; thus her pioneering work built from fresh Ground provides clear demonstrations of her interpretations, the process of semiosis, in its purest form.

Later discussions built upon her work carry further processes of interpretation as is typical of research in general. Secondly, prehistoric case studies of archaeological semiosis are illuminative since there are no known literal documents from the people who made the objects and the meaning must be read purely from non-literal signs. Thirdly, the analysis of Kenyon's interpretations is facilitated by her method of discussion and argumentation. She utilised explicit detail in her work and a strong critical approach by weighting alternative interpretations and providing reasoning for her choices and rejections.⁷

A note on the chronology of the prehistoric Near East, it is a thorny issue and involves intriguing studies of calibrated and non-calibrated Carbon-14 measurements and evaluations of their results. Absolute dating is, of course, of crucial importance in setting local sequences to a broader Near Eastern chronological context. Since the technique was invented by W.F. Libby after the Second World War they have improved both in the process of taking carbon samples from the field and in the actual measuring of the remaining amount of C-14 in the samples.

I have followed the chronologies proposed by the scholars in the case studies because these are the foundation upon which they themselves based the comparisons, especially in the case of the study of Denise Schmandt-Besserat (see chapter 5) and no attempt is made to suggest a standard chronology for the Levantine Neolithic. For example, the lone Anatolian skull from Kösh Hüyük (see p. 113) is dated so much later than the Levantine examples that one should examine the number and quality of C-14 there. But since Schmandt-Besserat herself accepted the late 6th millennium date, it is used at face value.

Processual and Post-Processual Archaeology

Semiotic philosophy has had a major impact on the general development of 20th century social scientific thought; it has also made its mark on the discipline of archaeology through its theoretical approach and latest developments in the field. "One of the great strengths of archaeology is that it can use material evidence as a

⁷ Kenyon (1957, pp. 60-65, Pls. 20-23). The argumentation is largely repeated in her main Jericho publications and discussed further in Chapter 4.

means of addressing these ‘other histories’, and allowing other voices to come to the fore” (Thomas 2000, p. 8). This movement in modern archaeology towards the allowance of the “co-existence of multiplicity and variety of situation-dependent” (Burr 1995, p. 13) interpretations is seen as the emergence of a new discourse in the discipline.

The discourse of post-processual archaeology correlates with that of a general movement in the social sciences. The significance of this disciplinary development is in the recognition that “[w]hile the meanings we value certainly vary by contexts, the logical steps we take to understand those meanings may be considered the same, as they are a product of the way humans produce and understand signs, both linguistic and non-linguistic” (Bauer and Preucel 2000, as quoted in Bauer 2002, p. 38).

It is generally suggested that the disciplines of social science developed when western societies began to experience the transitional social, economic and political processes of modernisation leading from traditional societies to modern societies; “archaeology as a discipline is a product of modernity” (Thomas 2000, p. 14). Polanyi (1971) used the term *the great transformation* to draw attention to the political and economic changes that emerged in Europe between 1750 and 1920. Morrison (1995) asserts that the French revolution of 1789 was one of the most decisive determinants leading to the development of a theory of society which was officially separated from philosophy.

There are diverging accounts within social scientific writings as to when the social formations of modernity are professed to have begun. Nevertheless, the Renaissance of the fifteenth century, the Protestant Reformation of the sixteenth century and the scientific, industrial and democratic revolutions in the following centuries in America and Europe are often the major points of reference and basis of discussion for locating the rise of these twin projects of the social sciences and modernity.

Key thinkers of early modernity aimed to examine “[t]he unintended effects of classifying, ordering and rationalizing modern life, clipped freedom's wings” (Lyon 1999, p. 25). Morrison (1995, p. 6) categorises the key subject matter for the classical social theorists as focusing “on (i) the political changes brought by the French

revolution; (ii) the economic development leading to the growth of modern society and the emergence of capitalism; and (iii) the rise of individualism”. A fourth subject matter; (iv) the critique of scientific discourse, became a key theoretical problématique as the approaches of “positivist, empiricist and determinist science’ were rejected on the basis of ‘being incapable of reflecting the essential of human action” (Wagner 2001, p. 76) through its focus on quantification and explanations based on scientific experiments.

As a consequence, a rich variety of writers from all fields within the social sciences began to take note of the importance of the role of interpretation in the discipline; the rise of *Verstehen*⁸. This took shape in the philosophical traditions of phenomenology and hermeneutics leading to a reorientation of social scientific knowledge which resulted in drastic changes in ontological, epistemological and methodological groundings. The tensions between explanatory natural scientific models and interpretative symbolic-contextual approaches have been present since the establishment of the social sciences and been definitive in categorising the schools and branches of the field.

In the discipline of archaeology since the 1960s these tensions have emerged through the dichotomous discourse between processual and post-processual archaeologies. Processual archaeology refers to the group of archaeologists who belong to the explanatory natural scientific approach with their focus on spatial modelling and quantitative analysis. Post-processual archaeology refers to “a group of loosely allied approaches [... which share a] common dissatisfaction with the scientific approach of much of processual archaeology, particularly its focus on positivism and general laws of human behaviour [... and] its reliance upon the subject-object dichotomy and the facts-values distinction” (Preucel 2006, pp. 123, 146). They promote the interpretative symbolic-contextual approach to the discipline and activate the agency of subjects, objects and their attached symbolic meaning.

⁸ “The German philosopher and historian Wilhelm Dilthey is generally credited with expanding the scope of hermeneutics beyond the analysis of ancient texts and into a general philosophical argument ... his ideas had direct and profound influences on ... Max Weber ... [who] adopted Dilthey's *Verstehen* approach” (Weinberg 2008, p. 15-6.)

The aim of this current discussion is not to contest and contrast the differences between these two approaches nor provide an in-depth historical discussion on their developments. Rather it is to highlight the general trend towards interpretative archaeology, often founded in poststructuralism, and to position the present work in this trend (Preucel 2006; Bauer 2002; Tilley 1990; Hodder and Hutson, 2003). Furthermore, this work disengages from labelling itself as belonging to any prefix within the discipline, for, as recent discourse on post-modernity has shown, it is considered best to discard such “essentially contested” (Turner 1990, p.1) and “highly loaded” (Smart 1993, p. 13) terminology of prefixes and rather view all ‘post’ discussions as representing the ‘rise of the cultural’ in the social sciences; the ‘cultural turn’, the ‘linguistic turn’ and the ‘reflexive turn’⁹.

A more productive approach is to abandon attempts to characterise disciplines and societies in terms of the prefixes of post-, pre- or de- and to aim to convey the multi-layered and complex phenomena of meaning and context in relations between subject and object. Benton and Craib (2001, p. 75) state that there are various approaches within the social sciences that “are based on this human capacity for self-consciousness and reflection – but they all involve ways of interpreting the meanings that people give to their actions”. The key concepts are self-consciousness and reflection promoted via a critical approach to knowledge production and consumption.

This book describes what could be called the Peircean model for archaeological semiosis. This allows for such a critical approach through its key concept of ‘*Ground*’; by analysing the *Ground* by which meaning is allocated to objects, especially in prehistoric archaeology, one is able to break down the processes of giving meaning to signs with reference to his typology of sign relation to object: *icon*, *index* and *symbol*. The Peircean model allows for both an external problematisation of the main stages of research production and the ability to explore the inward reflection of the subject to object relationship via the interpretant i.e. the archaeologist, the

⁹ “The reflexive turn in the social sciences was connected to a wider debate in social theory between advocates of post-modernism and others about how to characterize contemporary institutions and social processes” (Benton and Craib 2001, p. 68.)

archaeological community and its intellectual traditions and the narrative within the research context.

This book is thus just one example of the many new approaches to research that semiotic philosophy offers the archaeologists. The case studies chosen for this book from Neolithic Southern Levant develop systematic analyses of methods of interpretations and the elements that are involved in archaeological semiosis. It is useful and can help scholars to understand better the reasons that have led some scholars to brilliant successes and others to apparent failures in the complicated processes of interpreting archaeological discoveries. It is important to note at this juncture that modern technological developments have allowed for deeper technical understandings of the Neolithic Southern Levant as seen through the work of Bonogofsky (2003) and Fletcher *et al.* (2008).

Bonogofsky (2003) highlights the key risks of the complicated processes of interpreting archaeological discoveries in their development of the ‘railroading industry of epistemologies’. This concept exemplifies the clear dangers when an archaeologist’s interpretation is taken as the solidifying argument in explaining the meaning of findings from eras lacking parallel examples or written histories. She argues that such ‘railroad epistemologies’ are both exclusive and in many cases misleading. Through her critical analyses of the various hypotheses surrounding the detached skulls found in the Levant she shows how “once an interpretation is made it is accepted without question by others who in turn build upon the now-assumed facts without a critical examination of the new, much less old, data” (Bonogofsky 2003, p. 7). Essentially, she is critiquing the “forces that sustain the social construction of archaeological knowledge” (*ibid.*).

Bonogofsky’s method of approach focuses on the availability of modern technology in examining the skulls to further understand the processes in their function and construction. Her small study demonstrates the consequences of the ‘railroading industry of epistemologies’ in regard to the treatment of the skulls’ post-mortem; the intentional pulling-out of teeth before the dry skulls were modelled as inaccurate. She shows how the consequences of such assumptions derailed a proper investigation into the function and construction of the skulls.

Fletcher et al. (2008) further Bonogofsky's methods through their focus on modern radiographic evidence in understanding cranial modification from the Pre-Pottery Neolithic. Fletcher *et al.* (2008) focus their study on "the combination of *in vivo* skull modification and post-mortem plastering in order to question the existing assessments of Pre-Pottery Neolithic B mortuary practices". They use modern technology to examine the skull D113 in order to gain a better understanding of the practices of the Pre-Pottery Neolithic societies. In their study they conclude that "the relationship between life practices and mortuary practices should be carefully considered within a wider, multifaceted approach to the analysis of skull removal, decoration and caching, which relate these ritually charged objects more closely to the ongoing relationship between life and death" (*ibid*, p. 320).

To recap, this book is thus just one example of the many new approaches to research the Neolithic Southern Levant. The aim is to study the meaning-making processes of the archaeologists engaged with the finds, through the application of semiotic philosophy, to offer better means of interpretation and analysis to modern day archaeologists. Similar to radiography and layered analyses of the skulls, this work can be useful in aiding scholars to better understand the reasons that have led prominent archaeologists in this field to varying assumptions concerning the nature of the detached skulls of the Pre-Pottery Neolithic B.

The reader is also advised about what this book is not. The subject is deep and broad and this limited treatise is in no way an attempt to present systematically and in a comprehensive manner the application of Piercean philosophy to archaeological semiosis. Only specific cases are being studied, and also these, in a more focused manner. Secondly, this book is not an attempt to answer the many questions raised by Neolithic research to suggest "correct" interpretations to the often quite mysterious symbolic objects found in excavations. Thirdly, the book is not a comprehensive study of all Levantine Neolithic symbolism or a full treatise of the on-going research on the detached plastered skulls. Rather, the case studies are selected in order to illuminate various types of archaeological semiosis, processes that are involved when an archaeologist or other scholar attempts to give meaning to signs from the past.

Language as Metaphor

In order to express the meaning of archaeological signs, they must first be *translated* into a text written in some human language. In archaeology, human language, text together with drawings, photos, maps, and statistics, are used in publishing excavation results to ‘make the stones speak’. Archaeological publication can in some way be compared to the translation of the special language of material objects and their spatial and chronological contexts. In a way objects are like ‘words’ in a sentence and their archaeological relations are the ‘grammar’ that gives structure and meaning to these ‘words’.

One way to studying symbolic material culture is to treat it as a text – the material objects are made or placed in sites in a way comparable to the writing of words in order to say something, and they are organized in sets or sentences so that they have meaning [...] the comparison between objects and words allows the study of material culture to be drawn into the wider science of semiotics – the study of signs. (Renfrew and Bahn 2005, p. 255)

Although Renfrew and Bahn only mention symbolic material culture in the above quotation I believe that their discussion is valid to all translations of material evidence and their interpretations. ‘Archaeological language’ has its branches and local dialects depending on the kind of material at hand. Each dialect also has its own group of human experts who understand the significance of the mute material evidence and are able to translate it into human language.

For example, a specialist on Levantine Neolithic flints can often give amazingly detailed translations of the meaning of the details of a flint tool. The specialist knows the grammar of the ‘Levantine Neolithic flint industry’ dialect and can interpret many different signs on the object, such as its material, shape, the technique by which it was made, allowing her to propose what were the functions of the tool and to what specific groups of technology it belongs. The expert can further describe and generalise in a human language the specific features that define the type of the tool in

some larger group, the meaning of the known distribution pattern and its broader context in a prehistoric Levantine context. According to semiotic theory this feat of translation is possible by observing the flint tool, which in itself, is a sign signifying something else, as well as the signs that are found on this sign.

Semiotic philosophy analyses the fundamentals of giving meaning and has been applied to the fresh interpretation of archaeological findings. It is very helpful in providing a well-founded theoretical approach to the critical analysis of archaeological semiosis in action when scholars are trying to give meaning to discoveries. This is in particular sharp focus when the scholar tries to understand a symbolic object or structure that has no clearly defined practical function, for example a clay figurine, or which is used in a symbolic context, like a flint knife with signs of blood on it found near a structure that looks like an altar.

The two branches of Semiotics and Archaeology

There are two important branches of Semiotics. One is based upon the groundbreaking linguistically oriented studies by de Saussure which have had great influence on archaeological interpretation through their impact on social anthropology. The other branch builds upon the deep and often difficult to understand philosophy of Peirce, who, as discussed earlier, has been largely unknown to the archaeological community but whose branch of semiotic analysis recently has received renewed interest.

Ferdinand de Saussure

The Swiss philosopher Ferdinand Mongin de Saussure (1857-1913) developed a branch of linguistically oriented semiotics which later was built upon and applied to the language of archaeology. In his lectures at Geneva University 1906 – 11, de Saussure closely examined the processes of giving and understanding meaning in the human languages.¹⁰ One of his key points is that language can be seen as a socially agreed system with underlying structures. Thus, these underlying structures can be

¹⁰ de Saussure developed his ideas about signs mostly teaching the course on General Linguistics at the University of Geneva between 1906 and 1911. The lectures were published posthumously from notes taken by two of his students (de Saussure 1977, [1916] 1983, 1993).

studied scientifically rather than considering them as mere accidents resulting from the live usage of language and its comprehension. de Saussure defined the fundamental element of his semiotics as the *dyadic sign*.

This sign consists of a *signifier* (for example, the sound or written word) and the *signified* (a thought which represents an object); “[it] is the organising principle for the whole of linguistics [...] the consequences which flow from this principle are innumerable” (de Saussure 1977, p. 68).

According to de Saussure, the signifiers such as words and symbols are totally arbitrary. Their meaning is based on the common agreement among people who use that language. Any word or utterance can have any meaning in such an agreed system. For example, British archaeologists follow a linguistic agreement that the term *flint tool* means a tool made from a specific type of stone. However, Finnish archaeologists may use a completely different signifier *piikivityökalu*. The word does not sound nor does it look like the English expression but nevertheless both these arbitrary signifiers mean the same; the *signified* are the same. Only after the arbitrary signifier is combined in the mind, a mental construct, with the signified, does it gain meaning and the two become a sign for the referent.

The following is only a brief description of de Saussure’s branch of semiotics and archaeology, aiming only to provide a fundamental view of the structures and significations in human language. It is a superficial overview of de Saussure who has justly been called the father of modern linguistics (Culler 1976, p.80).

Structuralism and Archaeological Interpretation

Since the signifier is meaningless alone and must be combined in the mind with the signified to obtain some meaning, this philosophy demands attention of the underlying social agreements and other cultural aspects that are involved in the uses of language. Dismantling and reducing signs to their essential elements creates a level of abstract signs and significations. de Saussure considered it possible to reveal otherwise hidden underlying structures and signification by examining networks of abstract signs in a scientific way. For this, students of languages should differentiate

between *parole* (individual speech acts) and *langue* (the underlying structure of the language, grammar).

de Saussure's semiotic theory of language was adopted into social anthropology by the famed ethnographer, Claude Lévi-Strauss (1908-2009).¹¹ He expanded it by describing how meaning is produced in a society by many different *systems of signification*. In addition to spoken and written languages, meaning can be created by such diverse things as dance, food preparation and serving rituals, religious rites, games, and non-literary texts. Following de Saussure's distinction between *parole*, the spoken and written languages using specific words and the *langue* or the meaning of these words regardless of the arbitrary signs of chosen words, Lévi-Strauss searched for the unconscious deep grammar and mental structures that create the meanings in human minds in a society.¹²

The impact of de Saussurean semiotics on archaeology was not direct. Anthropological structuralism has had an important role in the expanding and deepening of archaeological interpretation by taking into account the underpinnings of beliefs and symbolic thinking in human actions. By looking at the material evidence from the point of view of *systems of signification*, structuralism becomes an important element in comprehending the discoveries through the processes of archaeological semiosis in order to decipher the visible codes revealed in excavated materials.¹³

The interdisciplinary comparative studies in prehistoric archaeology by David Lewis-Williams (Lewis-Williams 2002, Lewis-Williams and Pearce 2005) are an example of the continuing influence of the ideas of structuralism. Although the authors do not explicitly state this, they do represent the fundamental ideas of structuralism albeit in a novel and radical form. Their studies penetrate the mind of Upper Paleolithic and Neolithic men whilst additionally going a step further beyond the analyses of Lévi-Strauss. According to Lewis-Williams (2002), the human brain is the master key to

¹¹ Lévi-Strauss, Claude ([1958] 1977; [1973] 1978).

¹² The work of Lévi-Strauss continues to interest the scholarly world and has prompted a complicated interdisciplinary dialogue. For a good general introduction see Boris Wiseman and Judy Groves *Introducing Lévi-Strauss and Structural Anthropology*. Cambridge 2000. The book was personally approved by Lévi-Strauss. See also Boris Wiseman's (ed.) *The Cambridge Companion to Lévi-Strauss*. Cambridge 2009.

¹³ Hodder 2007, pp.8-15; Miller 2007, pp. 19-24.

understanding the meanings prehistoric people gave to their symbols. The cerebral structures are hard-wired into the neural system and Homo sapiens can understand the symbolism created by another Homo sapiens regardless of geographic or chronological distances. Such a novel neurological and biological established base for semiosis can be called *neuro-structuralism*.¹⁴

Charles Sanders Peirce

The American philosopher Charles Sanders Peirce established sign theory and started his extensive writings on semiotics in a paper published in 1867, forty years before the famed Geneva lectures of Ferdinand de Saussure. However, he is a thinker whom is very difficult to understand due to his unique linguistic style and complexity of thought. Possibly, for this reason, he has had markedly less influence on the modern social sciences of anthropology and archaeology than the linguistically oriented de Saussure.

In archaeological thinking there is an on-going shift of interest from the de Saussurean branch of semiotics to the Peircean alternative. This is significant and is related to the fundamental model of the sign. While de Saussure determined the sign as the effect of *signifier* and *signified* in the human mind, Peirce originally gave a triadic definition of *signifier*, *signified* and *object*. This simple looking variation is actually a difference with far reaching implications leading to separate developments of thinking and semiotic theory.

Structuralism has been criticized for a number of problematic issues and scholars have realized that the root cause for the troubles is in the dyadic definition of the sign and its totally arbitrary nature. Interest in Peircean semiotics by archaeological theorists is quite recent. It is noteworthy, for example, that Ian Hodder did not mention Semiotics in his *Theory and Practice in Archaeology* (Hodder 1995) or *The Archaeological Process* (1999). By 2003 Ian Hodder and Scott Hutson precisely reflect on the different models of the semiotic sign:

¹⁴ The theory of Lewis-Williams and Peirce is discussed further in Chapter 7 of this book.

The semiotics of Charles Peirce, on the other hand, represents a fruitful approach in archaeology because of its ability to incorporate material culture and agency [...] Whereas in Saussure's approach, signs are arbitrary, in Peirce's approach, signs can be both arbitrary (symbols) and non-arbitrary (icons and indexes). Icons show a formal relation to what is being signified, in the sense of drawing of a pot referring to an actual pot. Indexes have an existential relation to their referent: for example, a crust of grime on the wall of an empty bathtub is an index of the level of the bath-water [...] Whereas Saussurean semiotics is dyadic, stressing only the signifier and the signified, the Peircean approach is triadic, allowing interaction between sign, object and the 'interpretant', which we might define simplistically as the actor, speaker or interpreter who mediates the relation between the object and the sign. Semiotics thus contains a theory of how signs are related to material objects and the experience and behaviour of sign users. Semiotics is pragmatic in the sense that it stresses the connectedness of people and contexts, needs and results (Hodder and Hutson 2003, pp. 63-64).

This quotation underlines how the emphasis of Peircean semiotics moves from the highly theoretical and complex semiotics of de Saussure to a practical, real life analysis of signs allowing for a more direct use also for archaeology. The 'devil is in the details', which the structuralist approach purposely minimizes in order to reach broader, global understanding of the signs, is not tied too closely to time and place.

In this manner, semiotics contains space for agency and situated communication. This is important because semiotics has a tendency to reduce communication to encoding and decoding meanings as opposed to treating it as an ongoing performance (idem).¹⁵

de Saussure reasoned that a sign is an interdependent entity in which meaning or *signified* is to be found in the deeper level of *langue*; the deeper pre-existing, underlying structures. The abstract *signifier* is the form which the sign takes and is

¹⁵ The authors list the criticism raised against the Peircean Sign theory (Hodder and Hutson 2003, 64-65). These are discussed further in Chapter 2 in a more detailed study of the triadic sign.

therefore devoid of the unessential superficial details of *parole*. In contrast to the dyadic sign, the original Peircean model of sign is triadic: there is an *interpretant* that defines the relationship between a sign and its object. There is no abstract connection as there is between Saussurean signifier and signified. The sign always includes the relationship between the object and interpretant.

Purpose and Outline of the Study

The purpose of this study is to analyse archaeological semiosis at work in selected cases of symbolism in Neolithic Southern Levant. The cases involve primary research such as the discovery of Jericho Neolithic by Garstang and Kenyon and also cases presenting broader comparative studies such as the interdisciplinary research by Levis-Williams penetrating the minds of the Neolithic people.

The following chapter (Chapter 2) of this book discusses in closer detail the sign definition and typology of Peirce and provides examples of how sign theory is applied to the analysis of archaeological semiosis. In addition *archeological semiosis* is illustrated by some examples of the history of pre-critical archaeology and its interpretations of the meaning in the past. The aim of this chapter is while simultaneously outlining Peircean sign theory, to be able to provide excellent examples of how semiotics helps us to understand archaeological interpretations.

The rest of the chapters are case studies that concentrate on some aspects of the findings. The first case is the “Megaron” and some other findings and interpretations in John Garstang’s Jericho (Chapter 3), followed by the interpreting of Neolithic burials and detached skulls by Kathleen M. Kenyon (Chapter 4). The symbolism at ‘Ain Ghazal has been intensively studied by Denise Schmandt-Besserand. From these, I have chosen the case of her work on the detached skulls, masks and burials (Chapter 5). The next case is Michele A. Miller’s interpretation of Yarmukian figurines. Her way of writing includes detailed methodological discussions and thus affords excellent materials for the study of archaeological semiosis in action (Chapter 6). Finally, the last case study examines the intense and innovative work of David Lewis-Williamson who attempts to give meaning to Neolithic symbolism by penetrating deeply into the brain structures of prehistoric people (Chapter 7).

The final chapter (Chapter 8) summarizes the observations made in these case studies and illustrates general patterns in these processes of archaeological semiosis. The attempts to break into the Neolithic people's minds and to the systems of signification fall into specific categories and pave the way for other archaeologists facing similar dilemmas when selecting valid methods to find the elusive authentic and original meaning of prehistoric symbolism.

Chapter 2. Peirce: the Sign

Charles Sanders Peirce (1839–1914) gave his first account of a sign in his seminal paper in 1867 “On a New List of Categories”.¹⁶ In this early definition the sign consists of three inter-related elements, *a sign, an object, and an interpretant*. Peirce spent much time during the rest of his life refining this definition but he always kept to these basic three elements. His language is carefully articulated, heavily loaded with meaning and quite difficult to understand. The definitions are not made any easier by Peirce’s fondness to invent new terminologies in order to express himself accurately.¹⁷

I define a sign as anything which is so determined by something else, called its Object, and so determines an effect upon a person, which effect I call its interpretant, that the latter is thereby immediately determined by the former. (EP2:478).

The object contains or effects or produces some specific details (form, material, drawings etc) which are signs which produce the interpretant. Without these signs it would be impossible to interpret the object. As Peirce defines it in a letter sent to Bernard Russel in 1908 (Anderson 1995, p. 46):

A sign may be defined as something which moderates between an object and a mind, by being itself in some way influenced or affected or determined by that object and then in its turn producing an effect on the mind, which effect I call the interpretant of the sign, of such a nature that the mind is thereby and therein itself affected indirectly by the object.

Elsewhere Peirce defines the triadic sign with the important concepts of *First, Second and Third* (CP 2.274):

¹⁶ W2:49–58.

¹⁷ For example, Peirce used later words like ‘rheme’, ‘dicent’ and ‘delome’ to further classify signs. It has been found helpful to write a special dictionary to assist serious students: ‘*The Commens Dictionary of Peirce’s Terms. Peirce’s Terminology in His Own Terms*’. (CDPT [Online] Quoted July 2009).

A Sign, or Representamen, is a First which stands in such a genuine triadic relation to a Second, called its Object, as to be capable of determining a Third, called its Interpretant, to assume the same triadic relation to its Object in which it stands itself to the same Object. The triadic relation is genuine, that is its three members are bound together by it in a way that does not consist in any complexus of dyadic relations. That is the reason the Interpretant, or Third, cannot stand in a mere dyadic relation to the Object, but must stand in such a relation to it as the Representamen itself does.

Even this definition implies that every interpretation in Peircean semiotics always contains three concepts: object, sign and interpretant. Such a triadic semiosis cannot be presented in the dyadic relation as de Saussure wanted to do by talking about signifier and signified only. An object is possible to interpret only if there are signs *related* to that object.

In the world of archaeology this statement means that an object is defined by the details on it which are signs that allow an archaeologist to conclude that he or she has discovered something modified by man in the past and that is more than just an ordinary natural thing.

The semiotic process, *semiosis*, produces *interpretations* which, in turn, can become new signs in other semiotic processes. In this way the concept of a sign is also extended to non-material things, such as settlement patterns, a specific archaeological period called Neolithic, trade routes, means of transportation, metallurgy and so on. Such complicated signs are rooted to physical findings and data which in the course of archaeological investigation have been interpreted in a certain way. New discoveries may lead to reinterpretations of signs and theory formation in archaeological interpretation.

Typology of the Three Signs

Peirce discusses the way in which the sign can be related to the object. He distinguishes between three fundamental ways which he calls *icon*, *index* and *symbol*.

Icon

An icon is a sign which is related to an object with its own characters. This means that the sign contains some iconic characters. Peirce defines the icon in the following way (CP 2.247):

An Icon is a sign which refers to the Object that it denotes merely by virtue of characters of its own, and which it possesses, just the same, whether any such Object actually exists or not. It is true that unless there really is such an Object, the Icon does not act as a sign; but this has nothing to do with its character as a sign. Anything whatever, be it quality, existent individual, or law, is an Icon of anything, in so far as it is like that thing and used as a sign of it.

The problem of the icon is that its interpretation is based on iconic similarities which the interpreter establishes. Nothing in the object demands that such an iconic connection should be established. Therefore, the iconic sign gives the interpreter the possibility to be creative and to find different associative connections with the objects which do not need to have anything to do with each other. As Peirce states (CP 2.279): “a great distinguishing property of the icon is that by the direct observation of it other truths concerning its object can be discovered than those which suffice to determine its construction.”

Index

Index is a sign which gives us some accurate information about the object since the index is really affected by the object. Peirce's example is a weathercock which turns according to the wind and represents as a sign of the wind's direction. Without wind there is no sign and, therefore, the indexical sign is affected by the object itself. Peirce defines the index as follows (CP 2.248): “An Index is a sign which refers to the Object that it denotes by virtue of being really affected by that Object.” Peirce also notes that the index always has some iconic characters (*idem.*):

In so far as the Index is affected by the Object, it necessarily has some Quality in common with the Object, and it is in respect to these that it refers to the Object. It does, therefore, involve a sort of Icon, although an Icon of a peculiar kind; and it is not the mere resemblance of its Object, even in these respects which makes it a sign, but it is the actual modification of it by the Object.

Index is an important aspect in every archaeological sign because every object is related to the way in which it has been excavated from the site. Thus every archaeological object contains necessary indexical signs which relate it in some way to the site. It is clear that excavation methods influence greatly the way accurate indexical signs can be achieved. We shall emphasize this aspect continuously in this study.

Symbol

Symbol is the sign which is connected to the object by a law or general ideas. Symbol presupposes that there are instances which can understand it. All languages are based on symbols which are known to those who can speak that language. Peirce defines the symbol (CP 2.249) as: “[a] Symbol is a sign which refers to the Object that it denotes by virtue of a law, usually an association of general ideas, which operates to cause the Symbol to be interpreted as referring to that Object.” The symbol has no existence in itself but it is based on the fact that it must be conformed by the interpreter.

Peirce emphasizes that a symbol which denotes a law always needs existent instances which can interpret that symbol. Without these extant instances interpretation is impossible (CP 2.2.49):

There must, therefore, be existent instances of what the Symbol denotes, although we must here understand by "existent," existent in the possibly imaginary universe to which the Symbol refers. The Symbol will indirectly, through the association or other law, be affected by those instances; and thus the Symbol will involve a sort of Index, although an Index of a peculiar kind. It will not, however, be by any means true that

the slight effect upon the Symbol of those instances accounts for the significant character of the Symbol.

It is worth noting that the symbol may still exist even though there is no instance yet which can interpret it. The symbol may be like a hieroglyph which awaits decryption.

Example of an archaeological sign

The Yarmukian figurine¹⁸ shown below is chosen in order to clarify how the terminology used by Peirce is applied to the processes of archaeological semiosis in this book.



Figure 2: Yarmukian Figurine, drawing by Kauko Suontama

According to Peirce's terminology the entire figurine is an **object**. In his basic sign classification the figurine is an **iconic sign**; it physically resembles an obese woman in sitting position and the figurine has clearly recognizable legs, hands, navel, breasts, ears and eyes. The iconic sign can be understood from the iconic similarity to the body parts represented and familiar to all of us.

At the same time the figurine is also a **symbolic sign** that signifies something else beyond the iconic. For example, the way the figurine is depicted in a sitting pose and

¹⁸The figurine was found by Y. Garfinkel in a chronologically and geographically defined context from a Pottery Neolithic settlement south of Lake Kinneret.

the way the hands are held may have symbolic significance for those who made the figurine and used it. In particular the strangely elongated shape of the head and the large bean eyes are striking in this figurine.

In Peircean terminology the sign is not just the physical object but something that is determined by what the sign signifies. This signified is made manifest with an **interpretant** or the understanding we have of the sign/object relation. The interpretant is actually so central in the triadic sign relation that according to Peirce a sign exists as a sign *only as it is being interpreted*.

In the triadic definition the sign object of the figurine depends on the question being asked. As an example, for someone interested in the belief systems of the Yarmukians, the sign object could be a fertility divinity. The numerous figurines found at Yarmuk all depict this same metaphysical object. The scholar would then look from this standpoint, or Ground, for signs on this sign that might support such an interpretation. Once satisfied, the scholar could propose a reconstruction of the religious beliefs including the object of this sign loaded with meaning with its bizarre head and fearsome bean-like eyes. The object of the sign would be the Goddess of Yarmuk.

However, another scholar might ask a different question and therefore deduce a different meaning to the sign object. What if this piece of prehistoric art depicts a real person in flesh and blood and not a divinity? Perhaps the object of this sign was a living person and the matron of the settlement? They would examine the signs on this sign from this Ground and note the iconic details about the physical characteristics of the important woman. The signs of unusual obesity would yield information about the figurine's age, health and the earrings and details of clothing would signify her social status. The sign of the elongated head would possibly indicate an imaginary being, but impossible, in reality to be so if the object is a real human. So the interpretant might be elaborately arranged hair or some kind of head dress or a mask. Thus, the object of the sign would be the Matron of Yarmouk.

Focus on Essentials

Peirce sometimes refers to the way a sign is related to its object **Ground**. Ground is, therefore, *the established way in the mind of the viewer of how the object is interpreted*. In archaeological semiosis pieces of pottery have specific aspects of material, decoration, colour, shape and other details that give meanings to an expert and indicate whether a find of pottery correlates to inhabitants occupying the site during the Pottery Neolithic period. They establish chronological and cultural meaning to the signs on the sherds based on the Ground building on the results of previous excavations of sites belonging to the same period. The Interpretant is not usually created in the mind of the scholar in a vacuum as a totally unfamiliar thing but is based upon preceding understandings that give meaning to these sherds and their typological details as well as providing data about their chronological significance.

The Signifying Element

Peirce noted that the sign does not signify as a whole but has a *signifying element* that carries the significance. This element focuses attention on those detailed aspects in the sign that are most important for its meaning. Peirce searched for the right terms to express this idea accurately and used alternatively the words: sign, representamen or representation. The essential meaning of the sign has also been called a *sign-vehicle*, as the sign carries significance.¹⁹

¹⁹ “The very first thing to note is that there are some potential terminological difficulties here. We appear to be saying that there are three elements of a sign, one of which is the sign. This is confusing and does not fully capture Peirce’s idea. Strictly speaking, for Peirce, we are interested in the *signifying element*, and it is not the sign as a whole that signifies. In speaking of the sign as the signifying element, then, he is more properly speaking of the sign refined to those elements most crucial to its functioning as a signifier”. (Atkin, 2006 [Online]).

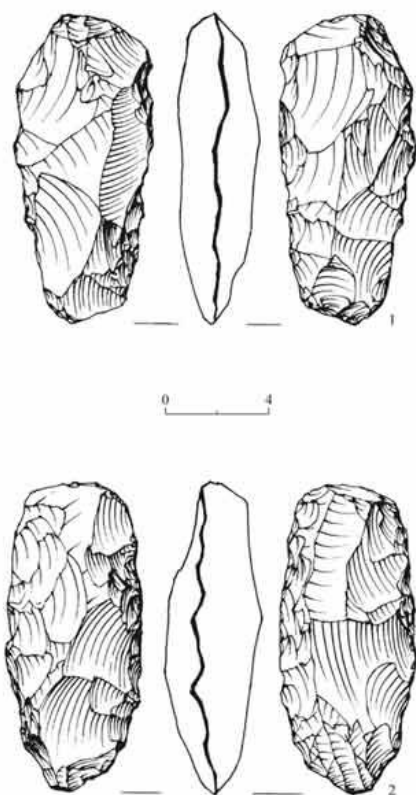


Figure 3: Two Stone Axes from Modi'in, Israel²⁰

The two Pottery Neolithic stone axes discovered in Modi'in are objects both in a schematic representative physical sense and in semiotic terminology. The drawings of these objects are signs; the interpretant and object are combined carrying the meaning of a stone tool. The stone axe objects have many signs on them. Significant signs were selected from all these signs during the process of interpretation while creating the visual drawings. Signs showing details of chipping are in the mind of the archaeologist related to the meaning of manufacturing technique, and many other significant interpretants. Therefore the surfaces are drawn carefully.

The size of the object is shown by a scale symbol. The general shapes of the tools are shown in profile and the cutting edge is emphasized by using thicker line. The archaeologists who discovered the tools expect that these signs i.e. details/elements,

²⁰ Khalaily et al., 2005 [Online].

are routinely included in the drawing of stone tools because these signs give meaning to the sign. By examining the drawing that focuses on the essentials, experts can determine the typology, function, date and the broader cultural context of the actual axes.

There are also numerous other signs, details on the tools, that do not necessarily add anything to the interpretation of the object in the mind of archaeologists. For example, the exact shades of colour of the stone material, the hardness of the tool surface or temperature of the stone at the time of the drawing are not relevant in order to give an archaeological meaning to the artefact. For the excavators of the prehistoric site the essential significance of these objects is that they are natural stones that were shaped into tools in order to serve their makers in some practical purposes.

A geologist examining these same tools might not care about the manufacturing technique or the cutting edge of the axe. For the geologist the meaning would be in the signs that are related to the stone material itself. The archaeological drawing would be of little use as the signifiers would be those details left out by the person drawing the tools, shades of colour, hardness, and possible inclusion marks of other minerals and so on. All these signs are on the sign of the stone axe but the focus is on meaningful signs, for a targeted audience, and this is decided by the general line of the inquiry.

Accordingly, when Saussurean semiotics guides the mind to search for general underlying structures and patterns by eliminating unnecessary *parole*, the Peircean approach encourages focusing on all the essential signs that are significant for the meaning that is being sought. This fundamental difference affects archaeological interpretation and is one area where Peircean semiotics can greatly assist in the complex process of archaeological semiosis.

Interpretant - human mind and subjectivity

Peirce associated interpreting signs with cognition and considered that all human thinking uses signs. The *interpretant* makes the sign manifest and without it the object signifies nothing.

The interpretant, the most innovative and distinctive feature of Peirce's account, is best thought of as the understanding that we have of the sign/object relation. The importance of the interpretant for Peirce is that signification is not a simple dyadic relationship between sign and object: a sign signifies only in being interpreted. This makes the interpretant central to the content of the sign, in that, the meaning of a sign is manifest in the interpretation that it generates in sign users. (Atkin, 2006 [Online]).

The role of the *interpretant* in the human mind is a highly significant feature in Peircean semiotics. It provides a healthy dose of controlled subjectivism to the evaluation of the processes of archaeological semiosis. An archaeologist deals with hard facts such as objects made of stone, layers of soil, man-made structures, organic remains, pottery, and flint tools. The material nature of archaeological evidence may obscure the fact that the meaning is given by human mind. Archaeology is deeply influenced by the processes of interpretation.

Each excavation of an archaeological site brings to light signs, furthermore, the excavation itself is a semiotic sign as a whole. The draftsman chooses significant signs in an object for their drawing. In a similar way the writer of an excavation report selects significant signs that give meaning to the site. Archaeology is thus a form of humanistic research and not an objective science. It has a significant degree of subjectivism which makes it difficult to evaluate the archaeological history of an excavated site objectively.

Archaeologists do realise the subjectivism involved and make an effort to produce reports which are as comprehensive as possible and which would allow for external independent evaluation of the facts. In real life this is not as simple since it requires laborious and time consuming work that may not be practically possible. A classic example is the major effort by Kenyon and her team to report everything they excavated from Tel Jericho. The amount of detail is so extensive that the last Jericho volumes were published posthumously. Most excavation reports are therefore selections of significant archaeological signs that give meaning to the site and reflect the focus of the scholars doing the work.

The Truth Value of the Interpretation

Subjectivism is involved in the theoretical model of semiosis. The basic aim of Peirce's branch of semiotics is to describe the processes of semiosis along such general lines that *every sign can be interpreted in every possible way*.²¹ Because of this generic nature and openness it does not necessarily lead to any evaluation of the truthfulness of the suggested meanings. Rather, semiotic analysis reveals patterns in the process of semiosis that lead to a particular interpretation regardless of whether it turns out to be true or false.

In the case of the Jericho Neolithic skulls a trained anthropologist might propose that they signify ancestor worship that was practised by prehistoric society. The Pre-Pottery Neolithic people possibly had in their minds some beliefs about the particular beneficial power of the skulls. Perhaps they wanted to keep these beliefs present as proposed by the way studies in cultural anthropology have described this phenomenon in other societies. The research would be looking for such significant signs that would confirm the supposed meaning involving elusive concepts of death and afterlife. The burden of proof is heavy because there are no written texts that could bring light to what really was in the minds of the Neolithic people at Jericho.

However, archaeologists who are specializing in prehistory might consider that the skulls should be understood in the broader context of the burials and the city wall which apparently was created to protect the settlement from enemies. They could suggest that these plastered skulls belong to heroic warriors who had fallen in the battle and were honoured in this way. They would be searching for signs that support this line of theoretical argumentation explaining the meaning of the detached heads.

About Semiotic Categories

Archaeological semiosis is distinguished from other types of meaning-giving to signs by its concentration on physical objects created by humans in the distant past. Such object orientation is particularly characteristic to the study of Prehistoric symbolic signs by examining material things, objects, paintings and various structures. These

²¹ CP 5.484.

items are signs that have been produced by humans and that reflect belief systems and concepts in material form we have no direct access to through textual evidence and that cannot be interpreted by referring to some utilitarian functions only.

The Peircean triadic model of signs, their objects and interpretants “helps us to recognize [...] that the meanings of signs, whether they [are] linguistic or material, are contingent upon experience and that this interlinked relation of ‘what-we-know-as-a-sign’ is the basic unit of analysis” (Bauer 2002, p. 41). Essentially, archaeological semiosis cannot only be used as an attempt to identify the processes of engagement between objects and our ancestors, but also as a gateway to revealing how contemporary individuals experience and recognize these objects; ‘[s]igns function not simply to represent social reality, but also to create it and effect changes in that reality. Signs have agency by virtue of their ability to generate other signs’ (Preucel 2006, p. 89).

Peircean semiotics bases the process of sign recognition, semiosis, into three distinct ontological categories. The implication is that all knowledge is manifested from these three steps; all phenomena are understood as expressions of the three categories in which the structural relations between these ontological categories is such that “every higher element cannot be reduced to a lower one, but includes the lower elements in its structure” (Nesher 2002, p. 43). The three categories are *Firstness*, *Secondness* and *Thirdness*.

Firstness is the first sensing of the sign in its purest sense with no perceived meaning for the sign; ‘[it] is the mode of being of that which is such as it is, positively and without reference to anything else’ (A letter to Lady Welby CP 8.328, 1904). As an example, a person could be directed with their eyes covered to a room and placed in front of a red wall. When the blindfold is removed they first experience pure redness which initially has no other meaning for them. *Secondness* is a state in which they construct some meaning to this redness on the basis of other signs visible from their standpoint; ‘[it] is the mode of being of that which is such as it is, with respect to a second but regardless of a third’ (ibid.). Finally, *Thirdness* is, according to Peirce, already a comprehensive understanding of everything about the sign; [it] is the mode

of being of that which is such as it is, in bringing a second and third into relations to each other' (*ibid.*).

Therefore, I suggest that it appears that it is possible to apply Peirce's three stages to archaeological semiosis, *Firstness*, in my opinion, is finding a previously unknown prehistoric symbolic object – the sign is there but it does not necessarily have any meaning to the archaeologist. However, the human mind does not stay long in such a pure sensation of a sign and begins to give it some meaning in *Secondness*. The first meanings generated in the brain about the symbolic sign are, however, not created *in vacuo, tabula rasa*. Instead, the sign is understood in some mental framework, pre-understanding. At least in prehistoric studies the kind of full understanding of the meaning of the sign, *Thirdness*, described by Peirce is an elusive goal.

Example of Archaeological Semiosis in Action

As an example of *archaeological semiosis* understood in the light of Peircean theory of signs we can reconstruct steps in how a special stone object found at `Ain Ghazal was given meaning.

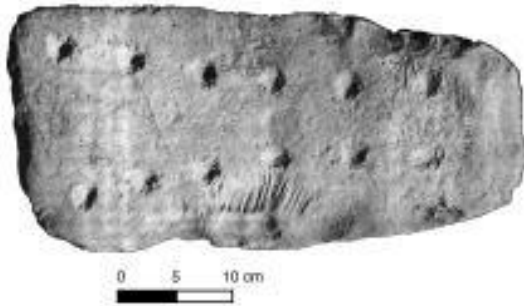


Figure 4: Stone object from `Ain Ghazal

In the first step, the *archaeological object X* does not have a well-defined meaning in the mind of the archaeologist. Nevertheless, when studying the object they begin to find several signs on it. The archaeologist knows the archaeological site from where it came and the context in the excavation, the locus and the basket. All these details are indexical signs and they give important information about the object. The

archaeologist can describe the length and weight of it. The curved flattened surface and the two rows of shallow circular depressions are signs that give the meaning 'made by humans' and make it unique among all the natural stones at the site. The archaeologist can describe all this with accurate measurements and give an account where and when it was found, at which depth and associated with a dated and culturally defined archaeological layer.

The semiotic triadic sign is still incomplete after all this important and rich information has been noted since the archaeologist does not yet understand the meaning of this strange object in the eyes of those who made it over 9000 years ago. In the following diagram the Peircean semiosis is illustrated. The object found is a mysterious stone made by a human hand. But what is the sense (or interpretant) of that stone? For what purpose and usage was it made? The only way to solve this riddle is to find some peculiar signs or sign vehicle in the stone which may provide some information for the archaeologist.

The Sign of the Unusual Neolithic Stone Object 1

Sense?

Sign vehicle X

Object



In **the second step** the archaeologist tries to find the meaning of this object for those who made it. This is very difficult in prehistoric studies because there are no written records left by the Neolithic people who lived at `Ain Ghazal.

In this case the archaeologist notices, either on the basis of their previous knowledge of world archaeology, visits to Africa or browsing through library books, that although the stone object X is unique at the site itself and in contemporary sites in Jordan, it nevertheless has *similarities* to other objects known in world archaeology and also in the modern world.



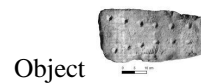
Figure 5: African mankala game board

The sign of the two rows of holes on the surface of the Neolithic object is as an iconic sign very similar to the surface on game boards known by its African name *mankala*. The meaning derived indirectly from the broader context of archaeological objects made from stone, wood and even plastic gives a possible and even a probable explanation of the meaning of this object. This is called, of course, comparative archaeology, and is important among the many methods in *archaeological semiosis*.

The Sign of the Unusual Neolithic Stone Object 2

Sense: *mankala* game board

Sign vehicle: *mankala* holes



Object

In **the third step** the new discovery becomes an established interpretation that is recognized by the world community of archaeologists, *the Neolithic gaming board from `Ain Ghazal*. This interpretation can then become a new sign which is used to characterize, for example, the intellectual level of the Neolithic community. In our example the semiotic process consists of three elements:

1. *Object*: the archaeological object found at `Ain Ghazal with all its attributes
2. *Sign or Representamen*: the twelve holes in the stone
3. *Interpretant*: the concept of a *mankala* game board

The most crucial point in this semiotic process is the way the sign with twelve holes on the stone was connected with the *mankala* game. What are crucial are the iconic similarities between the game of the *mankala* board and the stone found in `Ain Ghazal.

In summary, in our example the icon consists of a stone with twelve holes and it was this peculiar iconic similarity to the *mankala* game board which gave a possibility to interpret the stone as referring to the game used in the Neolithic 'Ain Ghazal. Of course, the twelve holes in the 'Ain Ghazal stone could also be interpreted otherwise. But because of this iconic similarity to the *mankala* game board one may suggest such an interpretation.

The twelve holes in the stone can also be a sign which indicates that they have been made in the stone by someone. The existence of the object with twelve holes is regarded as an impossible natural phenomenon by an archaeologist. The archaeologist concludes that the object can exist as such only if someone has made these holes. These holes cannot exist without the person who made them. Therefore, the existence of the stone is a presupposition of the existence of the indexial sign.

The game of *mankala* is a symbol. The semiotic process in the case of the 'Ain Ghazal stone game is based on the interpreter's way to see and interpret its symbolic sign. Without knowledge of the symbolic sign, the *mankala* game and the iconic similarity of the twelve holes the above referred to semiotic process is impossible. Iconic similarity helps the interpreter to seek a connection but it is impossible for the person to conclude that the stone is the game. Only when the person knows about the symbol of the game can he/she use iconic similarity and indexial sign (the stone made by a human for some particular purpose) to establish the symbolic connection between the object and the game.

Semiotic Ground

Peirce labels the framework that enables one to connect a sign with meaning as *Semiotic Ground*. The person who knows the game of *mankala* can use it as Ground which connects the object found at 'Ain Ghazal and the sign of twelve holes in the stone. In real life, the processes of cognition are, of course, much more complicated. In archaeological studies an intricate network of knowledge of the subject guides the researcher both in asking the questions and in choosing the methods that provide answers and allow the giving of meaning to the findings; the process of meaning-making. The analytical point is that the interpretant is formed in the context of

Ground and in this case the understanding and experience correlates to the subject's, the archaeologist's, Ground. Ground takes on both an ontological and epistemological conceptualisation.

Peirce defines the Ground in philosophical terms:

A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the Ground of the representamen. "Idea" is here to be understood in a sort of Platonic sense, very familiar in everyday talk; I mean in that sense in which we say that one man catches another man's idea, in which we say that when a man recalls what he was thinking of at some previous time, he recalls the same idea, and in which when a man continues to think anything, say for a tenth of a second, in so far as the thought continues to agree with itself during that time, that is to have a like content, it is the same idea, and is not at each instant of the interval a new idea. (CP 2.224)

Hodder and Hutson (2003, p. 19) underline the importance of Ground, when interpreting and recognising a sign. They state "changing interpretations of the past depend on changing social and cultural contexts in the present [...] in other words, the data-theory relationship is conceived and manipulated within cultural and historical contexts". The concept of Ground revolves around the essential notions of 'experiencing' and 'meaning' in 'constructing' the past.

The implications for archaeological findings, excavations and reports is such that not only do our experiences shape our world view, but our Ground, our knowledge resource, affects "what patterns we look for and, more importantly, ignore" (Bauer 2002, p. 39). Liszka (1996, p. 21) offers a lucid definition of Ground:

The Ground, as the presentation of the object, thus serves as the *basis* upon which the sign can represent its object, or as Peirce writes, “Ground” is the “reason which determines [the sign] to represent that object to that subject” (W 1:327). “The immediate function of reference to a Ground is to unite relate and correlate, and hence its introduction is justified by the fact that without it reference to a correlate is unintelligible” (W 1: 353); “no relation can have place without a quality or reference to a Ground” (W 1: 522). The presentation of the object in the sign serves then as the basis for its representation. By “characterizing” the object, the sign allows itself the possibility of being connected to it and, at the same time, reveals a certain sense or connotation in regard to that object (W 1:479, CP 2.418).

Illustrations of the concept of Ground can be best appreciated in the era prior to scientific methods when human minds interpreted curious ancient objects and strange natural phenomena by giving seemingly logical explanations to them. Both the past and signs from the past were given meaning through the use of storytelling, imagination and often by comparing the unknown to the known and drawing conclusions from their similarities. Mythology allowed for explanations of the unknown which rather than being manifestations of fanciful imagination are often based on real life focal points which can be detected in the sophisticated stories, myths and histories.

Cyclops

The massive walls of Mycenae and Tiryns were so impressive that the Greeks living in the region later assumed that they must belong to primordial times and the builders must have been of giant size to be able to move such blocks, probably Cyclops. Homer, as one example, narrates the story in Book Nine of *The Odyssey* of the one-eyed Cyclops, Polyphemus who ate the unfortunate sailors from Ulysses’ crew whom he caught while they were trying to escape the cave.²² According to Walter Burket (1985, III: 3.2) the strange creature in Homer’s poem may have been an interpretation of an ancient object. Cyclops means ‘one-eyed’ and the meaning may derive from an

²²Mondi, 1983

object, a sign from the past, that the ancient Greek people could not possibly have understood and therefore *associated* with a comparable, better understood object.

Natural scientists have described a small species of elephant that lived in Crete in prehistoric times. The skull of this animal has a major hole in the front of the trunk. Burkert suggests that ancient Cretans who found such a head might have interpreted the skull on the basis of human and animal skulls they were familiar with, their 'Ground'. The single huge hole in the centre of the forehead overhung the small eye sockets; hence, the findings of such a skull would have been associated as belonging to a large single-eyed creature. The essential theory is that Cyclops are not simply plain figments of an extremely creative imagination but rather "object oriented" mental images. Meaning was given to such odd and unique objects which led to tales of frighteningly large, single-eyed creatures, big and strong enough to build the cyclopean walls of Mycenae and Tiryns.

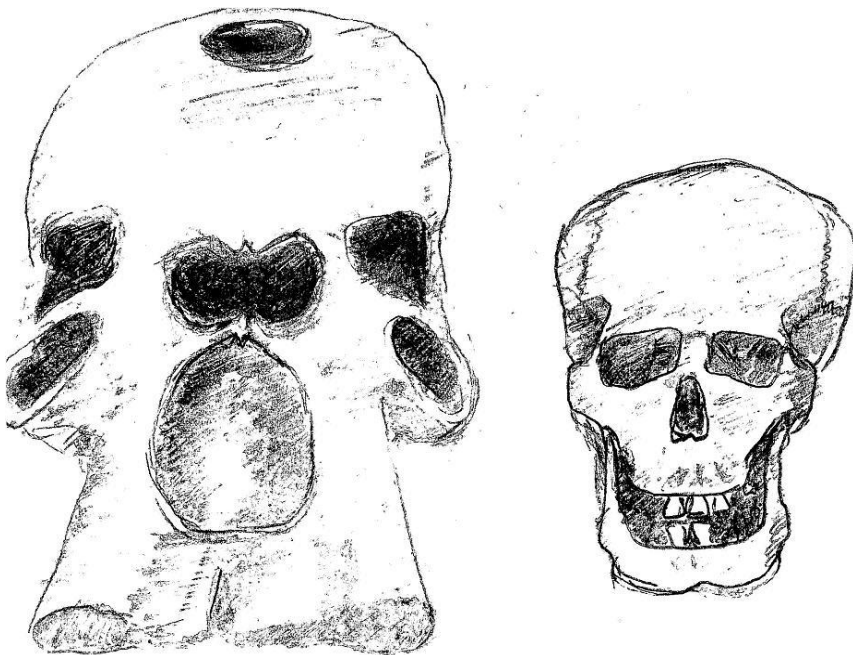


Figure 6: The skull of a dwarf elephant is about twice the size of human skull, drawing by Kauko Suontama

Lot's Wife

The Book of Genesis narrates the story of Lot's wife:

*Then the LORD rained upon Sodom and upon Gomorrah brimstone and fire from the LORD out of heaven; And he overthrew those cities, and all the plain, and all the inhabitants of the cities, and that which grew upon the Ground. But his wife looked back from behind him, and she became a pillar of salt.*²³

Comparable to the probable interpretive origin of Cyclops, the story of Lot's wife may be associated with an actual physical object similar to the modern formation as seen in the photograph below of a geologically rare salt mountain near the southern end of the Dead Sea. The Bible locates the cities of Sodom and Gomorrah in this southern region where the slopes of the mountain, Jebel Usdum, easily erode and instantaneously create shapes that resemble familiar forms such as animals or humans. This image of a lone, standing female figure on the mountain may have been the source for the Hebrews' creation of the story of Lot's wife - as an attempt to provide an explanation for the rare geological figures.

²³ Genesis 19:24-26. King James Version 1796.

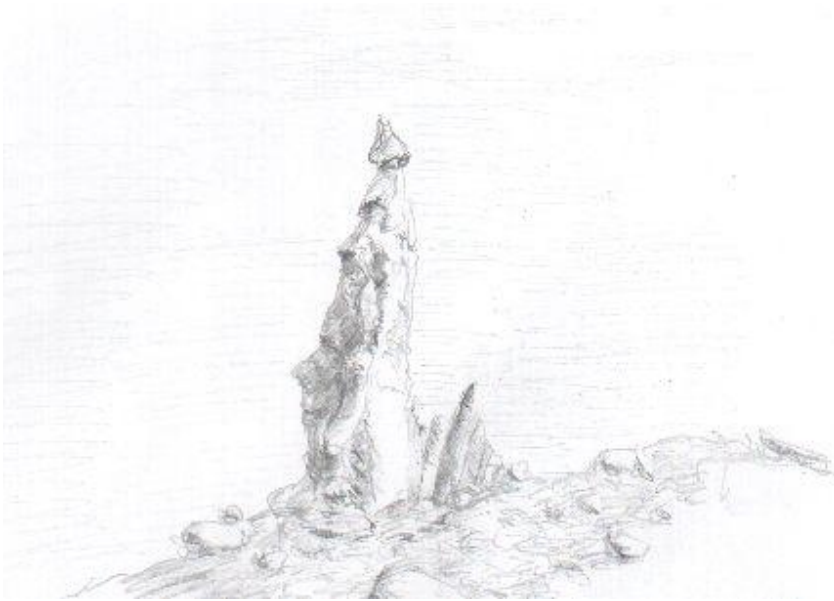


Figure 7: Pillar of salt on the slopes of Jebel Usdum, Dead Sea, drawing by Kauko Suontama

This story did not emerge from a completely distant past, rather, from a historical narrative, which was eventually textually interwoven into the genealogies and stories about Abraham and Lot. The peculiar natural object was provided with both meaning and a moral, although the sin of Lot's wife which invited such a horrible divine punishment is not explained in the story itself. A Jewish reader of the Bible in the Roman period gave the curious story of Lot's wife meaning and context. Evangelist Luke tells how Jesus used this story in a moral apocalyptic context as a warning against longing for the world that is going to be destroyed at the coming of the Son of Man:

Likewise also as it was in the days of Lot; they did eat, they drank, they bought, they sold, they planted, they builded; But the same day that Lot went out of Sodom it rained fire and brimstone from heaven, and destroyed them all. Even thus shall it be in the day when the Son of Man is revealed. In that day, he which shall be upon the housetop, and his stuff in the house, let him not come down to take it away: and he that is in the field, let him likewise not return back. Remember Lot's wife.

*Whosoever shall seek to save his life shall lose it; and whosoever shall lose his life shall preserve it.*²⁴

The story of Lot's wife is an archetype of the process of signs creating signs. There may have been an actual physical object at the core of the narrative, a natural rock formation on an eroding salt mountain that generated in someone's mind the meaning of a woman turned into a statue of salt. Following the Peircean tradition, the object of the salt pillar contains a sign of a woman-like figure. The story generated by this object became in itself a new Sign. The New Testament contains a two-thousand year old interpretation of the meaning of this new sign, the Biblical text about Lot's wife. Similarly, the words of Jesus are again a sign that are given meaning by interpreters of the text.

It is apparent that perhaps the Ground for interpreting the sign may be missing or incorrect. Therefore, it is highly illuminating to compare the picture of the pillar of salt from Jebel Usdum to the picture, below, Figure 9, created by a modern reader of the Biblical text, re-produced by Kauko Suontama. It is evident that the person who created this image has no idea about the Dead Sea salt mountain, its formations or colouring. Instead, Lot's wife is depicted as a goddess from the Greco-Roman period who has been transformed into pure table salt.

²⁴ Luke 17:28-32 King James Version.



Figure 8: A mental image inspired by the sign of the story of Lot's wife

The Sign of the thunder-stone

A concrete and deliciously semiotic example of the fundamental change in the way people gave meaning to signs from the past is the 18th century discussion on the meaning of the Thunder-stone. This is not just a single object type but rather includes a group of different kinds of stones found on the Ground and originally associated with divine weaponry, especially lightning.

A. D. White gave a detailed analysis of the 18th century dispute in his study on the rise of rational scientific thinking in Western Christian society (White 1898: Chp. VII: 1). The semiotic sign, the ancient object that White is thinking of is a chipped stone that today we recognize as a man-made stone tool:

From a very early period there had been dug from the earth, in various parts of the world, strangely shaped masses of stone, some rudely chipped, some polished: in ancient times the larger of these were very often considered as thunderbolts, the smaller as arrows, and all of them as weapons which had been hurled by the gods and other supernatural

personages. Hence a sort of sacredness attached to them. In Chaldea, they were built into the wall of temples; in Egypt, they were strung about the necks of the dead. In India, fine specimens are to this day seen upon altars, receiving prayers and sacrifices.

Naturally these beliefs were brought into the Christian mythology and adapted to it. During the Middle Ages many of these well-wrought stones were venerated as weapons, which during the “war in heaven” had been used in driving forth Satan and his hosts; hence in the eleventh century an Emperor of the East sent to the Emperor of the West a “heaven axe”; and in the twelfth century a Bishop of Rennes asserted the value of thunder-stones as a divinely- appointed means of securing success in battle, safety on the sea, security against thunder, and immunity from unpleasant dreams. Even as late as the seventeenth century, a French ambassador brought a stone hatchet, which still exists in the museum at Nancy, as a present to the Prince-Bishop of Verdun, and claimed for it health-giving virtues.

Here we have an illuminating description of the semiotic process, men giving meaning to a mysterious physical object. Since the details on the object are not well understood their belief system provides the Ground for understanding and on this foundation various details can be added depending on the religious context.

White explains how “in the last years of the sixteenth century Michael Mercati tried to prove that the ‘thunder-stones’ were weapons or implements of early races of men; but for some reason his book was not published until the following century, when other thinkers had begun to take up the same idea, and then it had to contend with a theory far more accordant with theologic modes of reasoning in science. This was the theory of the learned Tollius, who in 1649 told the world that these chipped or smoothed stones were ‘generated in the sky by a fulgurous exhalation conglobed in a cloud by the circumposed humour.’” (White *op.cit.*) According to this, Michael Mercati was probably the first to describe prehistoric stone tools but with little success.

The discussion of how to understand these objects continued well into the 19th century before it was generally accepted that thunder-stones are stone tools made by early man.

In 1840 Godwin Austin presented to the Royal Geological Society an account of his discoveries in Kent's Cavern, near Torquay, and especially of human bones and implements mingled with bones of the elephant, rhinoceros, cave bear, hyena, and other extinct animals; yet this memoir, like that of McEnery fifteen years before, found an atmosphere so unfavourable that it was not published. (White 1898 *op.cit.*)

Nevertheless, as curious as it may be, the old mythological explanation of thunder-stones and their association with lightning may be in some cases correct. A natural phenomenon was well known to Finnish paganism described by Michael Agricola in 1524. When thunder struck earth it was possible that the arrow, 'ukonvaaja' shot by the sky god, Ukkonen, might be discovered somewhere nearby.

The high voltage electric current of lightning does in fact, occasionally, create stones that can be found at the end of a long narrow burrow, the lightning created on the Ground. These 'ukonvaaja' have no signs of chipping by man or any other human touch and are created by the mighty forces of nature.

Also the eoliths, natural formation of chipped stones that look as if they were made by man, should be kept in mind. For example, quite recently a heated discussion has centred on a cave in the Susiluola in Kristiinankaupunki, Finland. The archaeologists excavating the cave claimed to have found signs of fire and a Levallois hand axe while some of their critics simply call this object an eolith (Schulz 2002, Schulz et al. 2002). The most frequently found and surviving sign of prehistoric man, the stone tool, is thus not always such a simple case as White had thought.

Such illustrations shed some light on the interpretative aspect of our meaning-making of signs and the risks that are associated with totalitarian implications. Prehistoric archaeologists are today well aware of such dangers of misrepresentation and totalised

histories and try to avoid generalisations of interpretations which broadly compare signs across great gaps of time and geographical space.

Chapter 3. John Garstang at Jericho

John Garstang organized the archaeological expedition to Jericho in 1934 - 36 in order to find more evidence of the famed Biblical site. He was especially interested in learning more about the Canaanite city walls mentioned in the Book of Joshua. But with hindsight by far the most important discovery Garstang made at Jericho were the thick and well preserved prehistoric deposits under the Early Bronze Age fortifications in the North Eastern corner of the Tell. The discovery was a surprise and diverted the expedition from the study of the Biblical periods to the uncharted waters of studying Stone Age Jericho.²⁵

Jericho would eventually become one of the key sites for the sequencing, chronology and understanding of the Levantine Neolithic in general. The discovery of these deposits was the single most significant achievement in Garstang's career as a field archaeologist. However, he was quite ill prepared to handle the evidence relating to hitherto largely unknown early civilizations. Prehistory was neither his specialty nor his main interest as a Biblical archaeologist.

For the theme of our study, John Garstang's work at Tell Jericho is quite illuminating from a semiotic point of view. It is not the truth of the meanings given to the signs that deepens our understanding of archaeological semiosis. Rather, we are interested in the key elements observed in the process itself that help us to understand why he came to such conclusions.

The interpreter: some subjective considerations

John Garstang (1876-1956) was an eminent archaeologist with broad experience. He started his career by excavating historical sites in Roman Britain and working in North Syria, Anatolia, Sudan and Egypt. He was well aware of the current state of research in Mandatory Palestine as the head of the Department of Archaeology in

²⁵ "...we found unexpectedly the remains of Late Stone Age buildings below the foundations of the Walled City in the north-east corner of our area" (Garstang and Garstang (1940, p. 55.) Section of the deepest sounding in Plate VI.

Palestine (1920 – 1926) and as the Director of the British School of Archaeology in Jerusalem (1919 – 1926).²⁶

Despite this impressive background in Near Eastern Archaeology Garstang had little, if any, experience with prehistory. It seems that he was not that interested in the early periods, nor was he very familiar with the truly ground-breaking theories that were been developed at this time by Vere Gordon Childe (1892 – 1957) at the University of London. Childe was pushing the boundaries of prehistoric study and focused with his concepts of Neolithic Revolution and Urban Revolution scholarly attention on such issues as technological development, subsistence strategies, analysis of evolving social hierarchies and the general forces behind social and cultural change.

In contrast to the theoretical framework of Childe, John Garstang had been dealing with the historical periods in the Near East and was, with all his heart, a Biblical archaeologist. He happily told the world that he had actually found the famed walls of Jericho.²⁷ This illustrates well how this biblical story was Ground for him while interpreting the signs of the found object (walls) at Jericho. Three years before the expedition Garstang had published his *The Foundations of Bible History* (1931a) where he concentrates on the archaeological evidence as relating to the Scriptures. With such a background we may suspect that he could even have had rather deep ideological reservations about the ideas of a colleague who openly embraced Communist philosophy in archaeological interpretation.

In any case, none of Childe's modern prehistoric analyses appear in Garstang's study of Neolithic Jericho and he never refers to Childe. Rather, early Near East was for Garstang something that evoked the world described so poetically by Sir George

²⁶ John Garstang is also remembered as the founder of the British School of Archaeology in Ankara Gurney, O. R; Freeman, P. W. M. "Garstang, John Burges Eustace (1876–1956)". (Oxford Dictionary of National Biography [Online])

²⁷ John Garstang did in fact announce the discovery of the Walls of Jericho mentioned in the Bible. As expected from the Ground of the Biblical story, Garstang initially noticed signs of intense fire. "Houses alongside the wall are found burned to the Ground; their roofs have fallen upon the domestic pottery within." "Palace storerooms were burnt in a general conflagration." "White ash was overlaid by a thick layer of charcoal and burnt debris." (Garstang 1931a; Garstang and Garstang 1940) But continuing work at the site revealed such complexity of occupational history that he toned down this initial understanding of such great meaning for Biblical Archaeology. These fortifications were probably Hyksos dating to the period well before the time of Joshua. A few scarabs of Amenhotep III found in the cemetery led him to suggest that the Biblical Jericho is City "D", but he did not find clear evidence that would correspond to this period of history (Garstang 1934a).

James Frazer (1854–1941) in *The Golden Bough: a Study of Magic and Ritual* (1890).

28

The technical publications of the Jericho expedition, published during Garstang's professorship at the University of Liverpool, include only three rather slim volumes in the *Palestine Exploration Quarterly* 1934-1938. Important sections of them were written by Joan Crowfoot who studied the flint industries and by Immanuel Ben-Dor who analyzed the early pottery. The archaeologist Alan Rowe was invited on the expedition in 1936 to examine the complex stratigraphy of the prehistoric occupational deposits.

Garstang expressed most of his personal views on Jericho in the popular book he published with his wife, *The Story of Jericho* (Garstang and Garstang 1940). The title of this book as well as the tranquil drawing of Tell Jericho amidst palm groves, on the 'frontispiece', gives important clues about the basic framework from which Garstang wanted to understand the archaeology site: he wanted to tell the story of the city. His desire to tell the story of the culture which has not left any written documents indicates that the interpreter has a Ground or actively seeks a Ground (from later written sources) through which he can connect signs to their objects and give interpretations.

For Garstang, archaeological understanding is not just description of changes in building techniques, listings of flint types or classification of pottery. The real meaning of an archaeological site is in the unfolding human history that it witnesses. The narrative, stories that take the reader through the ancient times, gives the essence of our knowledge. The stories are the flesh and blood of history, real humans living in ancient Jericho.

The deep significance of the title of Garstang's book, acting as a map to his understanding of archaeology, becomes clearer when we compare it to the popular book published sixteen years later by another excavator of Jericho, Kathleen Kenyon.

²⁸ It is true that Garstang does not refer to this famous book either, but the general atmosphere in his discussion is definitely similar to Frazer's studies as shown in his attempts to understand Jericho Neolithic religion. In contrast, the sharp and materialistically oriented atmosphere of Childe is missing.

She gave her book the title *Digging up Jericho* (1957) and the frontispiece is a photograph of the major stratigraphic section through the Tell. Indeed, Kenyon emphasizes in her book digging techniques and stratigraphy to the point of obsession. She is quite sceptical about any 'story telling' and imaginary enrichments of the archaeological record. In fact, she barely mentions John Garstang in her extensive works on Jericho.

Semiosis and Excavation Techniques

In the peculiar world of archaeology the understanding of the signs is profoundly tied to what happens in the field during the excavations. The archaeologist trying to make sense of the torrent of objects found during a dig must interpret the signs of material objects with each other iconically. The archaeologist must also interpret indexically the physical objects with the broader contexts of loci and layers. Then he/she has the possibility to use iconic similarities of the found objects and compare them with other finds in dated strata and eventually with contemporary regional cultures and ultimately civilizations. Proper interpretations require very careful excavation techniques that reveal floor layers, intrusions, slopes and collapses etc. and very systematic recording of the findings with their three-dimensional spatial coordinates. It sounds simple, what was found and where, but the realities of Near Eastern archaeology are full of sad stories regarding missed information.

For example, during daily work in a locus an object is found. It becomes clear that it has been made from stone and it contains signs which can be interpreted so that the stone was a tool. This stone tool is found indexically with a plastered floor surface. This floor is, in turn, indexically related to the walls of a room within a structure. The signs upon the stone tool itself are interpreted iconically with a broader typological classification schema that is the basis for the identification of an industry associated with other archaeological sites and layers in a given region. The tool gets its meaning as archaeological object which contains a sign which can be used as a chronological and cultural indicator for that specific floor in that specific room in a given chronological and cultural horizon. Without such structured associations, individual archaeological objects would only constitute a loose collection of items, a boring

catalogue that gives little, if any, information about the dynamics of human history at the site.

The archaeological semiosis is closely tied to the way the site is being excavated and the findings recorded. Poor technique leads to wrong interpretations. For example, objects that do not really belong together are summarily lumped together in the same locus. Thus, indexicality of the place of an object when it is found, locus, may from the beginning be wrong because of poor recording/excavation technique. Therefore, indexicality which should give us more secure information may, in fact, mislead interpretation due to poor excavation technique. Some of the items may be intrusive, consequently leading to great confusion later on when the locus is analyzed.

Destroying Indexical Signs by Poor Archaeology

A good example of the importance of field technique is the first excavation on Tell Jericho by Ernst Sellin and Carl Watzinger in 1907. The final publication of this Austro-German expedition is a beautiful archaeological book, clearly written, beautifully illustrated with photos and drawings. It is in many ways ahead of its time having, for example, pottery profile drawings that became common only later (Sellin and Watzinger, 1913). However, the publication is basically a catalogue of unrelated findings. It therefore gives only vague information about the archaeological history of Jericho, its chronology and cultural phases. Despite all of their valiant attempts, the archaeologists could not securely date the walls they found at Jericho (Watzinger, 1926).

The reasoning for the general failure in understanding the site is due to the lack of indexicality between objects and in the poorly understood archaeological context in which they were discovered. This is the expected outcome of the very problematic field technique that was still in vogue in early 20th century, that is, trench digging. The excavators revealed architectural features by digging in trenches that followed their outlines.²⁹ Such a method could not possibly provide the evidence required for proper interpretation of the findings in defined contexts.

²⁹ Dr. Gottlieb Schumacher did such trench digging at Megiddo with very poor overall results.

John Garstang excavated Jericho in the 1930s and the limitations of the technique of trench digging were understood. A new and better field technique, excavating in squares, was in use in which the excavation area is divided into a grid of squares, usually sized 5 x 5 meters each. These squares exercise control over the horizontal exposure and assist in pinpointing the locations relative to the squares. Square balks provide sections for the excavation area. Benchmark is used for defining the vertical elevations of the finds made in the squares. Soil is removed in strips of equal thickness, about 20 or 30 centimetres deep.

This field technique was used in Jericho and also in the major Chicago expedition of Tel Megiddo³⁰, in the Pennsylvania University excavations at Tel Beth Shean³¹ and it was applied very strictly by Maurice Dunand at Byblos.³² The same basic method is still in use today in modern excavations.

The difficulty with semiotic interpretations in the major excavations of the 1930s is not in the theory of the technique. Rather, the problem is in the hasty speed of field work, lack of proper supervision over the often too large work force, incomplete recording of the findings and poor documentation of the progress of the work.³³ In this way a great number of indexical signs were destroyed so that the locus of objects and their relation to other objects were missed.

Archaeological semiosis is based on interpretation of the mutual relationships of physical objects and the broader context. Peirce's triad of semiosis as sign, interpretant and object, is now distinctively physical and object oriented. As mentioned previously, during the excavation process a large number of indexical signs can be destroyed and consequently there is a higher risk that a misleading

³⁰ The technique was used in the massive excavations at Tel Megiddo by the Chicago Oriental Institute expedition 1925-1939. Scholars have had great difficulties in assigning the important discoveries at Megiddo to a proper archaeological context. The deep cut to bedrock in the western corner of the tell has caused particular difficulties as the Chalcolithic and Neolithic findings are mixed together.

³¹ A similar excavation technique was used also by the Pennsylvania University in Tel Beit Shean 1921-1933.

³² Dunand demanded that the strips be of equal thickness regardless of the stratigraphy at the spot where the layers could be not horizontal. In this way he cut through several layers in a single square and confused earlier and later materials.

³³ As at Megiddo, at Beth Shean too the important deep stratigraphic cut to the bedrock has been a challenge to later scholars and inspired a detailed re-examination of the stratigraphy with modern understanding of the periods (Braun 2004).

Ground is established which connects the signs of the object with the wrong archaeological contexts (e.g., in different loci etc.). If the indexical signs of findings were perfect then we could classify archaeology as an exact science.

Nevertheless, this is rarely, if ever, the case because of the realities of field work, limited budgets and time constraints. Invariably, the gaps in documentation leave other scholars highly dependent on the conclusions of the interpretations of the person who originally excavated the site. The expedition, rather than the site itself, becomes the Ground which dominates all later semiotic processes where signs are interpreted. This implies that the archaeological sign of the site is not Tell Jericho as such, rather, it is *Garstang's Jericho* – we may even say Tell Jericho is how Garstang described it! After all, an archaeologist destroys important signs during the excavation process. This is one lesson which Garstang's Jericho illustrates.

Garstang's Stone Age Jericho

Garstang directed excavations of the lowest strata of the Tell during the 1935 and 1936 seasons. The surface area covered about 2000 square meters in the North Eastern corner of the Tell and cut through six meters of deposits until reaching the virgin soil. At the bottom of the dig the exposed area was about 1000 square meters. Since Watzinger and Sellin had previously removed the Middle Bronze Age deposits from this corner, Garstang began the excavations from the Early Bronze Age (EB) layers. Towards the end of the 1935 season Garstang had found that there were six meter thick occupational layers under the EB strata and that these reached all the way down to the bedrock. These layers contained rich findings from hitherto only poorly known phases of human history in the region.³⁴

In the deep section down to bedrock Garstang identified seventeen different occupational levels of which the majority belonged to prehistoric periods. He numbered the layers starting from the EB Level I.

³⁴ Garstang's expedition publications: listed in bibliography.

<i>Level</i>	<i>Garstang</i>	<i>Modern terminology</i>
I – VII	Early Bronze Age	Early Bronze
VIII	Chalcolithic or Late Neolithic	Chalcolithic Wadi Raba
IX	Middle Neolithic	Yarmukian
X – XVII	Early Neolithic	Pre-pottery Neolithic

Table 1: Stratigraphy of Tel Jericho NE corner according to Garstang 1936 ³⁵

Joan Crowfoot was invited to join the expedition to analyze the stone tools. Stone tools are objects that are crucially important prehistoric signs with details that only an expert can understand and provide information on the tool's functional, chronological and cultural context and meaning. Crowfoot classified the stone objects found in Jericho into three groups. The latest is the Canaanite industry with its highly typical blades. Next there is a collection of flints that was, according to Crowfoot, closely associated with the tools found by Dorothy Garrod in the Tahoun Cave in Mount Carmel. This was called Tahounian II or "Jericho culture". Finally there was a "Mesolithic" group that included microliths. These were associated with those found by Garrod in Wadi en-Natouf (Crowfoot 1936). These earliest signs of human occupation in Jericho were found on layers of soil that were about two meters thick and rested on a sterile bed of marl (Garstang and Garstang 1940, p. 56).

For a wider cultural context Garstang related Stone Age Jericho to the discoveries made at the excavations at Ras Shamra in Level IV.³⁶ Such a comparison is essentially an iconic comparison of archaeological signs from two different sites by looking for similarities and dissimilarities between them. Measuring such iconicity is not simple and the interpretation may vary from obviously similar to only vaguely resembling. The nature of the iconical similarity between finds is also difficult to establish since objects were moved from place to place by trade. Only a rather broad

³⁵ Garstang (1936, pp. 68-70).

³⁶ "A comparison of details with the stratified fabrics of Ras Shamra, by courtesy of Dr. Schaeffer, shows that to a surprising degree the common fabrics of both sites passed through a parallel evolution in form and technique. The Jericho Late Neolithic corresponds to Ras Shamra IV, b. The painted fabrics of our Mid-Neolithic b, however, have nothing in common with those of Ras Shamra, where on the other hand the influence and importance of the Tell Halaf styles predominate, and continue in evidence into the Bronze Age, the common pottery none the less following a parallel evolution on both sites. Since Jericho and Ras Shamra are so far removed from one another as possible within the confines of Syria, it may be supposed that the same parallelism will be found on other intervening Neolithic sites" (Garstang 1936, p.73.)

set of similarities can indicate that the two sites should be seen as representing the same culture.

Garstang argued that the Jericho Stone Age layers belonged to a prehistoric cultural sphere that extended as far as northern Syria to Ras Shamra and existed in the regions between them, even though no evidence of such materials were known at that time from southern Syria or Lebanon. Furthermore, he argued that since there are no signs of similar objects in the known materials from Tepe Gawra and Mersin, the culture did not reach that far (Garstang 1934b, pp. 11-14).

The Case of the Missing Object - Pottery

A fascinating world of Stone Age Jericho was revealed in the two seasons of intensive work of 1935 and 1936. In the North Eastern corner of Tell Jericho numerous prehistoric structures, many with finely plastered floors, emerged showing specific features that were not known from any other Levantine site at the time of Garstang's expedition:

House walls and floors were faced with a smooth lime surface, which was painted in bold splodges of dull red or brown and burnished. The floors were usually laid on a bed of limestone chippings about 4 or 5 cms deep, the finer pieces towards the top. Walls made of mud but some plano-convex bricks, stone mortars and pounders, burnishing stones, some of which were very smooth and bore traces of brown or red pigment, plastic mud figurines of animals, bone points, sea shells, fossils, eoliths, stone rings, pieces of coloured stone and pumice, a few beads and perforated shells used as beads (XII-XVII Early Neolithic plastered floors, superposed building layers, Garstang 1936, p. 69).

In these layers there were numerous objects, especially flints as was to be expected. However, Garstang made an important observation while excavating these layers. At a certain point about two meters down the six meter thick pre-Canaanite deposits the excavators did not find any more pottery. The most common object in archaeological excavations in the Near East, pottery, went missing. Garstang labelled the lowest of

Tell Jericho, Levels X to XVII, as “Early Neolithic” because of the lack of pottery. For the first time, archaeologists were studying a sequence of occupational deposits where pottery appears in a deposit above the aceramic levels. The earliest pottery vessels were found four meters above the bedrock in Jericho Level IX which was labelled “Middle Neolithic”.³⁷

The absence of pottery is such a striking and important feature in a level, that it is considered one of the main key factors to subdividing Neolithic phases in Levantine archaeology. Kathleen Kenyon coined the commonly used terms *Pre-pottery Neolithic A and B* for Garstang’s Early Neolithic and *Pottery Neolithic* for the final Stone Age deposits at Jericho (Kenyon 1957).

The absence of an expected artefact from a given set of items is, of course, a logical key to any classification: if group A has an element X and another group B does not have this diagnostic element X, group B is different from group A. Such a notion is commonplace and very generic. However, in Near Eastern archaeology the lack of pottery from an occupational layer is a significant sign that has deep meaning for the interpretation of the site. The meaning is, of course, not necessarily always chronological, as there are alternative explanations for the absence of pottery in a particular site or stratum.³⁸

While Kenyon is usually given the credit for defining the Pre-Pottery Neolithic period, it was actually Garstang who first discovered and published this important *archaeological sign of absence* in Jericho in 1935.³⁹

³⁷ (Ben Dor 1936, Pl. xxix-xxxiii, xlii). This type of pottery is today generally called Yarmukian (Garfinkel 1993). Garstang assumed that the crude wares found in Level IX are the earliest attempts at local pottery making in Jericho and that the extensive use of plaster on floors and in making figurines observed in the underlying Level X preceded pottery making as an early step (Garstang 1935, pp. 165-167).

³⁸ For example, one could argue that nomadic camps have no pottery since they used perishable portable leather vessels and carried the ceramic vessels away while moving to another camp site. But in the case of a Near Eastern settlement that was occupied for a considerable period, such as Jericho, the lack of pottery usually indicates a period of settlement before men began to manufacture pottery.

³⁹ “The Early Neolithic levels (Layers X-XVII) contained no pottery; they represent a purely stone/age culture, continuous in itself as already stated, and are distinguished by successive building stages exposed (Garstang 1936, p. 69).

The Case of Human Figurines: John Garstang and Ruth Amiran

The confusingly rich occupational deposits in the North Eastern corner of Tell Jericho produced numerous important findings. Garstang apparently had no conception that he was dealing with an extensive period of occupation lasting for several hundreds of years. The dig proceeded quickly and on such a massive scale with 60 to 70 workmen that Garstang barely had time to analyze the find.

One category of the find, of particular importance, unfortunately did not receive enough attention from Garstang; no detailed drawings, photographs or plan of the findings location were produced. The find consisted of two groups of figurines which were broken in antiquity and in a bad state of preservation. The two groups each had an almost life size male figurine, half size woman and a doll like child. The second group was more fragmentary than the first one but apparently also contained the figurines of a man, woman and a child. Curiously, the fragments of the second group “rested upon a heart of loose stones and the modelled clay limbs were partly baked. It included a leg with toes and other anatomical parts, including a female breast (Garstang 1935, pp. 166 - 167).⁴⁰

He associates the figurines with House 202 and with the Early Neolithic Level X. This phase was included in the Pre-Pottery Neolithic B by Kenyon. The two groups are said to have been found in a small ante-room of this exceptionally well preserved house with floors and walls covered with plaster and polished. Nevertheless, since he also states that the first group was found no less than 40 cm above the floor (Garstang 1935, p. 167) there is doubt about the actual stratigraphic details. The prime discovery in both groups of figurines was a strongly striking male face with shells inserted functioning as eyes, hair on the forehead and a bear painted on the whitish clay with lines (Garstang 1935, Pl. LIII). The majority of these important Neolithic Jericho

⁴⁰ There is only a single poorly published photo of the figurines in the second group in situ.

figurines are lost apparently now, however, some of the fragments have survived and are now in store at the Rockefeller Museum, Jerusalem.⁴¹

What meaning did Garstang give to this extraordinary discovery of figurines made by a previously unknown civilization that he was finding in the lowest levels of Tell Jericho? Actually, he did not venture to suggest any meaning at all to these figurines, the purpose they were made for or their function in that society. We may safely guess that he simply had no idea what they were and preferred not to offer any guesses. He had no way to decipher the meaning of these signs from the distant past of Neolithic Jericho that had no known parallels in the Levantine archaeology of the day.⁴²

A brave attempt to understand the figurines was made later by the young Ruth Amiran. She had located a detailed description of the figurines in the *Palestine Archaeological Museum Catalogue* and published her interpretation of the findings in 1962.⁴³ The inventory card had been written by the conservator working with the fragments and provides very important additional details about the figurines. The figurines were made of clay that was “plastered round a core of reeds or canes, the impression of which is visible on the interior” (Amiran 1962, p. 24).

Ruth Amiran did not attempt to propose a meaning for these figurines directly. Rather, she approached the riddle of their purpose and function by interpreting them in a much wider and later Near Eastern context. Her fundamental idea is that such prehistoric objects might have a connection with the concept of making or building man from clay as found in Mesopotamian sources and in the Bible that man was made of clay. This is a bold suggestion proposing continuity between Neolithic and later periods of Near Eastern history – an idea very much in vogue in modern Near Eastern archaeology.

⁴¹ The male head is on permanent display in Rockefeller Museum, Jerusalem. I have not found any trace of the other objects in the group in the museum where they were stored and possibly partly restored.

⁴²“This last phase of the Late Stone Age was thus a period with special characteristics, and curiously unaffected by the contemporary civilization elsewhere; no single object found at Jericho could be said to have its origin in the far North or East. It is true that the pottery shared features in common with specimens from Ras Shamra and from a site near Gaza, and, as these places are relatively far removed from one another, it is not unreasonable to infer that such parallelism may have extended at any rate through Syria” (Garstang and Garstang 1940, p. 71.)

⁴³ The card is number 35.3289/2-4. It was written by the conservator at the laboratory of the Palestine Archaeological Museum (Amiran 1962, p. 24.)

Amiran argued on a linguistic basis that a key expression “to build” is the core signification in the Biblical story of the Creation of Man. God physically takes the rib of Adam and creates Eve: “And taking into consideration the context of the story of the Creation of Man “of dust from Ground” we see that the creation of Eve was accomplished by building or fashioning clay around the rib of Adam” (Amiran 1962, p. 25).

Amiran tries to understand prehistoric artefacts by using early historical written sources as the key point of interpretation. Thus, later written documents provide Ground for her to understand the signs in an archaeological object. She associates the meaning of the old Biblical narrative with possible roots even in Sumerian culture. She compares the literal image in the Bible and behind it in the Gilgamesh epos, with the building of the Jericho Neolithic figurines around the ‘bone’ of reeds and canes.

The conclusion in Amiran’s attempt to interpret the meaning of the figurines is carefully constructed as she simply wishes to direct our attention to possibilities of points of contact between mythological traditions and archaeological findings (Amiran 1962, p. 25). Her little known article on Garstang’s discovery of the figurines is important in two ways: firstly, she provides crucially important additional technical information about the figurines, secondly, her article is a step towards the method used today by other archaeologists in attempts to give meaning to the mute evidence of prehistoric symbolic artefacts, signs.

The Case of the Megaron

Garstang paid close attention to a special larger structure, House 208, which was discovered in the Early Neolithic Level XI. He describes this as a building with a set of notable archaeological signs, “portico on six wooden posts, a wide antechamber and a large inner chamber” (Garstang and Garstang 1940, p. 60). Garstang notes that there were a few domestic items inside the building of which some were missing. Since there is no pottery in this phase, the missing domestic items would be mostly understood as various flint tools and stone objects for grinding wheat. However, we have to take his word for this absence since he gives no listing of the objects found inside.

Nevertheless, this absence indicates that the structure had some special function and was not just another regular dwelling. The section on the western wall of the structure indicated seven rebuilds and thus a long period of use for the structure so, “evidently this was a time-honoured building of special character and design” (*ibid.*).⁴⁴ On this Ground Garstang calls the structure a Neolithic shrine that would be by far the oldest known in the archaeology of the 1930s (Garstang 1936, p.69. Garstang 1940, pp. 59-60, Fig. 5).

⁴⁴ Earlier Garstang wrote that most of the Neolithic buildings had their finished floor surfaces frequently re-burnished and “we must attribute the frequent rebuilding of houses to the normal process of decay aggravated by the underlying damp” (Garstang and Garstang 1940, p. 58). We can therefore notice a pattern in his argumentation seeking to confirm the special character of the megaron by selective use and interpretation of the facts.

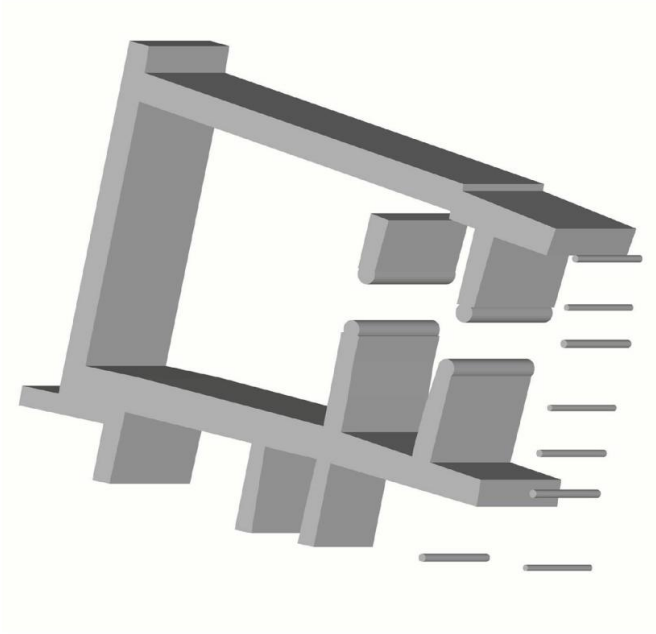
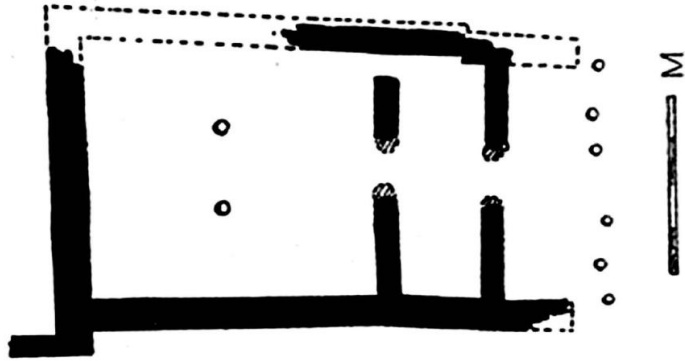


Figure 9: Top: Plan of Neolithic Shrine. Bottom: Isometric Reconstruction of House 208. Drawing by Silvia Krapiwko. Courtesy of Israel Antiquities Authority

To decipher the meaning of the building Garstang associates its longitudinal ground plan with the *megaron* known from Thessaly even though the Jericho building is “2,000 years earlier in date” (Garstang and Garstang 1940, p. 60). The concept thus established, the sign of a megaron, is then further used as Ground for his understanding of the various archaeological details in the structure. Taken together these signs are a confirmation for him that this is a religiously symbolic architectural sign, a temple.

Garstang bravely expands this hazardous association with another building of over two millennia younger by using the written sources of Homer to describe the principal features and functions of such a building in Greece. He nevertheless observes a difference between the Greek megaron and the Jericho Stone Age Temple: the inner chamber of the Jericho building does not have the hearth that is so typical of the megaron.

Once the road of association had been chosen, there was a need in Garstang’s mind to explain this abnormality. If the buildings are similar why is there such an important difference in the details? At the spot where the hearth should have been there was “a socket for a pole to hold up the roof (Garstang and Garstang 1940, p. 60). (In fact, the published ground plan depicts two sockets.) For Garstang, this somehow explained the matter; the lack of hearth was understandable by the climate that is much hotter in Jericho region than in Thessaly (*ibid.*).

The facts are simplified and changed in the mind of the observer by the powerful sign of a megaron which supposedly became the basic concept of comparison to the Jericho structure and overshadowed what was actually found at the site. A graphic illustration of this is the way Garstang selected from the original field drawings what should be presented in the book. The original plan of the megaron is stored in the Mandatory archives in Rockefeller Museum. This is a very carefully drawn professional plan with accurate lines where each room is meticulously numbered and details of passages and uncertainties in wall lines clearly marked.

Figure 10 shows the actual box that Garstang drew on the original plan of House 208 outlining the picture to be published as the plan of the Neolithic Megaron Temple.

The plan also has three more wall fragments abutting the megaron wall on the lower part of the picture with a locus marked as “intrusive” (above number 209). The upper part of the picture shows that there is probably another wall that continues from the megaron wall towards the top of the picture.

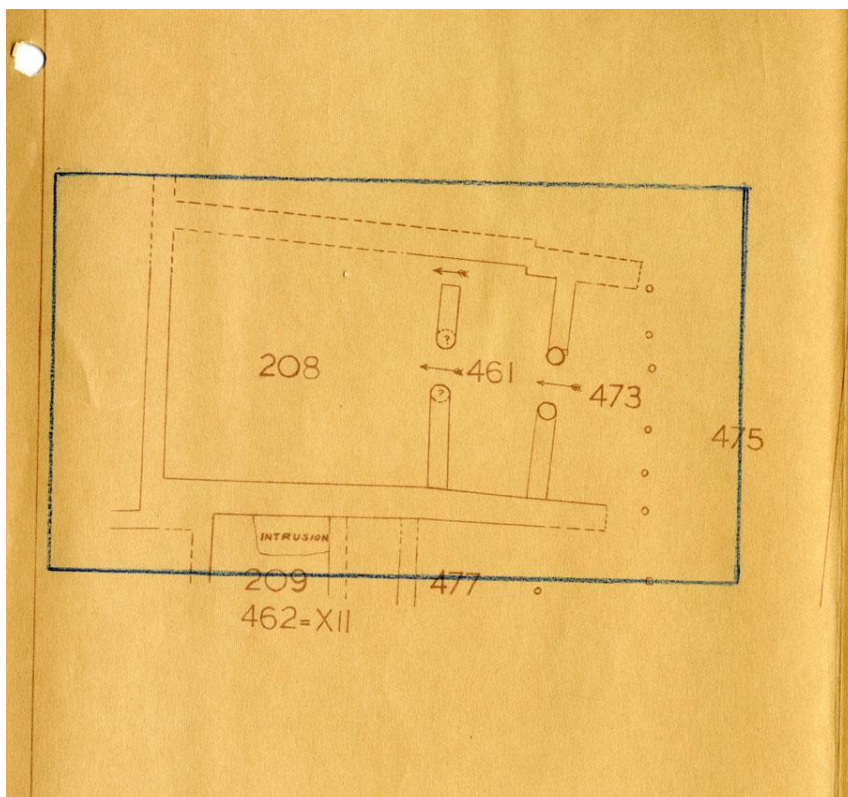


Figure 10: House 208, Garstang Drawing. Courtesy Israel Antiquities Authority

We see neither a hearth nor any post sockets in the main room. Furthermore, the neat line of six posts in the entrance to the building is the sign to which Garstang gave the meaning of a portico, a festive entrance to the holy place. However, there are not six but eight post holes! The two south of the structure were simply drawn over by Garstang’s pen as can be clearly seen from the picture in Figure 10. Somehow they ended up inside the “megaron” to replace the missing hearth.

The isometric reconstruction, Figure 9, based on the original drawing gives an idea of how far the ground plan was modified for the publication to give the impression of a

monumental free standing Megaron Temple by eliminating the extra poles and the many connecting walls in a group of many houses built side by side.

The God Worshipped in the Megaron Temple

It is not simply the mere physical description and identification of the building that Garstang wanted to accomplish. He wanted to tell the story of Jericho, and also in this case he wished to add flesh and blood, real human interest, to the discovery. Proper understanding of the archaeological sign is to be able to tell the human side of the story.

While the inner rooms of the structure had only a few objects, Garstang describes quite a collection of both iconic and symbolic archaeological signs near the building: “outside the entrance, and as far as and beyond the eastern retaining wall of the precincts, there were found numerous plastic clay and mud figurines representing chiefly domesticated animals, among which can plausibly be recognized the cow, goat, sheep and pig, and possibly the dog. Other models suggest a cobra’s head, the male organs, small cones, and something like a pillow” (Garstang 1936, p. 70).⁴⁵

In *The Story of Jericho* the same description is compacted “Outside the chief entrance were found numerous votive figurines of clay and mud representing chiefly domestic animals, such as cows, goats, sheep, pigs and dogs, as well as certain emblems of fertility” (Garstang and Garstang 1940, p. 60). The interpretation of the clay models as “votive figurines” in religious use and male organs as “emblems of fertility” indicates to the reader something about a sort of prehistoric fertility cult that was associated with the shrine. He is giving significance to findings that were not known from elsewhere at that time.⁴⁶

The story of the temple goes on; “In the forecourt were number of tiny rooms with trap openings, which look like sheep pens” (Garstang and Garstang 1940, p.61). Without further documentation of these “pens” and “trap doors” or how they were

⁴⁵ Unfortunately, these items are not well documented and we cannot independently evaluate the item that, for example, looks like an exotic cobra’s head or what would a Neolithic dog look like. The pictures published in Garstang and Garstang (1940: Pl. VIII) are too weak for analysis.

⁴⁶ Garstang compares the figurines from Jericho to “much later” findings of similar objects at Tepe Gawra, Billa and Brak in Mesopotamia (Garstang and Garstang 1940, p. 61).

architecturally connected to the main structure we only have the *sign of the written description* that was left to others interested in Neolithic Jericho by Garstang.

These ephemeral features are not at all trivial since they provide Garstang with the key interpretation points for his understanding of the Neolithic Temple. The sign of the “sheep pens” brings to his mind shepherds and their protector the Moon God. How are we to know that the “Moon God”, so poetically described by Garstang, was actually a protector of shepherds? For there is no written evidence of any kind about the myths and traditions of the Jericho Neolithic people. Garstang simply refers to a Mesopotamian prayer to Shin, the Moon God, who protects sheep, goats and their guardians (Garstang and Garstang 1940, p. 61) – regardless of the cultural, chronological and geographical distance. The much later Mesopotamian text is, therefore, a Ground for Garstang to connect signs of different archaeological objects which he interpreted as “sheep pen” to produce an Interpretation that the Megaron Temple would be that of the Moon God.

That pastoral people of this part of the world should worship the Moon, especially under conditions of climate like that of Jericho, was natural. Where herbage is scanty for most of the year and shade is rare, the Sun is too fierce to be regarded as their friend; on the contrary in desert regions he brings drought and thirst. But the Moon is beneficent and kindly, dispelling the terrors of darkness, while bringing coolness and rest to man and beast (Garstang and Garstang 1940, p. 61).

And thus we acquire an important part of the “story of Neolithic Jericho” by knowing one of the main gods they were worshiping.

Understanding the Two Human Burials in the Temple

The chief archaeologist of the distinguished Jericho expedition, Garstang, wanted to know even more stories that would help to understand the religion of the prehistoric people of Jericho that he had discovered. Two burials, one of an adult and one of a child, were discovered in a sealed context between the uppermost floors of the buildings courtyard as they were under the unbroken topmost floor. Garstang first

suggested in 1935 that these were human sacrifices without elaborating on the subject (Garstang 1935, p. 168).

The general Ground for such a striking interpretation is the expectation by the archaeologist that human sacrifices did take place at Jericho. Probably at the back of his mind was the Biblical story that possibly implies the sacrifice of Abiram and Segub and their burial under the wall and gate during the building of the walls of Jericho in the Iron Age.⁴⁷

In the *Story of Jericho* Garstang abandons the idea of human sacrifice that had appeared in the short initial report he wrote. "The recognition of this building as a temple may help also to explain the facts behind two burials. One was that of a man who had obviously died a violent death; his neck seemed to have been broken by twisting his head round; and his body was held down, as it were, by a fairly large stone. Possibly he had been caught in the act of violating the sanctuary, or stealing temple offerings; it is at any rate fairly clear that he was punished for some crime" (Garstang and Garstang 1940, p. 62). This is a nice illustration of the type of constructions in the semiotic processes which may be in a creative mind which tries to interpret signs. Telling a story and interpreting difficult Neolithic archaeological signs are, however, two different cases.

There is yet another interment that Garstang associates with this structure, with rich meanings: "Another burial discovered in the excavation of these buildings was that of a child, found between the floors. There is, however, no evidence of sacrifice: the burial of small children below the floors of houses is a primitive custom not by any means confined to Palestine. The idea of the spirit of the young child hovering about the home brings consolidation to the bereaved parents. In this case burial within the sacred precincts possibly implied in a particular sense the idea of communion with the God and the pious hope of an ultimate reward or blessing" (Garstang and Garstang 1940, p. 62).

⁴⁷ "Laid the foundation thereof in Abiram, his first-born, and set up the gates thereof in his youngest son, Segub." (1 Kings 16:34)"Cursed before the Lord is the man who undertakes to rebuild this city, Jericho--At the cost of his firstborn son will he lay its foundations; at the cost of his youngest will he set up its gates." (Joshua 6:26)

These are the colourful and touching stories associated with a Neolithic Temple from Jericho. It is in itself a sign, consisting of the actual objects, the interpretations and the interpretant, John Garstang. It is a unique Neolithic shrine with a portico and antechamber that resembles the Greek megaron and has few or no domestic items inside so it is not a regular house. It has been rebuilt several times indicating a time-honoured cult site. In the vicinity of this structure there are sheep pens with trap-doors and votive figurines of domestic animals and symbols of fertility cult dedicated to the Moon God. A poor thief who tried to steal something from this holy place was executed on the spot and buried as he was, under a stone with a twisted neck. In addition, some bereaved parents buried their infant under the floor so that she or he would receive a blessing from this holy place and so that the spirit of the child would be near the parents, bringing them comfort.

Archaeological Semiosis by Garstang at Jericho

Garstang gives meaning to the significant new discoveries he made concerning the Neolithic period as a kind of a painting. In his mind is the *Golden Bough* and the rather romantic and highly imaginative early Near East described before archaeologists had revealed much material evidence of those early days. To him goes the credit of discovering the unique thick, well-preserved prehistoric layers and the settlements so unexpected while searching for the walls of Joshua. He tried to understand the discoveries from a hitherto almost unknown Levantine civilization using much his own imagination as the Ground. The carelessly excavated findings that left much indexical information unnoticed and even destroyed some of it, made his attempts to understand the findings considerably more difficult. The site is archaeologically very complex as was later shown by Kenyon's excavations of Jericho. Garstang's reasoning works on several different levels - from accurate descriptions of discoveries to fanciful imaginary interpretations of signs such as sacred buildings in early Greek style, funeral habits and even the early execution of a criminal desecrating the sacred precinct.

There are permanent positive contributions to world archaeology made by the Garstang expedition to early Tell Jericho. The discovery of Neolithic Jericho in itself is of major importance as the thick, well-preserved deposits are still today a

significant key to the mapping of Levantine Neolithic and Epi-Paleolithic. But the credit for the first publication of Jericho flint tools belongs to Crowfoot and for the expert studies of the Chalcolithic and Neolithic pottery to I. Ben-Dor. Probably the most important stratigraphic analysis of the sequence of the seventeen prehistoric levels belongs to Alan Rowe whom Garstang invited on the dig in 1936.

So what remains for Garstang himself? He is principally the one who told the story of prehistoric Jericho: a fanciful collection of misinterpretations, narratives based on unfounded archaeological associations between discoveries, their contexts and between cultural horizons and civilizations. In short, wild flights of fertile imagination with very little actual evidence to support any of it.

From a semiotic point of view, Garstang's Stone Age Jericho is particularly interesting. The point is not so much whether his interpretations were correct – they were not – but how he reached those understandings. What was the semiosis, the process that led to such totally unreliable and fanciful meanings given to the archaeological signs?

Garstang's Jericho is an extreme example of semiosis which risks providing us with inaccurate information about the past. Nevertheless, this serves as a reminder that similar misinterpretations and fanciful interpretations exist in other excavations in the Levant and elsewhere - there are other notable examples such as Heinrich Schliemann's Troy⁴⁸. The fundamental triad of sign, interpretation and object is an excellent tool for analyzing the reasoning in producing meaning from archaeological signs.

In conclusion, it is evident that poor archaeological excavation methods destroy many indexical signs. Every find has its own place and context in strata. Garstang, through his excavation techniques and methods, destroyed many indexical signs. Before interpretation it is important to carefully compare iconic similarities between the find and other excavated finds elsewhere. Without iconic comparison the archaeologist's own fantasy begins to play too dominant a role in the interpretations. Essentially,

⁴⁸ Schliemann ([1875] 2010)

telling stories i.e. fabricating symbolical sign, which could loosely match an archaeological find leads archaeological interpretation astray.

It is important to scrutinize all comparable symbolical interpretations of archaeological data elsewhere in the light of the new excavations. Garstang's problem was that he had no real parallel material. There is a risk that an archaeologist has a certain Ground which he uses to make an interpretation and he may even force finds to match better with Ground, as in the case of Garstang's Megaron Temple. Another problem was Garstang's way of using biblical data to match with pre-Biblical excavation results.

Chapter 4. Kathleen M. Kenyon, giving meaning through Stratigraphy

Kathleen M. Kenyon (1906 - 1978) excavated Tell Jericho between 1952 and 1958. She began her research sixteen years after Garstang had concluded his archaeological work at this crucially important site. The second British expedition to Jericho took place under the authority of the Department of Antiquities of Jordan. King Abdallah had annexed the West Bank in 1951, and so the ancient site of Jericho now became part of the kingdom.

The excavations lasted for six years revealing important new evidence about occupational layers and tombs in and near Tell es-Sultan. Arguably the most important findings were made in the thick and well-preserved Neolithic and Mesolithic layers discovered by Garstang in 1935 and 1936. Kenyon made her reputation as a top archaeologist by digging the same layers that Garstang had already studied all the way down to the bedrock. There was something different in her approach to the dig from Garstang's work which was almost totally eclipsed by the outstanding results Kenyon presented to the world.

She not only revolutionized the study of the Neolithic period in the Levant, but the evidence from Jericho paved the way for a new understanding of the development of human civilization in general; shifting the focus from great river valleys to theories based on V. Gordon Childe's writings about the Neolithic revolution. Specifically, the discovery of the monumental Neolithic tower and associated walls forced scholars to rethink theoretical models of cultural evolution in the Near East.⁴⁹

⁴⁹ When the results of her discoveries of the oldest city in the world reached the scholarly world, there was much suspicion of how such an insignificant corner of the Eastern Mediterranean could be so advanced at such an early age. Especially the leading American archaeologist of early Near East, Robert Braidwood (1907-2003) who had been working in the Orontes of Antiochia in Syria was not convinced. The predominant Ground for understanding the rise of higher civilizations followed the ideas of Gordon V. Childe. Early urban cultures flourished at the Euphrates and Tigris, the amazing Egyptian civilization was nourished by the Nile, earliest higher Indian cultures were located in the Indus river valley and so on all the way to China and the Yellow river cultures there. It was argued that the environmental conditions by the rivers were most favourable for the rise of complex societies since river water had to be channelled for irrigating the fields near it. The effort to plan, dig and maintain water channels and pumps and dams and to administer the process gave impetus to higher levels of organization and eventually to organized early urban states and organized religion with priesthood (*cf.* Butzer 1976).

The immense scientific value of Kenyon's work at Jericho and elsewhere was understood by her contemporaries and she was knighted in 1971. Kenyon has been called the most influential female archaeologist of the 20th century (Davis 2008). We could as well call her "one of the most influential archaeologists of the 20th century".

Garstang vs. Kenyon

John Garstang and Kenyon excavated the same archaeological site less than two decades apart, studied the same layers digging in grids and using local workmen to do the job. Nevertheless, the results of their efforts were significantly different. It seems that the key to this difference between Garstang and Kenyon is in the archaeological semiosis, an explanation of the fundamental differences in giving meaning to the findings.

For Garstang, to understand ancient Jericho required one to understand the people who lived there, to go beyond the cataloguing of objects and descriptions of layers, buildings and tombs; rather it meant to reach their thoughts, beliefs and history. However, while this goal is obviously correct, he was attempting a feat that is actually much more difficult than he realized judging from the ease with which he jumps from archaeological findings to far reaching conclusions and interpretations. The gap between modern men and prehistoric people cannot be crossed using hazy general comparisons between different cultures and times such as the third millennium Mesopotamia and the much earlier Neolithic Jericho.

There was no acceptable methodology in attempting to understand the prehistoric mind in John Garstang's time, so, he resorted to telling stories. Unfortunately, he was not a very critical scholar and wishfully allowed serious factual errors and misinterpretations of the archaeological evidence to lead his imagination. Impatiently, Garstang was shortening the great cultural and chronological distance between 'them and us'. By wrongly associating objects, buildings and burials discovered in the Neolithic layers, by ignoring some physical evidence and by modifying other facts according to his vision, Garstang created in *The Story of Jericho* (Garstang and Garstang 1940) an imaginary Neolithic culture that never existed: the semiotic sign of Garstang's Jericho.

On the other hand, Kenyon did not try to provide meaning to the discoveries by claiming to reach into the minds of the Neolithic people through the physical remains she found at the site. Instead, the goal she set for the study was much more modest and entirely “soil oriented”: her first and foremost interest was to get the archaeological record straight. There was to be no storytelling and every single issue of interpretation discussed would be judged on the basis of actual physical evidence.

Accordingly, the main emphasis of Kenyon’s work at Jericho was on improving field techniques and creating documentation that would register as carefully as possible all the details starting with the location in which the objects were found both in three-dimensional measurements from the grid and in relation to the soil layers that had accumulated through the centuries and millennia.

Essentially, Kenyon carried out the work of a field archaeologist and not that of an armchair scholar of Near Eastern cultures and religions or general trends in civilizations or economic theories about the origins and development of early farming societies. It was work that had to be done to gain valid knowledge about the crucially important Neolithic layers that have been preserved in Jericho. By doing this Kenyon laid the foundations for the modern archaeological study of Levantine Neolithic which has developed into a fascinating and very rich field of archaeological study, relevant to humanity.

Wheeler – Kenyon Method

For Kenyon giving meaning to an archaeological site meant understanding the sequence of layers at the site and properly associating the history of buildings and burials and all other findings within this context; the genuine basic work a field archaeologist is supposed to do. The only way to reach this understanding is to use field techniques that reveal the stratigraphy of the site.⁵⁰

⁵⁰ The title of her book for the general public, *Digging up Jericho* (1957), underlines her great interest in the actual technical process of digging a site. The cover photo depicts Trench I which is the major stratigraphic section through the western side of the Tel. She was fascinated by stratigraphy and became a recognized master of the art of discerning and dissecting archaeological layers.

To get the best possible results, Kenyon radically changed the ratio of supervisors to workers at Jericho. Whereas Garstang could have had up to seventy workers under the supervision of only one or two supervisors, Kenyon had a supervisor in each square and in each trench. The supervisors were especially trained to observe the slightest changes in soil quality, colour and other indexical signs indicating a change of layer (Kenyon 1957, p. 54). Alongside her well trained staff and local workers Kenyon was ready to undertake what is the most exact analysis of the stratigraphy of an archaeological tell ever undertaken in the Levant up to that point.

Kenyon had learned the stratigraphic digging technique from the most famous British archaeologist of her time, Sir Mortimer Wheeler (1890-1976) while working with him during the summers 1930-35, directing the work in the theatre in Britain's third largest Roman city, Verulamium near London. Wheeler himself had been a student of Lieutenant General Augustus Pitt Rivers (1827–1900) who had developed the crucially important concept of grid system for archaeological field work.⁵¹ To this he added the very important method of stratigraphic digging developed during his excavations at Mohan-je-daro, India.

At this ancient site Wheeler found densely built groups of houses that had been constructed using mud bricks. Frequent flooding of the Indus River had covered these buildings with hundreds of fine layers of silt and mud that made it hard for the workers to trace the outlines of the walls. Guiding the workers with almost military precision, Wheeler let them dig slowly in levels and his supervisors tagged and recorded every change of soil level. The balks of the squares excavated in the grid showed a cross-section of overlaying occupational layers, dense sediments formed from river mud and also the often faint outlines of mud brick walls. In this way Wheeler solved the problem caused by the difficulty in observing changes in soil layers while working horizontally downwards.

Kenyon adapted this method to the different conditions of the rocky, rather than muddy, Holy Land to what is generally known as the *Wheeler-Kenyon method* of

⁵¹ The use of a grid and stratigraphic digging methods are explained in Wheeler's *Archaeology from the Earth* (1954).

excavation.⁵² The first application of the method in Palestine was the Samaria-Sebaste excavations in which she participated in 1931-34⁵³. Kenyon directed the cutting of two carefully controlled stratigraphic trenches to the northern and southern slopes on the excavations on the top of the hill. From the sections of these trenches Kenyon demonstrated the sequence of Roman and Iron II occupational layers in a way that greatly advanced the understanding of the site.

Kenyon demanded from the supervisors at Jericho that square balks had to be kept intact and as straight as possible for clear reading of the overlaying deposits. She did not allow any objects to be removed from the sections, interestingly, in order to protect these stratigraphic key maps for the site. The Jericho sections drawings are indeed very detailed and an ideal showcase of how the work should be done.

Hand in hand with the observation of the signs for layer changes, went a meticulous and careful system of the recording and documentation of the findings. Every object, even the smallest of importance, was assigned to an archaeological context. All the objects found in the dig were also categorized. The complex sign language of pottery, figurines, flint, architectural elements, floor types and everything else had a typological edge. Similarity or dissimilarity were studied with a fine comb and the “cleanness” of the stratigraphic context was carefully observed. This was done, fundamentally, because mixed deposits lead to mixed data, while clean deposits allow for typological sequencing and dating as well as cross-cultural comparisons.

One more aspect of Kenyon’s field technique is important in understanding her contribution to the study of Jericho. Instead of broad horizontal exposure that would destroy large areas of the tell as had been done by the Chicago expedition in Megiddo, Kenyon concentrated on very deep trenches reaching bedrock and had clean and direct cross sections looking for evidence for dating and understanding the complicated occupational deposits. The trenches were dug continuing the work in the North Eastern corner of the tell in Garstang’s area, in the southern part of the tell and in the middle of it. The deepest trench cut by her was fifteen meters deep.

⁵²The method is explained in detail in K.M. Kenyon *Beginning in Archaeology* (1961).

⁵³Crowfoot and Crowfoot 1983; Crowfoot et al. 1942; Crowfoot et al. 1975.

The Jericho sequence established by Kenyon, in Table 2, is one of the foundations of archaeological study of the Neolithic period in Levant. It has been tested and largely confirmed by evidence collected from many other sites. Recently, for example, the discovery of thick Neolithic and Chalcolithic layers at Yiftah'el in Galilee has provided critical additional evidence supporting the sequence of prehistoric phases defined at Jericho.

<i>Garstang</i>	<i>Kenyon</i>		<i>Garstang</i>
Level IX	Pottery Neolithic B Pottery Neolithic A	Clay figurines	Late Neolithic
Level X			Middle Neolithic
Level XI	Pre-pottery Neolithic B	Bun bricks Plastered skulls	Early Neolithic
Levels XII-XVII	Pre-pottery Neolithic A	Thumb marked bricks Plastered floors skulls	
Level XVIII	Natufian		Mesolithic

Table 2: Terminology of Levels used by Garstang and Kenyon at Jericho

The sign of the Detached Skull

It is difficult to imagine a more striking archaeological sign than the detached skull of a human with fine facial features modelled from clay found by Kenyon. Kenyon describes how showing this photo, Figure 1 (see chapter 1), drew gasps of amazement from her audiences everywhere, because of the high quality workmanship, the beauty of the delicate features and the total surprise seeing the almost live face of a Neolithic person (Kenyon 1957, p.62). Kenyon and her startled workers were the first people to see such a skull since they were buried some nine thousand years ago. Nothing of any comparison was known in the archaeological record of the Near East or anywhere else on this planet.

It therefore offers a prime example of archaeological semiosis, where the scholar is trying to give meaning to a sign. As is the case in archaeology, Kenyon was not just trying to understand what this object could be in term of her own world, the studies in world archaeology, ethnography, anthropology and theories about early religion and magic. Rather, she was asking the hardest question of all – what did these skulls mean to those who made them in Pre-Pottery Neolithic B Jericho? Before this special find Kenyon had already found the detached skull of an elderly man buried in the angle of a room under the floor of a house “It looked as if the inhabitants wished to preserve his wisdom for subsequent generations” (Kenyon 1957, p. 60 Pl. 20a).

Against her Own Rules of Digging

It is somewhat ironic that one of the most interesting and unique discoveries made by Kenyon at Jericho was actually excavated totally against her ironclad rule not to dig into the straight stratigraphic section of the trench. She had strictly forbidden the removal of any object, however interesting, from any section. But the human skull protruding from the trenched wall was simply too precious to be left there at the end of the 1953 season when most of the camp had already been closed. So Kenyon and her staff spent an uncomfortable week burrowing into the wall of the trench and revealing a group of seven plastered and detached human skulls (Kenyon 1957, pp. 60-61; Kenyon and Holland 1981, pl. 58b, 59 a-c). The group of seven skulls included three adult males and four females⁵⁴.

There was no alternative. The deposits above this discovery were too thick to reach the skull by expanding the size of the trench after the season had already ended. Digging for these objects by burrowing from the side of the trench wall was not a proper technique and must have been an awkward situation for the master of stratigraphy. Where the skulls inside a room on a bench, under a floor or upon the floor of some sort of special mortuary or ritual structure?

⁵⁴ In the group of seven skulls five were initially identified as adult men (Strouhal 1973: 244) but later analysis demonstrated that only three are males and four females in their final report (Kenyon, Holland 1981, pp. 497-99).

The excavation of the heads was a very difficult and tricky business. They lay in a tumbled heap, one skull crushed firmly on top of another, with stones and very hard earth all round. Each successive group was farther back from the face of the section and increasingly difficult to get at, and the bone surfaces were exceedingly fragile, so the greatest gentleness had to be used.⁵⁵

Kenyon concluded that the skulls were “in a discarded heap, beneath the plastered floor of a house” (Kenyon 1957, p.65, Kenyon and Holland 1981, p. 77). The local stratigraphy was confirmed only after several seasons of excavations in 1956 when the same house was finally reached from the top and two more detached skulls were found under the floor (Kenyon 1957, p.65). This brought badly needed confirmation of where the heads had been located in the house. A single detached skull was found in the Pre-Pottery Neolithic B context from the north end of the excavation in 1958 (Kenyon and Holland 1981, pp. 310-311).

Kenyon also discovered a group of detached skulls in the earlier Pre-Pottery A settlement. Although none of these skulls had the facial features found in the Pre-Pottery Neolithic B period heads she suggested: “It seems quite likely that there is a connection between the PPNA group of skulls at Jericho and the PPNB plastered skulls. Both are early farming villages, surprisingly complex and large and show long period of settlement” (Kenyon 1957, Jericho III: Pl. VII C, pp. 436,442,444). The PPNB skulls were found buried under the floor of one house, a single elderly man and a “family” of seven skulls in a group under another floor (Kenyon 1957, p. 60-65, Pl. 20-23).

Archaeological semiosis, giving meaning to the findings in a context, does not work well here because of the lack of essential stratigraphic information. If this is true of the master of stratigraphy, Kenyon, one should also be realistic when evaluating the stratigraphic accuracy of other excavations.

⁵⁵ Kenyon 1957, p. 61.

Kenyon's team eventually excavated a group of seven skulls in the middle of the western side of the mound by entering the excavated trench section from the side where the back of the first skull was found protruding during the 1953 season. The excavators had no clue that it would have a face (Kenyon 1957: 61-62). Because the dig was tunneling from the side as more and more skulls became visible, the archaeological context of the settlement is not entirely clear.

Kenyon notes the technique by which the clay is applied to the eye-sockets and to the front part of the human skull. She describes how one skull that has the lower jaw attached to it is much more realistic looking than the rest that are missing the mandible made of clay. The eyes are made of two shells with a slit between them, while one has cowry shells for eyes. "The features, nose, mouth, ears and eyebrows, are moulded with extraordinary delicacy. The plaster of one head is coloured to represent a fine ruddy flesh-colour. Others show some colouring, but not so pronounced" (Kenyon 1957, p.62.)

Anthropology to the Assistance

Kenyon discovered the first detached skull in 1953. As discussed earlier, during that time there was nothing comparable known from anywhere in the ancient Near East or elsewhere in the world. The way the skulls were excavated also prevented more detailed study of the archaeological context that could help in grasping the meaning that these enigmatic human heads once had for the Pre-Pottery Neolithic B people.

There was so much to write about in Jericho that Kenyon did not spend much time trying to give an interpretation of these extraordinary findings. Almost *en passant* she notes that in Sipek River Valley in New Guinea, skulls were similarly given features up to comparatively modern times (Kenyon 1957). This valley is commonly spelled Sepik and Kenyon gives no references to what kind of painted skulls she has in mind.



Figure 11: Decorated skull from a Sepik River Village

These confusions with the name of the river, lack of any references or pictures in Kenyon's book and the great distance in time and space sadly resembles the broad comparisons Garstang had used in trying to understand the "Megaron". The cultures of Sepik River are, of course, still much further away from Neolithic Jericho than the Greek culture with its megaron architecture referred to by Garstang.

Kenyon suggests two possible meanings for the Jericho skulls on the basis of comparison to unspecified skulls from the Sepik River Valley: "In some cases these heads seem to be those of venerated ancestors, in others those of enemies, preserved for trophies. It would be possible to interpret the Jericho skulls in either sense. I have personally always been convinced that they are the heads of venerated ancestors, largely owing to the impression they give of being portraits, and to the loving care which the skilful modelling of the features suggests" (Kenyon 1957, p.65).

Kenyon was making an educated guess as she had no comparative data available to give meaning to the detached skulls. Ancestral worship is in no way established at Neolithic Jericho, although this possible interpretation lives on in archaeological literature. In a way the circumstances of the field excavations, the surprising discovery and the urgent need to dig the skulls from the wall of the square to protect

them, forced her to abandon the meticulous stratigraphic and contextual approach of interpretation.

A Sign of Mass Burial

The excavations conducted by Kenyon were highly focused on understanding the cultural sequences at Jericho. Much of the work on the tell concentrated on the horizontal deep sections reaching down to the bedrock which was a strong characteristic to the Kenyon-Wheeler method of digging.

However, such stratigraphic vertical exposure gives very limited horizontal exposure of the occupational layers. It is very difficult to be certain about the broader view of the architectural elements and other aspects of the Neolithic settlement. For example, because it was found in a narrow trench, scholars have difficulty in determining the position and function of the by-now very famous Pre-Pottery Neolithic B tower. Also the extent and purpose of the major walls are still open to debate because so little of them are visible.⁵⁶ Generalization may also lead to false results by lack of comparative evidence and wider exposure of similar settlements elsewhere.

In such deep but narrow trenches excavated into Tel Jericho, Kenyon discovered a group of about thirty skeletons under one of the Pre-Pottery Neolithic B houses. These bodies were found in undisturbed loci sealed in situ by the finely plastered floors of the house. The number of individuals was unusually high for the burial and many of the bodies were found with their heads removed (Kenyon and Holland 1981, p. 78). Only a single detached skull was discovered in this context and it was without a modelled clay face (Kenyon and Holland 1981, p. 305, pl.171 A, B).

This was the only Pre-Pottery Neolithic B mass burial found during the excavations and naturally suggested to the scholars that it was an exception, something special that must have been done after some sort of a disaster, such as a massacre or a plague.

⁵⁶ The problematic results of digging only in selected trenches without wider exposure are highlighted by Kenyon's work on the Ophel in Jerusalem. Since she only found thick fills and no architecture in the trenches, Kenyon wrongly concluded that there was no city in this area. Digging just a little to the side of her trench revealed massive Canaanite and Iron Age structures that are currently under intensive research (Kenyon, 1974.)

Kenyon ended up suggesting that most likely the Cult of the Skulls was a veneration of fallen defenders of the town against some enemy and that these were war heroes rather than a polite burial service within the walls of the settlement given to the slain enemies (Kenyon 1957, pp.63-64).

Kenyon and Holland also suggested that burials were later disturbed in search of skulls. “The most striking point about this filling is that it contained a remarkable number of bodies, at least thirty, mostly without crania, and some of them dismembered at a stage when the various parts of individual limbs were still held together by the ligaments. Dr. Cornwall, in his description of the individual groups in Appendix A, suggests that this dismembering was connected with the search for, and removal, of crania. This must be associated with the preservation of skulls, perhaps with plastered features, of which the evidence is found in Stage XVII.”⁵⁷

Archaeological Semiosis in Action: the Mass Burial

Because of her advanced field techniques, Kenyon became a master of the indexical sign where the object is directly connected with the interpretant. Her careful method of digging and registering the finds was rewarded with information that helped her to untangle the often complicated evidence from the field and suggest interpretations of these mass burials, seemingly chaotic heaps of human skeletons. Because of the great clarity and transparency in which Kenyon writes we can follow step by step her reasoning in giving meaning to the mass burials (Kenyon and Holland 1981, pp. 77-78). By applying Peircean types to her archaeological semiosis, it gains systematic sign structure that puts her own argumentation types in focus. The semiotic processes become visible in Kenyon's thinking and we can make the distinction between what is known and what is assumed clearer.

Sign typology gives a unified point of view to the critical evaluation of archaeological reasoning and the processes in which meaning is given to the discoveries from the area of the mass burials at Jericho.

⁵⁷ Kenyon and Holland 1981, pp. 77-78. The discovery of the mass burial is discussed with basically the same arguments and conclusions in (Kenyon 1957, pp. 63-64).

Mass Burial

Kenyon notices during the digging that human skeletons were found in the soil fill with no observable archaeological evidence of proper graves. The lack of evidence of separate proper individual burials is a negative indexical sign and therefore the interpretant of these piles of skeletons is such that they must be mass burials. Such a sign is highly significant and the meaning given in archaeological semiosis is essential for the understanding of the burial practices and history of the society in the Pre-Pottery Neolithic period. Alone this is not enough, however, and Kenyon made several more discoveries that help in giving meaning to these rather macabre findings.

Search for Skulls

The observation that bodies in the mass burial had been dismembered when ligaments were still present creates an indexical sign. The sign has the interpretant in Kenyon's mind that dismembering the bodies so soon after death was connected with the search for, and removal of, crania. The object and the interpretant of the sign are written down in Kenyon's text as a possible meaning and become as such an addition to the sign of what is called 'Kenyon's Jericho'.

Two Stages in Burials

The indexical sign indicating burial in stages comes from an area where the soil deposit was shallow. It was observed that bodies had been placed into pits that cut into the underlying level of burials. Thus, although the bodies were buried at two separate times, the material found in the two levels were much the same. Kenyon is accurate and says that she is not quite certain but there is the possibility that in the lower level some bodies had crania present and that they were properly buried. What does this stratigraphy and the observed differences in burial habits mean?

The Ghost

Kenyon observed that in some cases the crania were present but placed at some distance from the rest of the skeleton. This is a fact on the Ground and thus a semiotic indexical sign. However, the sign created in her mind an interpretation that is not

actually present in the discovery but deduced in a rather complicated way in Kenyon's brain. Modern cognitive sciences and especially neurological and other brain research are today busily trying to understand these processes on several levels from physical and chemical to psychological. Here we only note, using Peirce's groundbreaking analysis of cognition, that the indexical sign becomes in the brain of the researcher a symbolic sign that gives additional in-depth meaning to dry archaeological facts.

The shift from indexical to symbolic is critical and difficult but happens very naturally and quickly in the human mind. Without much ado Kenyon suggested that perhaps the meaning of setting crania at some distance from the body was done in order to prevent the ghost of the deceased haunting its old body. This truly English suggestion of ghosts and spirits is a nice example of archaeological semiosis and how a symbolic sign is created in the mind of the observer. Nothing in the indexical sign forces such an interpretation and it relies on a model of thinking, a kind of painting of prehistoric mental landscape, where ghosts and spirits haunt the land of the living as in an old English castle.

The symbolic sign is not directly linked to the indexical or iconic sign. For example, a red round traffic sign with a yellow stripe in the middle has no meaning in itself and does not necessarily resemble anything in the physical world. But by social agreement, people in many countries associated this symbolic sign with a one way road and the prohibition from driving in that direction. But alas! An archaeologist studying prehistoric society has no certain knowledge of such social agreements of meanings. Kenyon thus has no easy way of evaluating whether her suggestion of the significance of the sign is true. Did the prehistoric people actually believe in afterlife, in spirits and ghosts?

Peircean semiotics does not help us in such a situation to decide whether the interpretation produced by a symbolic sign is true or false. Actually, as quoted by Umberto Eco in this work, the sign itself might be lying. However, by considering the sign typology in archaeological semiosis, it neatly clarifies the logic in the flow of thinking and reveals fundamental concepts involved in the interpretation.

Accidental Death

How did all these people die? What are the signs that could lead us to find out? Kenyon writes that in the lower level of burials a body was found in a crouched position near another complete body. The archaeological signs created in Kenyon's mind the interpretant that a number of individuals were killed at the time of the destruction of the building and that they were left to lie where they fell. This is a significant sign that calls for explanation in the history of the building and of the entire settlement. What signs are there that there was for instance an earthquake causing sudden collapse of the building and death of the people? How do you recognize earthquake damage during excavations of a complex set of layers?

Warfare

The archaeologists concluded that a major wall was constructed around the settlement after the deaths and mass burials. The entire settlement was not excavated so the actual extent of the wall is not quite certain. Kenyon considered the tower and the wall as defensive structures. So the chronological sequence of mass burial followed by the building of a city wall created in her mind the interpretant that the deaths were the result of enemy action. A house might have collapsed during fighting burying some of the inhabitants under its ruins.

This is not purely an indexical sign where the interpretant is directly affected by the sign, cold facts, as in the example of the weather-cock given by Peirce. Let us assume that the massive wall was, in fact, not built for defence but rather for some other purpose, for example, as protection against floods. Maybe the tower was cultic and not military? By changing these assumptions we cannot then use the wall anymore as an argument for enemy action causing the mass burials. Accordingly, the archaeological semiosis is in this case itself an integral part of the interpretant which is deduced from the facts through logical reasoning based on assumptions.

Lack of Wounds

The indexical sign of the lack of wounds is connected with the problem mentioned above about warfare. Kenyon notes herself that the researchers analysing the skeletal remains found no evidence of wounds in the bone material. Even in the fragile conditions of the bones of the deceased there should be at least some signs of wounds if these people were killed in war. The negative sign is an expected sign that is not there – warfare should cause physical evidence of wound on the bones. The interpretant from the missing evidence is that perhaps the people in the mass graves were not killed by enemies and Kenyon again considers the possibility of an earthquake (the region is geologically active and earthquakes are frequent throughout the history of Jericho).

Funeral Cult

From the many indexical signs of burials and skull removal Kenyon's mind creates an interpretant of symbolic sign in a more generic level. “From this treatment of the skulls it may be deduced that these early inhabitants of Jericho had already developed a conception of a spiritual life as distinct from the bodily one. They must have felt that some power, perhaps protective, perhaps of wisdom, would survive death, and somehow they must have realized that the seat of these extracorporeal powers was the head. They perhaps believed that the preservation of the skull secured the use of the power to succeeding generations, perhaps this it placated the spirit, perhaps controlled it” (Kenyon 1957, p.64.)

Careful examination of archaeological evidence from the field gives for Kenyon the foundation for a theory that explains the significance of all these human remains and their treatment. The mass burials at Jericho and their study by Kenyon and her team are thus a good example of how archaeological semiosis works. According to the Peircean model of semiosis indexical signs generate symbolic signs. Kenyon has in her mind a model of prehistoric society, its religion and funeral rituals which formed the Ground for her interpretation of the meaning of symbolic signs.

Indexical and Symbolic signs in Kenyon's Archaeological Semiosis

Her meticulous implementation of the principles of the Wheeler-Kenyon method paid off in the study of what Peirce would call indexical signs. It is particularly clear in the case of the sign of the Mass Burial where she untangled a very complicated set of layers in the Neolithic strata and was able to discern phases in burials and relate the skeletons to the collapsed houses and wall. The genuinely archaeological signs were decisive in the process of semiosis and her conclusions have been broadly accepted by the scholarly community.

In fact, her work is considered an outstanding example of proper excavation techniques and publishing of the evidence. It is a kind of ideal that it is very hard to achieve with the pressures of budget and time that exist in today's archaeology and the evidence she gathered was so detailed and massive that, as mentioned before, the final volumes on Jericho have been posthumously published by T.A. Holland. The complexity of Tell Jericho, the thickness of later deposits and the relatively limited scope of the exposed areas have negatively affected Kenyon's interpretations.

In understanding the symbolism in the sign of the detached skulls Kenyon faced serious difficulty. The main deposit of seven skulls was excavated against her own rules of field work by cutting hastily into the section of the excavation trench. This lack of controlled horizontal exposure contributed to the initial misinterpretation that the skulls were haphazardly thrown into a rubbish pit in a pile. It is very interesting and valuable for us to see how Kenyon battled with the meaning of the skulls and proposed a variety of explanations on the basis of the archaeological context and also on the basis of anthropological comparison.

These case studies on Kenyon's massive and important work at prehistoric Jericho throw light on the reasoning behind the conclusions that together create the sign of Kenyon's Jericho. This has had a powerful effect in advancing the understanding of human civilization in the Near East. Peirce's analysis of cognition is helpful in keeping the different types of signs separate, in this case mostly indexical and

symbolic signs, while analysing archaeological interpretation and this, in turn, illuminates strengths and weaknesses in the processes of semiosis that lay behind the conclusions.

In conclusion, Kenyon's excavation technique was clearly more advantageous than that of Garstang. She managed to save many important archaeological signs indexically related to strata. One essential step in all archaeology is the excavation technique. Archaeology destroys its object under examination and, therefore, it is important to acquire as many indexical signs as possible. Many important signs have been destroyed forever. Comparison between Garstang's and Kenyon's methods illustrates this dilemma well, a drama inherent in all archaeological excavations.

Kenyon carefully avoided biblical Grounds for interpretations and tried to find iconic similarities. Her modern examples are test worthy but at the same time there is a risk of too large a time span - almost 8,000 – 10,000 years. Kenyon established an important basis for "biblical" archaeological by putting the Bible aside and making an independent archaeological examination. She emphasizes the importance of archaeological finds per se, and only then attempts to seek interpretation.

Chapter 5. Denise Schmandt-Besserat: the plastered skull from ‘Ain Ghazal

The French-American archaeologist Denise Schmandt-Besserat was until 2004 Professor of Near Eastern Art and Archaeology at the University of Texas, Austin. She has contributed to several studies on the fascinating discoveries made at Neolithic ‘Ain Ghazal, Jordan.⁵⁸ In order to examine her approach to archaeological semiosis, I have chosen her study of trying to understand the symbolic meaning of the detached, plastered and painted human skulls found during the 1998 excavation season.⁵⁹ The study expands into a broad comparative research examining all the detached plastered skulls known at the time of the writing from Neolithic Near East.

Semiotic Ground – Prehistoric Tokens

The broad approach to deciphering the meaning of the ‘Ain Ghazal skulls reflects Denise Schmandt-Besserat’s archaeological semiosis in studying Near Eastern Neolithic tokens and identifying them as an example of *information management systems in oral societies*.⁶⁰ These objects range from simple cones, disks and spheres to complex combinations of geometric shapes and include also miniature figurines of animals and small tools. Found in early agricultural villages, they resemble children’s toys.

In order to determine the meaning of these items to those who made them in the Neolithic period Schmandt-Besserat carefully ascertained their *archaeological context* by examining publications of excavations and, in some cases, by contacting the archaeologists who had found them and by examining the objects first hand where

⁵⁸ Her articles are only published on the web site of the excavation: <http://www.laits.utexas.edu/ghazal/>

⁵⁹ *From Behind the Mask: Plastered Skulls from Ain Ghazal* is apparently written by her, although the name of the author is not clearly stated on the web site. The Table of Contents gives three papers with different authors for Chapter 5: Decorated Skulls:

Three Plastered Faces by Patricia S. Griffin, Carol A. Grissom, Gary O. Rollefson

The Red Painted Skull by Gary O. Rollefson, Denise Schmandt-Besserat and J. C. Rose

The Modeled Skull by Denise Schmandt-Besserat

However, these all link to the same single paper with another title “From Behind the Mask”. The Table of Contents may thus reflect the original intention for the book of which only this article has been actually written including information related to the other two discoveries. Due to the difficulty in locating author in this work it will be referred to as Schmandt-Besserat et al. MENIC 2010 from <http://menic.utexas.edu/ghazal/ChapV/skull/> [quoted 2010].

⁶⁰ Schmandt-Besserat 1978;1992;1997;1999a;2007; Schmandt-Besserat et al. MENIC 2010 [Online]2010a; 2010b ; 2010c; 2010d. See footnote 67 for explanation of MENIC.

possible. The chronological and cultural context of the objects provides the Groundwork upon which the objects can be arranged into logical groups. Aristotelian *classification* of the tokens is based on selected typological or functional keys that suggest meaningful patterns in the collections of tokens.

Detailed description, contextual analysis and comparative classification provide logical evidence for reasoning from which meanings can be suggested for the objects on the basis of some semiotic Ground such as a theory of interpretation. Denise Schmandt-Besserat bases her interpretation of the significance of these objects on the generic idea that the small clay objects are tokens that were used for keeping track of the quantities of grain in storage.

It seems they did it by maintaining stocks of baked-clay tokens—one token for each item, different shapes for different types of items. A marble-sized clay sphere stood for a bushel of grain, a cylinder for an animal, an egg-shaped token for a jar of oil. There were as many tokens, or counters, of a certain shape as there were of that item in the farmer's store.

Thus, tokens could be lined up in front of accountants, who doubtless organized them according to types of goods and transactions. They could even be arranged in visual patterns to make estimation and counting easier.⁶¹

As a prerequisite for the 'Ain Ghazal skull analyses, it is important to note how Schmandt-Besserat observed a very long period of time of continuity in the token based recording system stretching from Near Eastern Neolithic to the rise of high cultures in Egypt and Mesopotamia and the invention of writing. Such longevity in prehistoric traditions is a semiotic Ground that allowed her to use a comparative method including objects chronologically separated over millennia.

⁶¹ Peterson 2010, [Online]

This simple system of data storage persisted practically unchanged for almost 4,000 years, spreading over a large geographic area. Eventually, the growth of villages into cities and the increasing complexity of human activities, especially in southern Mesopotamia, forced a shift to a more versatile means of record keeping. This shift was marked by the appearance of elaborate tokens alongside the well-established system of simple counters. Though similar in size, material, and color and fabricated in much the same way as their plainer cousins, the new tokens bore surface markings and showed a greater variety of shapes.⁶²

The fundamental factor in giving meaning to these signs, iconic and symbolic objects and drawings, is the human brain. As in the case of the interpretation of the mankala board from ‘Ain Ghazal, we recognize logical patterns indicating first the marking of quantities with symbols, and later, depicting mental ideas of numbers and then words using symbols. We may assume that in the mind of the prehistoric farmer there was the simple mental concept of quantity, such as “three” units of grain. Bring another unit, and there are “four” units; naturally, in the Pre-Pottery period the grain must have been stored somewhere. If the farmer created a symbol for this “four-ness”, an abstraction, a mathematical concept, he could have a token indicating “four”. However, according to the study by Schmandt-Besserat, such a mental leap did not take place in the Neolithic period. Four units of grain are represented by having concretely four clay cylinders without the abstract number four as a separate identity from the four units of grain.

This mental leap – separating quantity from the group of objects –happened much later on, in the Sumerian period. Several tokens were put together in a single envelope and the “clerk” would mark on it the number of tokens found inside. Such numerical abstraction greatly extended the work of the human brain. This leap in understanding a numerical concept expressed as a distinct sign, such as “four”, would not only

⁶² Peterson 2010, [Online]

improve mental handling of complex information, but, facilitate and encourage abstract thinking.⁶³

Schmandt-Besserat has also underlined the importance of numbers in the invention of writing in her book *How Writing Came About* (1997). Instead of suggesting that numeric systems led to the invention of writing, other scholars have worked on the assumption that early writing arose in Mesopotamia and Egypt from iconic signs. Early pictograms somehow depicted the intended thing, an animal, a human, a temple and so on and when these were simplified, a system of early writing was created. The key question is what are these earliest iconic signs, numeric symbols or pictures of things? In order to solve such questions, students of pre-dynastic pictographs or early Sumerian cuneiforms must follow the same laborious path Schmandt-Besserat took with the tokens. The symbols must be described in detail, their chronological and geographical context must be determined and the signs must be categorized by logically grouping them by the signs on them. A fundamental semiotic Ground is then needed in order to suggest meaning to the groups of iconic signs.⁶⁴

The background in deciphering the meaning of tokens helps us to understand Schmandt-Besserat when she tries to define the meaning Neolithic people gave to a very different kind of object, a detached human head from 'Ain Ghazal. Her major work on the analyses of Neolithic clay tokens also provides a broader basis to understanding why she was eventually rather frustrated by the lack of clear conclusions; regardless of the thorough and penetrating research conducted, the meaning of the skulls remained and remains obscure.

Neolithic 'Ain Ghazal

The Neolithic site of 'Ain Ghazal was discovered on the banks of Zarqa River during the building of a highway from Amman to Irbid in 1974. Its excavators, Gary O. Rollefson and Zeidan Kafafi, estimate that the settlement was at its height in the Late

⁶³ “Media shape the mind of those who use them. I analyze how tokens used for counting and accounting in prehistory brought people to thinking in greater abstraction” (Schmandt-Besserat, 1999b.)

⁶⁴Kenyon used anthropological comparisons in order to understand the detached skulls using concepts like ancestor worship and heroic death of soldiers (perhaps influenced here by the World Wars). Chapters 3 and 4.

Pre-Pottery Neolithic period and covered an area of about 15 hectares. As such, it would be one of the largest known Neolithic sites in the entire Near East. The evidence is quite rich in comparison to Jericho but still Schmandt-Besserat complains, with justification, that only 250 square meters were exposed⁶⁵ and the estimated chronology for the period under question is about one thousand years (7100-6200 BC). The excavated area is a larger area than the narrow trenches dug by Kenyon into Jericho's Neolithic layers but hardly sufficient for an understanding of the settlement and its organization on a larger scale.⁶⁶

The limited size of exposure is, of course, unfortunate since unlike at Tel Jericho where Garstang and Kenyon went through massive layers of settlements from later periods before reaching the Neolithic prehistoric layers, at 'Ain Ghazal they were near the surface and reached their desired destination relatively quickly and easily. The chronology given to the site is the basis for establishing the cultural contexts of the discoveries at 'Ain Ghazal and is supported by several C-14 (Carbon) readings. Note that in contrast to the sequence of occupation at Jericho, Pre-Pottery Neolithic A and what Kenyon et al. call Early Pre-Pottery Neolithic B layers are not present at 'Ain Ghazal and the settlement begins towards the Middle Pre-Pottery Neolithic B period.⁶⁷

Middle Pre-Pottery Neolithic B	MPPNB	(7250 – 6500 BC)
Late Pre-Pottery Neolithic B	LPPNB	(6500 – 6000 BC)
Pre-Pottery Neolithic C	PPNC	(6000 – 5500 BC)
Yarmukian Neolithic	Yarmukian	(5500 – 5000? BC)

Table 3: Chronology of Neolithic Periods

⁶⁵ Rollefson 1998a, p. 55; Rollefson 1998b; 2000.

⁶⁶ Bulldozers were cutting deep into the soil along Zarqa River for the Amman-Irbid highway. Thick archaeological deposits were visible in the section of a 600 m long trench. The story of the discovery is told by Gary O. Rollefson and Zeidan Kafafi at the website: <http://menic.utexas.edu/ghazal/intro/int.html>. The final archaeological results of these digs have not been formally published. Gary O. Rollefson has written numerous research articles about the site and special studies appear in 'Ain Ghazal web pages hosted by MENIC, The Middle East Network Information Center, a public service of The Center for Middle Eastern Studies at the University of Texas at Austin. There is a large bibliography of articles, but the excavations have not been published in final book form.

⁶⁷ Rollefson et al. 1990; 1991, p. 113.

The settlement at 'Ain Ghazal started as a small Neolithic farming village established on virgin soil near an abundant spring west of the River Zarqa. The population grew rapidly and the size of the village grew from 2 to 5 hectares. In the LPPNB period the site was already a flourishing prehistoric town covering 10 hectares with buildings also on the eastern side of the Zarqa River. The excavators estimate that by the end of the Pre-pottery Neolithic B phase no fewer than 2,500 people were living in the town covering about 15 hectares.

During the MPPNB the environment in this region was rich and had varied flora and fauna in many different ecological zones including forests, steppe, wooded parkland and desert.⁶⁸ The excavators suggest that there was a major climate change causing conditions to worsen. By the end of the PPNC period the 'Ain Ghazal population was much smaller. The Yarmukian period saw reoccupation of the Pre-Pottery Neolithic structures and an open air camping site was discovered also dating to this era. After this final phase, settlement was abandoned at 'Ain Ghazal as desert conditions became prevalent in the region towards the end of the sixth millennium and have remained such till modern days.⁶⁹

⁶⁸ Köhler-Rollefson and Rollefson 1990, p. 4 and Table 3; 1993.

⁶⁹ Schmandt-Besserat et al. MENIC 2010 [Online]



Figure 12: The 'Ain Ghazal figurines after restoration in Smithsonian, drawing by Kauko Suontama.

The by now famous group of Neolithic statues were discovered in 1983. The figurines, Figure 12, were made using the same technique as the Jericho statues found by Garstang in 1936. In contrast to the badly broken pieces of statues surviving from Neolithic Jericho, the 'Ain Ghazal statues were well preserved, carefully excavated and skillfully restored at the Smithsonian Institute.⁷⁰ The results of this work brought to life some of the most striking anthropomorphic objects ever found from the prehistoric Levant. The creators of these statues belonged to the same people who made the plastered skulls.

The Sign: Skull 88-1

Denise Schmandt-Besserat first classifies locally found skulls by examining indexical Signs in the techniques that were used in preparing the heads and the types of plasters and the paints. After describing the *archaeological context* in which plastered Skull 88-1 was found, she then examined the information available about the cranium and all the details about the plastering applied to the skull.

The badly fragmented plastered and painted *Skull 88-1* was discovered in 1987 in the section of a bulldozer trench and excavated in 1988. Excavators suggested that the

⁷⁰ Smithsonian Institute 2010 [Online]

skull, lacking a mandible, was found in a small pit under the plastered floor of a MPPB period house that was dated to about 6800 BC.⁷¹ Schmandt-Besserat notes that the context of the discovery is not clear, the bulldozer interfered with the area and the pit itself may have had several phases of use. The skull which was placed face up in the midst of a group of human bones may possibly belong to an earlier burial. In addition, it is reported that the digging of the pit in antiquity may have reached an earlier burial so the cranium is either buried with some bones of another individual or it was buried alone and the other human bones belong to another era.⁷²

With characteristic accuracy Schmandt-Besserat contacted Dr. Friedrich Zink, Conservator at the Museum of Jordanian Heritage, Irbid, to obtain a comprehensive report about the conservation work done on the fragmented cranium in 1988 and again in 1996. The information she gained from him is quite valuable. Dr. Zink reported that he had identified that the skull belonged to a 30 year old male and that both the mandible and upper teeth had been forcibly removed.

The accurate description of the plaster and the details of the modelled face provide meaningful information; signs that increase our understanding of the prehistoric object. Careful analysis of *indexical signs* in the making of the eyes leads also to an understanding of the *iconic sign*. Zink examined the sign and it presented in his mind the interpretation that the one who made the skull wished to give it a sleepy gaze as if falling asleep.⁷³ This understanding of the meaning is based on the common ground assumptions of human behaviour; the facial expressions of a person who is about to sleep. Of course, it is impossible to prove that creating such an appearance was the original intention of the one who plastered the skulls and made the eyes.

⁷¹ Simmons et al. 1990, fig.1; Bulldozer work in the area makes it difficult to define the context exactly. The date is discussed in Simmons et al. 1990, p. 108 and Rollefson et al. 1990, p. 23; 1991, p. 113.

⁷² Simmons et al. 1990, pp. 108-109.

⁷³ The **indexical signs** are listed in great detail: "The eyes are the most prominent features of the visage. The left eye partly damaged shows that a small almond shaped lens of plaster was inserted to form the eye lobe. Set well below the eyebrows and far apart, the eyeballs modeled in plaster, bulge, slightly tilted down towards the nose. The eyelids are not depicted but the cornea is sharply defined by a low crisp ridge. The eye corner is well indicated. A small accidental chip, low on the right eye, cannot be interpreted as depicting the pupil. There is also no evidence for any bitumen treatment." The **iconic sign** is highly significant for understanding the matter: "very elongated eyes, ca. 4 cm long, and 1.4 wide, give the impression of not being wide-open, but rather to squint slightly as if falling asleep" (Schmandt-Besserat et al. MENIC 2010 [Online]); Schmandt-Besserat 2001.)

Classification as Semiotic Key

Arranging the signs into some logical order on the basis of similarities and differences in selected aspects is a fundamental key for understanding the meaning of a collection of signs. Such organizing of a collection of objects is at the foundation of all typological analysis which is of greatest importance concerning archaeological research. Following this approach, Schmandt-Besserat compares the skulls to each other and classifies them according to various types of signs; *indexical* similarities and differences in the items and their archaeological context, dates assigned to the deposits, *iconographic* details in the plastered human faces, and *symbolic* aspects such as the positioning of the skulls in groups on or under a floor, the directions they are facing and so on.

One of the typological keys chosen for the classification is the *type of treatment* given to the skulls. Schmandt-Besserat might have decided to choose some other aspect in the objects for classification basis, for example the physiology of the cranium, the iconographic depiction of eyes, the location of the find and date and so on. The decision in choosing a typological key may either obscure or highlight significant features that are not yet known to the researcher at this stage and is therefore of crucial methodological importance. The indeterminacy of established meanings and the importance of contextualization not only highlight methodological concerns but the importance of reflexively assessing researchers implications of their “methods, values, biases, and decisions [... it also] entails a sensitivity to the researcher's cultural, political and social context” (Bryman 2008, p. 682). Essentially, “when someone gives an account of an event, that account is simultaneously a description of an event *and* part of the event” (Burr 1995, p. 161; Gergen and Wortham 2001).

After Schmandt-Besserat describes the complex burial traditions at ‘Ain Ghazal on the basis of the 14 skeletons excavated, she classifies the detached skulls according to the treatment given to them into groups of plain, painted and plastered skulls. What can be learned from the comparison of *indexical signs* within the three groups and about comparisons of distinctive features between these groups? The treatment of the skulls is defined in the following way:

1. Plain detached skulls with no plaster or paint
2. Painted skulls
3. Plastered skulls
4. (Faces made of plaster and without human skull)

The fourth category of plaster masks is associated with the three others and requires our attention although there is no skull present.

Plain skulls had no plaster or paint applied on them, so the main information consists of identification of the sex and age of the deceased. The skulls of the individuals, male or female and ranging in ages from 11 years old to 60 years old had been detached from their bodies and placed in groups into pits. Some of the pits had been dug under the plastered floor of the house.⁷⁴ At least one group included both plain and decorated skulls placed there together.⁷⁵ All plain skulls found at ‘Ain Ghazal had their mandibles removed.

Painted skulls What would be the significance of either painting or not painting or applying plaster to the skulls? Even a detailed study of the preparation and setting of the detached heads does not provide a clear answer to this question. Obviously the smearing of crania with ochre or some other coloured substance is technically a simpler matter than the process of plastering. Painted skulls were studied with painstaking attention to every detail. Identification of the sex and age of the person was noted but beyond the presence of such colouring very little can be said with certainty about the symbolism involved in the use of paint.⁷⁶

⁷⁴ “In one case [...] three male crania of individuals about 60, 20-30 and 11 years old were placed along a wall and under a plastered surface” (Schmandt-Besserat et al. MENIC 2010 [Online]; Rollefson and Simmons 1986, pp. 153,155, fig.12; Schmandt-Besserat 2001.)

⁷⁵ “A second cache [...] yielded four adult male skulls. Among these two were undecorated and, as will be discussed below, two were plastered” (Schmandt-Besserat et al. MENIC 2010 [Online]; Simmons and Rollefson 1984, p. 390, fig. 8.)

⁷⁶ “In 1983, a number of small human skull fragments tinted with a reddish hue and black marks were found scattered on the floor of a house in the Central Field. A second red-and-black painted cranium was recovered in 1984 in the Central Field. [...] Again, the bones were finely scratched strengthening the idea that the pigment was applied with a repeated hand motion. Bitumen was also visible in a small area with no defined pattern. Jerome C. Rose, physical anthropologist, identified the skull as that of a female, about 15-30 years old, which is the only notable difference from the previous example. Other badly damaged cranial bones of a 7 or 8 year-old child, bearing black pigment at the back, were part of the 1984 assemblage. This black skull together with the red-and-black cranium and the cache of three plain skulls discussed above came from the same room of a same building” (Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat et al. 1998; Schmandt-Besserat 2001.)

Plastered skulls have the human face reconstructed on the front of the head leaving the top and back uncovered. An outstanding example of the artistic height sometimes reached is the famous skull from Neolithic Jericho discovered by Kenyon and her team. Altogether six plastered heads were found at ‘Ain Ghazal, but none of them as fine as the Jericho example. Fascinating and highly significant is the way four of them were arranged facing the same direction, one in front, two in a central row and one behind.⁷⁷ One of the skulls is both plastered and painted and both the similarities⁷⁸ and differences⁷⁹ were studied with skull 88-1.

While the plastered faces can be quite life-like, they may not be attempts to depict individual features of the deceased. Schmandt-Besserat suggests that the need for these heads as objects to be used in some ritual may have been more important than the person whose head has been so handled.⁸⁰

The excavators also discovered three **masks** at ‘Ain Ghazal. These are plastered faces but without a skull. The masks were made similarly to the plastered faces and were

⁷⁷ “The first cache excavated in 1983 in the Central Field [...] consisted of four adult male skulls designated as Skulls A-D. The crania, without mandibles, were buried in a pit dug in a courtyard. They were placed in parallel, facing towards southwest, and arranged in a loose cross pattern, one in front, two in a central row and one behind. As described above, Skulls A and B showed no trace of modelling. Skull C held sparse residue of plastering, in particular in a tooth alveolus of the maxilla. Skull D, identified as belonging to a young adult by C. Butler, a physical anthropologist, kept substantial remains of plastering” (Schmandt-Besserat et al. MENIC 2010 [Online]); Butler 1989, p. 144.)

⁷⁸ “In short, Skull D can be viewed as combining the two techniques of painting and plastering. The entire process involved eight steps. 1. The lower jaw was pulled out. 2. The upper teeth were ground to the roots. 3. The cranium was coloured either by dipping or painting it with a thick pink slip. 4. The plastering started by filling the orbits and nasal aperture with white lime. 5. The eyes and nose were modelled. 6. Hand smoothing completed the facial modelling. 7. Bitumen was added to the eyelids. Finally 8. The maxilla was filled with a pad of white plaster. A long cylindrical mark on the right hand side of the base may signify that a rope was involved. In any case, the skull was provided with a flat base allowing it to stand upright. They were buried in a same area of the site [...] they used the same material and similar techniques. Both recreated the features of younger men about 30 years old” (Schmandt-Besserat et al. MENIC 2010 [Online]); Schmandt-Besserat et al. 1998.)

⁷⁹ Skull D was associated with three other skulls, but keeping in mind that the pit was partly destroyed, Skull 88-1 seemed to be alone. The teeth of Skull D were ground rather than extracted. The slip did not allow modelling and therefore did not recreate the soft tissues of the face. Consequently, except for the eyes and nose, Skull D kept much of the appearance of a human skull after death, while Skull 88-1 recreated a living face. Skull D was coloured pink whereas Skull 88-1 was white. The eyes of Skull D were shown closed but they were open on Skull 88-1. Lastly, Skull D did not show the skill of modelling and the interest in naturalism so extraordinary in Skull 88-1. (Schmandt-Besserat et al. MENIC 2010 [Online]); Schmandt-Besserat 2001.

⁸⁰ [...] we are left to conclude that the need for rituals involving skulls seemed a more decisive factor than the individuals involved. (*ibid.*)

apparently intended to cover only the face.⁸¹ Schmandt-Besserat compares the masks with the modelled skulls and concludes that they belong to some other category.⁸²

Detached heads were discovered in several pits in the excavated areas of 'Ain Ghazal. In addition, there is a possibility that at least one of the buildings served as a funeral house.⁸³

Schmandt-Besserat concludes that similarities do exist, as can be expected

- Plastering the skull was the most common way to handle the detached skulls and colouring was the most ancient.
- The mandible was removed.
- Skulls were buried only west of Wadi Zarka near what apparently was a special funeral building.⁸⁴

However, despite these similarities she could not detect in the sample any significant *pattern* that could explain why the skulls were handled in a specific way. The negative data – the lack of clear patterns – is, of course, in itself an important result of the analysis. It disproves suggestions made on assumed patterns, such as Kenyon's suggestion that detached heads at Jericho might belong to warriors or to distinguished elders in an ancestor cult. There is no clear indicator in the burials to explain who was chosen for decapitation as individuals from 8 year old children to adults of 60 and both males and females were found.

The comparative method of the detached heads demonstrates that the modeled skull differs in important aspects from the rest of the prepared skulls found at 'Ain

⁸¹ (Rollefson and Simmons 1986, p. 161); (Griffin et al., 1998),

⁸²[...] although the three faces and Skull 88-1 are no doubt part of the same funerary tradition of restoring the facial tissues of the dead, they differ in chronology, context, technique, manufacture, color and style (Schmandt-Besserat et al. MENIC 2010 [Online]); Schmandt-Besserat et al. 1998; Schmandt-Besserat 2001.)

⁸³ This structure produced a concentration of burials unmatched elsewhere at 'Ain Ghazal: five burials arranged around a fireplace, another in a room corner, and an infant skeleton beneath a doorway. Particularly puzzling are the remains of four infants not interred but exposed on the floor, at one-meter interval and a peculiar deposit of two small animal figurines stabbed with flints. (Schmandt-Besserat 1997, p. 52).

⁸⁴ None was excavated in the East, South and North. (Rollefson and Simmons 1986, p. 159).

Ghazal.⁸⁵ However, the great variety of treatments in such a small sample prevents statistics that might give clues about the original meaning of these burial habits.⁸⁶

Despite the unanswered questions and lack of conclusive evidence the analyses are a marked step forward in the study of the Neolithic skulls in comparison to the original *Firstness* of Kenyon's discussion. Whereas Kenyon was forced to make educated guesses with practically nothing to compare with the Jericho group of skulls she had discovered in 1956, Schmandt-Besserat has a wealth of exact information. She combines the 'Ain Ghazal reports and interviews which she skillfully analyses in the best Wheeler-Kenyon tradition, even though she does have at hand such an exact stratigraphy as there is in Jericho.

Other parallels to 'Ain Ghazal Modelled Skull

After carefully describing and classifying the findings from 'Ain Ghazal, Schmandt-Besserat seeks understanding of these skulls by examining in similar manner all the detached skulls known from Near Eastern Neolithic at the time of writing of the study. The discussion at each site is as accurate and detailed as the analyses of the 'Ain Ghazal findings.⁸⁷ Detached skulls were known in 1998 from six locations:

1. Jericho
2. Kfar HaHoresh
3. Tell Ramad
4. Beisamoun

⁸⁵ Among the 6 plastered skulls it stands out for its unsurpassed artistic qualities. None have a comparable modeling and gaze. Skull 88-1 is also unique among the plastered skulls for being buried alone, uncolored, and shown with open eyes. The remaining plastered skulls generally emphasize the color of the living but the attitude of death or sleep. Instead, Skull 1-88 has the color of death but the expression of life. (Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat et al. 1998; Schmandt-Besserat 2001; Rollefson and Simmons 1986).

⁸⁶ There was considerable leeway in style. Plain skulls were in groups of three or four. Colored skulls could be red, black, or red-and-black. The plastered skulls could be pink or white; fully modeled or partly slipped, have open or closed eyes [...] We are at a loss to explain why the mandibles were systematically removed, and the upper dentition ground or extracted [...] Finally, archaeology is unable to clarify who received each particular treatment and why, or the role of the structure where so many human remains were clustered. (Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat et al. 1998; Schmandt-Besserat 2001.)

⁸⁷ As in the case of her study of prehistoric tokens, Schmandt-Besserat made also here an effort to physically see and touch the objects in real life where possible (Schmandt-Besserat 2001). For mostly practical reasons very few archaeologists doing comparative study in Near East and Anatolia can make that effort. There are so many aspects that an archaeologist observes while recognizing an object that all of them can rarely be reproduced in documentation by textual description, photography and drawing alone.

5. Kösh Hüyük
6. Nahal Hemar

In order to gain more information about the Neolithic skulls at 'Ain Ghazal, Schmandt-Besserat next took a careful look at the evidence concerning the detached heads from elsewhere in the Near East. At each site she used the same systematic method of first studying the indexical and iconic signs in detail, if possibly first hand, categorizing them and deducing some understanding of them by comparing the features in these groups to each other. The only difference from the archaeological semiosis present in her local study is the scope and even greater complexity of the evidence available to her.

Her analysis of the materials is arranged according to the six sites from where detached Neolithic skulls had been reported at the time of the writing of the analysis.

MPPNB	(7100-6500 BC)
Ain Ghazal	7100-6600 BC
Jericho	7200-6700 BC
Kfar HaHoresh	7000-6500 BC
LPPNB	(6500-6000 BC)
Tell Ramad	6200-6000 BC
Beisamoun	6100-6000 BC
PN or Yarmoukian	(5750-5000 BC)
Kösk Hüyük	5500 BC

Table 4: The Six Discovered Sites of Detached Neolithic Skulls

Jericho

The major discovery of the thick undisturbed layers of Jericho Neolithic by Garstang opened up a hitherto practically unknown world in the history of humanity in the Levant. At this site the first detached plastered skulls were also discovered in a rather

dramatic manner as related by Kenyon. The discovery of such heads included two groups of plastered skulls in Square D1, one with seven and one with two specimens.⁸⁸

It is significant to note that Schmandt-Besserat accepts Kenyon's interpretation as excavator. She wrote that the seven skulls D110-116 were "heaped pell-mell, buried under a plastered surface, seemingly discarded as rubbish".⁸⁹ Later discoveries should have warned Schmandt-Besserat about this. The skulls were excavated post-season digging into the trenches section totally against Kenyon's own strict rules. Kenyon had nothing to compare these heads with except for the burials at Jericho itself so the idea of a rubbish pit is natural. However, considering later discoveries studied by Schmandt-Besserat, plastered skulls were not thrown carelessly into pits but carefully placed into them.

The same Square D and the adjacent Square E had numerous burials. Among them there were altogether 30 decapitated skeletons⁹⁰ and a detached undecorated plain skull such as one of the typological categories established at 'Ain Ghazal.⁹¹ These burials are not all male as was originally thought, since Gottfried Kurth and Olav Röehrer-Ertl later identified four females and three males amongst the remains in their final report.⁹² Schmandt-Besserat suggests that according to current understanding of C14 chronology the Jericho heads are from 7200-6700 BC i.e. almost a thousand years older than suggested by Kenyon who dated them to late PPNB, ca. 6250-5850 BC.⁹³

The seven skulls included in the first cache of Jericho have a strong resemblance to each other so as Iconic Signs they may not necessarily be presentations of individuals.⁹⁴ The technique in handling the head, removing the teeth, filling the

⁸⁸ Seven extracted in 1953 (D 110-116) Kenyon 1957, pp. 61-62. Two extracted in 1956 (D 117-118) Kenyon 1957 pp. 74-75, pls. 12.2 and 21.1; Kenyon and Holland 1981, pl. 58b, 59 a-c.; One extracted in 1958 (E22) Kenyon and Holland 1981, pp. 310-311.

⁸⁹ Kenyon and Holland 1981, p. 77.

⁹⁰ *ibid.*, p. 78.

⁹¹ *ibid.*, pp. 305, pl.171 A,B.

⁹² Strouhal 1973, p. 244 at first identified five adults; Kenyon and Holland 1981, pp.497-99.

⁹³ Kenyon and Holland 1981, pp. 77, 310-311; Kenyon 1974.

⁹⁴ Visibly, they were done in the same way, for a same purpose. With the exception of D 112, the preparation for plastering the Jericho skulls involved removing the mandible, but the upper dentition

cavities and applying the plaster is comparable to the handling of 'Ain Ghazal skulls. At Jericho the crania were also filled with plaster, unlike at 'Ain Ghazal.⁹⁵

Schmandt-Besserat gives an example of the workings of Iconic Sign while discussing the eyes on the plastered Jericho skulls: “A unique stylistic characteristic of Jericho was to represent the eyes with bivalve shells that replicate the form, shade and glossy surface of the cornea strikingly well. Most of the shells were purposefully broken in half before being inlaid, which created a vertical slit at the center of the eyes suggesting a feline rather than human pupil.”⁹⁶ The ancient sign creates meaning in the mind of the scholar by iconic similarity. If such a personal impression could be proven as the intention of those who made the shell eyes, the adding of feline features to human skulls would imply quite a rich and complex symbolism that brings the realms of humanity and the animal world very close to each other in the context of prehistoric belief systems.

Kfar HaHoresh

The discovery at PPNB period Kfar HaHoresh concerns a possible funeral structure and two detached skulls dated 7000-6500 BC.⁹⁷ The discovery provides significant additional evidence about burial practices in Neolithic Levant. One of the skulls belongs to a ca. 25 year old male and though crushed under soil accumulation it was still preserved well-enough to be identified. Importantly, the skull was found in a clean deposit sealed under a plaster floor. The entire area where the skull was found included many burials giving it the resemblance of a mortuary complex.⁹⁸

The skull was found in a fascinating context that has powerful, but difficult symbolic significance for modern scholars, to understand.⁹⁹ The pit where the head was found was also plastered and contained part of a human skeleton in secondary burial. The

was sometimes preserved. *SB* Schmandt-Besserat notices several teeth on Skull D 111 (Kenyon and Holland 1981, pl. 57c) and E 22.

⁹⁵ Kenyon 1957, p. 62.

⁹⁶ Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat et al. 1998; Schmandt-Besserat 2001

⁹⁷ Goring-Morris 1991, p. 77; Goring-Morris et al. 1994-5, p.84; Goring-Morris et al. 1995, pp. 40,47, fig.9.

⁹⁸ Goring-Morris et al. 1998, p. 4.

⁹⁹ The second skull came from another excavation area and was not described in detail. (Goring-Morris 2000, p. 105).

head was facing east. In the same pit there was a primary burial of a gazelle where the articulated skeleton was without its head. Schmandt-Besserat suggests that the animal was possibly a funerary offering. How can we be sure of that? Why was the gazelle head removed – and a plastered skull added with bones from the skeleton?

The unusual content of the burial, an animal skeleton without its skull, is a particularly significant *symbolic sign*. But it is very difficult for the modern mind to understand without any informative written texts what was going on in the Neolithic mind confronted with the awesome power of death. In such a case, when giving meaning is so uncertain, even an educated guess of “funerary offering” may be misleading and introduce alien concepts to the interpretation of the strange prehistoric cult.

Tell Ramad

A major discovery of twenty-three plastered skulls was made at Tell Ramad, Syria, when Schmandt-Besserat was doing her research on the 'Ain Ghazal head.¹⁰⁰ Comparison with the other skulls studied shows many differences in details while the overall concept is similar. Mandibles were present and the neck was also plastered.¹⁰¹ Some skulls had a large red spot painted on the top of the head or on the forehead,¹⁰² and in some cases the entire skull was painted red.¹⁰³

Schmandt-Besserat notes in her comparison that the details in the preparation of the skulls were different at Tell Ramad from the other sites. Additionally, the way the detached heads were placed in the context of the settlement differs from the possible mortuary structures and the burial pits discussed above. The finding of a niche outside

¹⁰⁰ The largest collection of plastered skulls comes from Tell Ramad, Syria. The some twenty-three skulls were found in three caches of respectively eight, three and at least a dozen. The first group from level I, ca 6200 BC, included the skulls of five females, two males and one boy 13 or 14 years old. The level II caches, ca. 6000 BC, yielded the plastered skulls of two females and a male, and finally, a dozen of unidentifiable specimens. Schmandt-Besserat et al. MENIC 2010 [Online]; Contenson 2000, p.56.

¹⁰¹ The mandible was attached, but all teeth were pulled post-mortem. . Schmandt-Besserat et al. MENIC 2010 [Online]

¹⁰² In the Ramad I cache, the foreheads or top of the head bore a large red spot; the eyes lobes were made of grayish plaster with the iris and pupil standing out in pure white. Schmandt-Besserat et al. MENIC 2010 [Online]; Contenson 1967, p.20.

¹⁰³ In the Level II cache, all the skulls were painted red. Schmandt-Besserat et al. MENIC 2010 [Online]; Contenson, van Liere 1966, p. 170.

a structure in which eight skulls were seemingly exposed for display is unique to this site, an oval enclosure made of mud brick and a vessel, where skulls were separated by clay balls.¹⁰⁴ No explanation is offered and how can one today possibly understand the purpose of all this symbolism in the preparation of the detached heads and their arrangements?

Over some of the groups of detached heads, the inhabitants of Neolithic Tell Ramad had placed clay figurines. Schmandt-Besserat considers these to be funeral offerings showing a pattern in her own interpretation of the very unusual and diverse findings associated with the skulls.¹⁰⁵ For example, if we compare these clay figurines to the arrangement at Tel Aswad (Stordeur and Khawam 2007) where over the pile of heads the archaeologists found the skeleton of a newborn baby. These Symbolic Signs are true archaeological riddles!



Figure 13: Tel Aswad Skulls in a Heap, drawing by Kauko Suontama

¹⁰⁴ The same may be true of the three skulls of the second cache that were placed against a stone foundation mixed with human collar bones. Schmandt-Besserat et al. MENIC 2010 [Online]; Contenson, van Liere 1966, p. 170.

¹⁰⁵ They probably were a meaningful part of the assemblage or represented yet another kind of **funerary offerings**. Schmandt-Besserat et al. MENIC 2010 [Online]; Contenson 1967, p. 20.

While Schmandt-Besserat progresses with her comparative study, the overall picture she is gaining of the Neolithic skull cult becomes increasingly complicated and mysterious. The peculiar arrangements of human heads for display or as a form of installation – such as heads decorated in various styles and small clay figurines associated with the burials - constitute a truly rich collection of iconic and symbolic signs but their meaning is particularly difficult to understand.

Beisamoun

Archaeologists discovered two detached plastered heads from a site in the Jordan Valley, Beisamoun, in the latest level dated to about 7000-6000 BC. The better preserved skull belonged to an adult woman.¹⁰⁶ The two heads were probably associated also here with a funeral structure as in the case of Kfar HaHoresh. They were not buried underground in a pit but placed on a plastered surface near the doorway of a building and there were many burial remains in the same area¹⁰⁷

Schmandt-Besserat suggests that the discovery of unused flint tools near the two heads might be offerings. The archaeological thinking process starts from the presence of indexical signs, “finely made” and “unused” tools that were left near the heads. From this she suggests a powerful symbolic meaning, funeral offering. If the placing of the tools near the heads is an offering, the Neolithic people must have been in some way concerned about the existence of an afterlife and the need for tools there. But before such a powerful symbolic sign is accepted, more evidence of the systematic placing of funeral offerings near the burials should be readily available from other Pre-Pottery Neolithic sites.

Schmandt-Besserat is dealing with a very limited body of evidence and a highly complex issue of the human mind without discussing at length the suggested interpretations. The observations and fast interpretations are logically conceivable, yet, nevertheless they seem to assume more than can be safely deduced from the few

¹⁰⁶ At Beisamoun the skulls were not buried. They were deposited facing east on a plastered surface near the threshold of an abandoned structure. The two-roomed building which also housed two collective burials of respectively nine adults and four newborn babies may represent a mortuary installation. Schmandt-Besserat et al. MENIC 2010 [Online]; Ferembach and Lechevallier 1973; Ferembach 1978, p.180.

¹⁰⁷ Lechevallier 1978, p. 14.

items found at Beisamoun. As so often is the case in archaeology, we need to have more evidence to refute or confirm the theory of funeral offerings.

Kösk Hüyük

The Anatolian example studied by Schmandt-Besserat is geographically and chronologically quite distant from the Levantine materials but the fact remains that a detached head was also found there - the skull of a young woman that had been plastered. The relatively late date of 5500 BC given to the skull from Turkey is used by Schmandt-Besserat to extend the chronology of this practice. The skull was placed on a plastered surface as at Tell Ramad and Beisamoun but it is not clear if this was inside or outside a structure.¹⁰⁸

The details of the skull are fairly similar to those from the Levantine sites studied by Schmandt-Besserat.¹⁰⁹ Therefore, on the strength of typological similarities the question arises about the late date given to this phase of the Neolithic period in Central Anatolia. Schmandt-Besserat accepts it at face value and consequently extends the chronological range of detached skulls. However, an independent evaluation of the absolute chronology given by the archaeologists for Kösk Hüyük is obviously beyond the scope of her study.

Nahal Hemar

Without including them in her classification, Schmandt-Besserat also examines the 23 skulls found in a PPNB deposit in a cave in Nahal Hemar near the Dead Sea. The amazing discovery includes heads of people ranging from young children to about 50 year old adults.¹¹⁰ There are marked differences in the context and treatment of these heads from the others in her comparative study. These include the use of bitumen

¹⁰⁸ The plastered skull of a 21-24 year old female excavated at Kösk Hüyük in Central Turkey shows that – although seemingly exceptional - skull plastering extended beyond the Levant, well into Anatolia. It is from level III, the earliest Neolithic stratum at the site, dated ca. 5500 BC, which also signifies that the tradition of recreating the features of the dead lingered in Turkey half a millennium after it was discontinued in the Levant. Schmandt-Besserat et al. *MENIC* 2010 [Online]; Silistrelı 1988, p. 62, pl. 7.

¹⁰⁹ The damaged skull with the lower jaw attached is almost reduced to the right half. The combined plaster and ochre treatment that was restricted to the face is comparable to that of the Levantine skulls. However, there are stylistic discrepancies. For instance, the eyes are inlaid with black stone and the earlobes were represented far more naturalistically than in any of the southern specimens. Schmandt-Besserat et al. *MENIC* 2010 [Online]; Mellink 1991, p. 128.

¹¹⁰ Arensburg and Hershkovitz 1988, p. 50; *ibid.* 1989, p. 115.

instead of plaster¹¹¹ and the absence of other skeletal remains associated with the heads.¹¹² The biggest difference is that the heads were not given plastered faces at all. Instead, bitumen was used to represent a hairdo or headdress on the crania.

Conclusions of the Comparative Study

At the time of writing her paper on the modelled skull from 'Ain Ghazal, Denise Schmandt-Besserat studied altogether 44 detached skulls from the Neolithic Near East. The scope of her comparative study is as yet unsurpassed and gives a surprisingly multifaceted and complex picture of the funeral skull cult.

Her method is consistent and clear as she examines information using comparative analysis as a tool in order to give meaning to the detached heads.¹¹³ The observations of similarities and differences are then developed further in order to comprehend their meaning. Significance is sought through the comparison of individual signs to group them together into classes of signs by specific selected features. The result of this semiotic process is a summary view of the characteristics of the detached skulls. Such a generic sketching of the features is, in fact, a simplification of the very detailed list of features she provides in the study. The *most characteristic* features are chosen to represent a kind of descriptive mean or medium value for the set of detached heads:

In sum, the following traits stand out as most characteristic of the modeled skulls at 'Ain Ghazal and elsewhere.

- 1) The choice of plaster to model the features of the dead
- 2) The removal of the mandible

¹¹¹ The Nahal Hemar skulls are mentioned here for the sake of completeness, although they are treated with bitumen - not with plaster. Schmandt-Besserat et al. MENIC 2010 [Online]; Bar Yosef 1985, pp. 13,15.

¹¹² Except for rare pieces of mandibles and two neck vertebrae. Schmandt-Besserat et al. MENIC 2010 [Online]; Arensburg and Hershkovitz 1988, p. 53.

¹¹³ The skulls were most often buried. At Beisamoun and Kösk Hüyük they were exposed in a building. At Tell Ramad they were exposed outside. Several skulls were interred incomplete suggesting that they also may have been exhibited before. Some of the plastered surfaces, associated with the skulls may be considered as 'tombstones' marking the precise location of an internment. At Jericho the skulls were thrown "pell-mell" in a ditch. At Beisamoun and Kfar HaHoresh the skulls seemed to be oriented towards east, the direction of the rising sun. The high density of inhumations around the plastered skulls at 'Ain Ghazal, Beisamoun, Kfar Hohoresh, Jericho and Tell Ramad suggests the possibility of communal and perhaps regional mortuary centers. Funerary offerings of animals, flint tools, and figurines were perhaps deposited at Kfar HaHoresh, Beisamoun and Tell Ramad. Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat 2001

- 3) The extraction of the dentition
- 4) Skulls were buried in a fragmentary state
- 5) Skulls were buried with other human remains
- 6) The homogeneity of style within each cache
- 7) The skulls were presented with the face tilted backwards
- 8) There is no age or sex distinctive pattern for plastering
- 9) The disposal of the skulls in mortuary installations

The comparison led to a detailed classification and thus revealed significant Indexical and iconic signs. Nevertheless, the interpretation of the symbolic remains elusive. The signs are very powerful even on a modern mind and raise many associations and meanings. The conclusions nevertheless fail to penetrate the Neolithic mind and do not provide us with any real meaning to understanding the practice of cutting off the heads of the deceased, moulding plastered faces onto them, or painting them and placing them in various ways in the settlement.

Schmandt-Besserat recognizes this failure of determining decisive patterns in the material:

Excavations furnish a host of specific details about the plastered skulls - and though the big picture remains blurry. No pattern of age or sex allows the identification of those who received the plastering treatment. We have also no clue as to whether the skulls were grouped in caches according to special ties, such as kinship, or simply haphazardly.¹¹⁴

Deciphering symbolic Signs

After the comparative analysis Schmandt-Besserat discusses the *semiotic Ground* upon which it could be possible to understand the meaning of this symbolism. Prehistoric signs are mute and without any textual explanations, therefore, how can we possibly penetrate the minds of people living thousands of years ago on the basis of the objects discovered in archaeological excavations? For help she turns to

¹¹⁴Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat 2001

anthropology and to the study of descriptions of detached skulls in ancient Near Eastern texts and representations.

The discipline of anthropology provides information about habits and traditions much later than prehistory. Kenyon used such data to understand the detached and plastered skulls from Jericho. Since nothing similar was known from the prehistoric Near East, she referred as a possible explanation to anthropological data known from the modern world. Such a comparison is an accepted method and goes well back in time to the archaeological work of John Lubbock in the colonial era of Europe and beyond.

Ethnographic Parallels

1. Ancestor cult
2. Warrior hero cult
3. Enemy trophy

One has to accept the possibility that such comparisons are valid. But with caution ‘grano con sale’ since it is very difficult for modern scholars to know with certainty that generalising similarity also means similar meaning or functionality. We will see below in more detail how Schmandt-Besserat relates to this approach in terms of archaeological semiosis.

In addition to the brave anthropological comparisons across time and place, Schmandt-Besserat searches for possible hints in written documents and images as close to the Neolithic as possible. As a specialist on ancient Near Eastern art, she searches for meaning to the detached skulls by studying historical documents mentioning or depicting human heads. She identifies and defines three categories of content that might possibly shed light on the prehistoric skull cult: Warfare, Apotropaic Power and Supernatural Power. The structure of the analysis already reveals how Schmandt-Besserat proceeds in order to give meaning to the modelled skulls, how archaeological semiosis works. The first phase is laborious as she makes a careful and critical study collecting data on *indexical signs* about the physical objects and their context from published reports, communications with the excavators and curators and personal examinations of the objects when possible.

Ethnography

When Kenyon found the first plastered skulls in Neolithic Jericho she was obviously quite baffled as nothing similar was known at that time from anywhere in the Near East. One possible way to understand the meaning of the detached heads was to take a look at ethnographic data from cultures that are better known to us, such as the Sipek River region in New Guinea and the treatment of decapitated heads there (see above discussion, pp. 85-6).¹¹⁵

Schmandt-Besserat develops her interpretation of the symbolic meaning of the indexical details by considering the data on the semiotic Ground of understanding the skulls as ancestor cult. Her argumentation is therefore illuminative of the processes of semiosis:

Arguments for ancestral cult:

Firstly, great care went into plastering the skulls and some, like Skull 88-1, were beautifully rendered.

Secondly, at 'Ain Ghazal the decapitated skeletons were among the individuals more carefully buried – not those trashed, as was the case in Jericho.

Thirdly, the orientation of some of the skulls towards east, the direction of the rising sun and the deposit of funerary offerings can denote a belief in an afterlife.¹¹⁶

The second argument depends on the possibly wrong assumption that the skulls were discarded as rubbish. The third argument is especially revealing in presenting her understanding of the meaning of the listed indexical signs as it links them with powerful religious ideas about life and death. It takes a brave leap in associating the placement of the skulls with the sunrise and all its symbolism and relies on the assumption that the gazelle skeleton and the flint knives actually were funerary offerings. How could we possibly be sure of such interpretations as the case of interpreting the decapitated animal in particular seems so challenging?

¹¹⁵ Kenyon 1957, p. 62.

¹¹⁶ Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat 2001

Arguments against ancestral cult:

Firstly, the majority of skulls are those of women.

Secondly, the skull of a child was also plastered.

Thirdly, the skulls were modelled in series, sometimes as many as a dozen, rather than individually.

Finally, the recent view that the modelled skulls were not always buried under homes, but that some were included in mortuary centres, further weakens the ancestor cult theory¹¹⁷.

The presence of women and children in the groups of heads found elsewhere can also be raised as an objection against the other suggestion by Kenyon that perhaps the plastered heads at Jericho were those of war heroes and made for some kind of warrior cult. Schmandt-Besserat also argues that the treatment of the heads and the special care given to them does not sit well with Kenyon's suggestion that these could be enemy trophies.¹¹⁸

Ancient Near Eastern Documents

After examining and rejecting the anthropological parallels suggested by Kenyon and after discrediting the validity of such comparisons, Schmandt-Besserat followed the same path as Garstang had done at Jericho suggesting that historical documents may give us understanding of the prehistoric symbolism. Ancient Near Eastern texts and pictures take us as near as possible to the Near Eastern Neolithic and may echo prehistoric ideas.¹¹⁹ In general, Schmandt-Besserat is weary of parallels singling out one specific trait – as opposed to meaningful assemblages - from distant cultures unrelated in space and time.

Instead of seeking for answers far afield, I am presenting data relating to skull symbolism in the ancient Near East. The documents are gleaned among art monuments and cuneiform texts of the early historical period. The Near Eastern societies discussed have the merit of being some 5000

¹¹⁷ Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat 2001

¹¹⁸ Kenyon 1957: 63.

¹¹⁹ The quotes of Schmandt-Besserat's texts are given here without the footnotes in the original text. She refers in this section several times to Finkel I. L. 1983-84. Necromancy in Ancient Mesopotamia, *Archiv für Orientforschung*, 29-30:1-17.

years closer in time than 19th Century AD New Guinea [...] most importantly, they belong to the same cultural tradition. The fact that the Neolithic cultures of the Levant are the roots of the historical Near East is illustrated by such important features such as the standing stones of 'Ain Ghazal¹²⁰ precursor to the second millennium betyls; the plaster statues immodestly presenting their breast announcing the popular depictions of Astarte and Ishtar in the third to the first millennium BC. Finally, tokens like those used to count grain at 'Ain Ghazal ended as models for the signs for grain in the fourth millennium Mesopotamian script.¹²¹

The argumentation that ancient Mesopotamia carries on a cultural heritage that reaches back to the Neolithic period suggests a bridge connecting Sumerian and Akkadian symbolism with their assumed prehistoric roots. Religion is, of course, conservative and rituals may stay essentially the same over millennia. The suggested continuity means, furthermore, that by applying the same principle, also the first millennium Assyrians and Babylonians had symbols that can be traced back to prehistory. The search for parallels is thrown wide open and concerns all documents relating to detached heads from the ancient Near East that may provide insights into what prehistoric people had in their minds concerning these detached heads.

Using the same approach of categorising that she applied to the archaeological objects Schmandt-Besserat classified the documents relating to the detached heads into three main groups:

- I. Warfare – heads of slain enemies
- II. Apotropaic power – protection against evil
- III. Supernatural power – necromantic texts about the power of dead people.

The following quote, in the footnote text, relating to heads of slain enemies demonstrates clearly how Schmandt-Besserat uses the *iconic sign* in her comparative reasoning to explain **iconic similarity** between historic and prehistoric pictorial art.

¹²⁰ Rollefson 1998: 51

¹²¹ Schmandt-Besserat 1996; Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat 2001

From such a comparison she then deduces attitudes and ideas that may have existed in the mind of the Neolithic people who modelled the skulls.¹²²

Next she describes how the horrible practice of dismembering enemy bodies was carried out by the ancients. Her argument rests solely upon the visual interpretation of a Çatal Hüyük fresco as an image depicting fallen enemies attacked by vultures. The Konya plain is geographically and culturally far from the Levant and much care should be taken when comparing the two regions in the same way as when comparing the findings with facts from New Guinea. The scene may show decapitated enemies as suggested. Nevertheless, it might also be an image relating to a funeral cult where bodies of the deceased members of the society were exposed to birds of prey before being buried. The beauty of some of the plastered faces belies the comparison, as they do not at all look like heads of hated enemies after their abominable decapitation.

In later periods documents demonstrate that human skulls were believed to have magical, protective and curing effects.¹²³ The skull of a deceased person was also believed to provide a way to communicate with the spirit of the dead and was used in divination.¹²⁴ The magic potions put in the skulls are described in the sources and the comparison could help in understanding details in the Neolithic practice:

¹²² “Iconography may prove that decapitation was featured in similar ways in prehistory as in history. Assyrian battlefields are shown surrounded by vultures voraciously pecking the heads of dead and dying strangers. The Sumerians pictured the birds as they flew away with a head or an arm after tearing apart the corpses. Consistently, texts and images underscore that decapitation was only the fate of the enemy – friendly troops were always shown in wholesome physical condition. Three thousand years before the Sumerian civilization, birds of prey attacking beheaded people were painted at Catal Hüyük, Turkey, in a room where human skulls were on display. The remarkable Neolithic frieze ca. 5900-5700 BC depicts vultures with gigantic comb-like wings assaulting decapitated figures. The birds of prey loom menacing with their big opened beaks, long stretched out necks with ruffled feathers, huge spread out wings, large bodies and dangling legs. Next to them the humans are minuscule decapitated stick figures, lying down helplessly. Can the Neolithic scene of birds of prey attacking headless people be seen as the distant antecedent of the early historic motif of vultures pecking beheaded enemies? The scale and role reversal introduced in the Çatal Huyuk paintings featuring gigantic aggressive birds next to tiny headless and helpless humans seem to express that, in the Neolithic Near East also, decapitation was not an honour - it was an abomination”. Schmandt-Besserat et al. MENIC 2010 [Online]

¹²³ “Why would Eblaite soldiers bring skulls home after the battle? Incantation texts make it clear that in the ancient Near East skulls were viewed as loaded with apotropaic power – they protected against evil. And since sickness was considered caused by demons, the skulls cured ailments” (ibid).

¹²⁴ “In turn, necromantic texts spell out, that skulls possessed the supernatural power to conjure the dead from the underworld. A skull could exorcize a ghost from a haunted individual. The patient simply recited in front of a skull an incantation starting with the words “You ghost of someone...” Most importantly skulls were part of the paraphernalia of necromancy, a technique of divination from corpses. The dead could also be asked to mediate in front of the gods of the underworld on behalf of a living person. There is no indication concerning whose skulls were used for the preparation of

Archaeology is limited to describing the color or consistency of the plaster modeled on the skulls, but the necromantic texts disclose that smearing crania with particular substances was deemed to endow them with special powers. Could this be a key to understand the skulls' red or black coloring and especially the plastering?¹²⁵

Schmandt-Besserat refers to the Gilgamesh epic which contains ancient themes from the fourth millennium BC Sumerian culture. This culture is the nearest earliest period in human history which moderns can reach before the actual invention of writing. Here the detached head of the Humbaba monster is considered to be a magic charm in deterring evil, curing and usage for divination.¹²⁶

The examples do describe the Mesopotamian milieu and how detached human heads appear there. But we can argue that, for example, the Humbaba head is very different as an Iconic Symbol from the calm and even sleepy like Neolithic plastered faces. The depicted expressions do not even resemble the dark emotions of the horrible mythological monsters and curses nor suggest healing powers or charms used in divination. Rather, the carefully modeled heads rest in peace in their burial places and radiate human dignity and calm as does the Jericho plastered skull with its delicate features and beauty of facial expression. Even without knowing the meaning of the Neolithic symbolic sign, the iconic sign is different enough to discourage one from interpreting it in the light of a comparison with the Humbaba head.

medicines or served in doctors' or necromancers' kits". Schmandt-Besserat et al. MENIC 2010 [Online]

¹²⁵ "It would not be surprising that the pure white plaster that resulted from the intense firing of ordinary limestone pebbles and that bonded with water with a baffling heat reaction be regarded as wondrous. The texts also raise the possibility that the plaster composition was not as simple as meets the eye but probably included magic ingredients such as "the dust of a centipede and an up turned shard from the crossroad," that chemical analysis would never detect." (ibid.)

¹²⁶ The story tells how Humbaba, the monstrous guardian of the Cedar Forest was made prisoner by Gilgamesh and Enkidu and finally decapitated. The two heroes then packed Humbaba's severed head in a leather bag, transported it to Nippur and offered it to the god Enlil in his Ekur temple. We will never know what Enlil did with the gift, but the image of the cut head of Humbaba took a life of its own becoming one of the most popular amulets. Represented with hideous features in the shape of convoluted entrails, Humbaba's decapitated head was used as a magic charm to deter evil, cure diseases and for divination. The story of Humbaba's head echoes the art monuments and texts in highlighting that in the ancient Near East, foes and monsters were beheaded and their skulls were used against wickedness and to communicate with the dead (*ibid*).

Archaeological Semiosis by Denise Schmandt-Besserat at 'Ain Ghazal

Denise Schmandt-Besserat makes a valiant effort to break into the Neolithic mind of the people who modeled the Skull 88-1 found at 'Ain Ghazal and of those who modelled the other known prehistoric detached heads from Levant and one from Anatolia.

In order to understand the meaning of the sign she first makes an exhaustive classification and detailed comparative study of the archaeological evidence in its context paying attention to Indexical and Iconic Signs. Nevertheless, very little can be said about the symbolism on the basis of these comparisons alone. However, the analysis is very efficient in discrediting theories that are oversimplified and those which are based on wrong assumptions concerning the age, sex and positioning of the skulls. She then examines ethnographic theories about the heads rejecting them all, since they do not provide valid explanations for what was found in the field. Finally, she searches for ancient Near Eastern texts and images that could possibly throw light on the meaning of this powerful symbolism; again, with meagre or null results. The data revealed by the field excavations rendered the overall picture increasingly complex, making it more difficult to understand what these detached heads symbolized.

There is a certain feeling of frustration in this penetrating research, as the archaeological evidence remains mute and the parallels in ancient documents do not seem to fit the picture well. The comparative method which worked so well for her with tokens is not providing convincing results with the detached heads. It is true that her systematic comparative study of indexical and iconic signs brings out a wealth of information from the complex archaeological evidence. However, this is mostly helpful in refuting earlier theories put forward by Kenyon at Jericho. Schmandt-Besserat concludes her extensive study with a rather modest statement:

In the absence of any archaeological evidence to support that the plastered skulls were either venerated ancestors, as suggested by the exotic Polynesian ethnography, or villains, as is to be expected from

Near Eastern historical sources, we are left to conclude that the need for rituals involving skulls seemed a more decisive factor than the individuals involved¹²⁷.

Essentially, the similar method used with tokens did not bring about positive results with the heads because of the difference of the type of sign itself. Both tokens and skulls are human made signs, yet, above the former, one present's simple mathematics in a logical system. The tokens and related pictorial signs represent rational thinking and logic. We may define the tokens as indexical signs in the same way as the symbol "2" signifies the number 2.

On the other hand, the skulls represent something highly symbolic that does not easily relate to some fundamental brain activity or model of thought familiar through patterns in human societies. Instead, these powerful symbolic signs deal with ephemeral matters of religion, death, and possibly even the afterlife, depicting belief systems from which we have no direct textual evidence at all. What works with mathematics does not necessarily work with religion.

Despite her expressed frustration, the research done by Schmandt-Besserat has succeeded in revealing a number of fundamental archaeological and comparative facts essential to our understanding of these strange signs. Her detailed observations are very important in disproving a number of suggestions about the meaning of the plastered heads. While she may not have solved the core of mysterious symbolism, her research has certainly advanced scholarship searching for answers, and serves as a good example of archaeological semiosis in action.

In conclusion, Schmandt-Besserat made a fresh attempt to understand Neolithic skulls by doing careful iconic comparisons. Her way to find parallels from ethnographic studies and ancient Near Eastern documents is a logical step in examination but at the same time this step spans a huge timeframe - from the Neolithic period to documented culture. Therefore, such a step may lead interpretation astray when a Ground established by much later documents and ethnographic parallels rules semiosis.

¹²⁷ Schmandt-Besserat et al. MENIC 2010 [Online]; Schmandt-Besserat 2001

Chapter 6. Contextual Semiosis - Michele A. Miller at Yarmuk

The subject of this chapter is *archaeological semiosis* in Michele A. Miller's attempts to decipher the meaning of the rather mysterious Yarmukian female figurines and incised pebbles. The analysis is made easier by her clear explanation of the mental process from the formulating of questions to the methodical evaluation of alternative answers to them. Sha'ar Hagolan is located south of Lake Kinneret where the Yarmuk River meets the Jordan River. The area of the Pottery Neolithic settlement is large, known today to cover about 20 hectares.

It was first excavated by Moshe Stekelis (Stekelis 1951) who related the pottery and flints with Garstang's "Middle Neolithic" Level IX at Jericho, cf. Table 1, p. 60.¹²⁸ J. Waechter had identified many coarsely dented sickle blades that demonstrated that early agriculture was practiced at the site.¹²⁹ Yosef Garfinkel has directed two major campaigns at the site between 1996 and 2004¹³⁰ and 2004 and 2006.¹³¹ The work has revealed major architectural features from an archaeological period that was previously considered to represent cultural decline and simple nomadic lifestyle.¹³² Instead, Garfinkel's team found evidence that Sha'ar Hagolan had large building complexes, paved streets, a unique over four-meter deep well, rich evidence of agriculture practices and a complex system of religious beliefs accompanying a sophisticated society.

A highly characteristic discovery was the numerous anthropomorphic figurines found depicting a female in a seated position with highly characteristic details. Stekelis rightly considered this the *Leit fossile* of Yarmukian culture and coined the term Yarmukian for the culture eponymous with the river on the banks of which the

¹²⁸ Stekelis 1951; 1952; 1954; 1972

¹²⁹ Waechter 1951, pp. 176-178.

¹³⁰ Garfinkel and Miller 2002, pp. 2-4. Analysing Miller, I have not included the later volumes 2 and 3.

¹³¹ Second and third volumes of the excavations have been published. Especially Vol. 3 (2010) contains important discussion on the symbolism at Yarmuk. My analysis is, however, on Miller 2002.

¹³² Garfinkel and Miller 2002

settlement is located.¹³³ His identification of a specific hitherto unknown Pottery Neolithic culture was justified by the excavations results of another Pottery Neolithic village with similar pottery, flint industry and figurines at Munhata, only 10 kilometers south, by Jean Perrot between 1962 – 1967.¹³⁴ Stekelis had found 130 figurines and incised pebbles, Perrot found 50 at Munhata¹³⁵ and Garfinkel has since found at least 300 such objects in Pottery Neolithic context. Today the culture is known from many other sites in the Levant.¹³⁶

The richest collection of prehistoric art ever unearthed at one site in Israel was found at the pottery Neolithic site of Sha'ar Hagolan. This rich repertoire of over 200 items includes mainly anthropomorphic figurines, made of clay or river pebbles, as well as zoomorphic figurines, made of clay and basalt river pebbles engraved with geometric designs. This unique assemblage is the most interesting and intriguing aspect of Yarmukian culture. The wealth of symbolic expression raises many questions: What are these objects? Why were they made? Who made them? Who used them? Do the anthropomorphic figures represent humans or divinities? What is the meaning of the geometric incisions? What is the meaning of the prominent oblique eyes that appear on so many Yarmukian figures? What are the sources of the Yarmukian iconographic tradition? Why are there so many of these objects? Why have most of them been discovered at one site, Sha'ar Hagolan?¹³⁷

Miller did not bring to the analysis any specific school of thinking concerning prehistoric symbolism nor was her interpretation based on the opinions of the first excavator of the site, Moshe Stekelis (Stekelis 1972). Stekelis had suggested the rather standard interpretation that the items were fertility figurines relating to human sexuality and agriculture.¹³⁸ He misunderstood the iconography of the pebbles as phallic symbolism and suggested that the obese female figurines are fertile women.

¹³³ Garfinkel 1995; 2004

¹³⁴ Perrot 1964 ; 1965 ; 1966

¹³⁵ Garfinkel 1992

¹³⁶ Garfinkel publications on the figurines: 1992; 1993; 1995; 1999; 2002; 2004; (In Press)

¹³⁷ Garfinkel and Miller 2002, p. 206

¹³⁸ The final results of these excavations were published posthumously by Tamar Noy in (Stekelis 1972).

The fundamental interpretation is that such objects were made by prehistoric people in order to somehow cause fertility of fields and cattle and people.¹³⁹

Instead of falling into this kind of ‘railroaded interpretation’ of the assumed meaning of symbolism in the Pottery Neolithic period Miller took a much more fundamental *contextual approach* in which emphasis is given to the *where* of the discovery.¹⁴⁰ This approach implies the hardnosed field worker’s way of doing archaeological semiosis with the ‘what’ and ‘where’ in mind in true Kenyon style. However, as we shall see in the specific case of Sha’ar Hagolan, the type of semiosis turned out to be quite a challenge because of the unexpected patterns of distribution of these figurines in the exposed areas of the settlement.¹⁴¹

Miller builds her interpretation of the meaning of the highly symbolic objects on both the basics of the field work she herself participated in and the careful observation of the spot in which each fragment was found including naturally their stratigraphic context. This part of her analysis deals with what Peirce would call indexical signs and includes technical studies of the making of these figurines¹⁴² and an analysis of spatial distribution patterns of different categories of figurines in the houses and courtyards of the Pottery Neolithic village.¹⁴³ After examining the basic archaeological evidence, she then proceeds to the analysis of what Peircean semiotics would call the iconic and symbolic signs.

The title of the publication *Sha’ar Hagolan I. Neolithic Art in Context* is indicative of where Garfinkel and Miller place the emphasis in their research: Sha’ar Hagolan

¹³⁹ Garfinkel and Miller 2002, pp. 221-235

¹⁴⁰ Garfinkel had faced problems as a doctoral student at the Hebrew University in trying to evaluate archaeological observations in Stekelis’ publication because of the quite limited exposure achieved during the excavations in the 1940s and because of the uncertainty of the provenance of many of the objects that are kept in Kibbutz Sha’ar Hagolan museum and stores. He even conducted small scale excavations at the site 1989-90 to solve some of the problems (Garfinkel 1992). No wonder that in his own excavation project he made a determined effort to clarify the context both by maximizing the exposure of the large settlement and by requiring exceptionally accurate recording of the finding place of all the significant objects.

¹⁴¹ Fragments of the Yarmukian figurines were not found in just some spots but they were found practically all over the place casually mixed with broken pieces of pottery and other objects in the soil. They are thus an integral element of the culture and clearly of central importance to the inhabitants at Sha’ar Hagolan, Munhata and elsewhere. By understanding the meaning of the figurines we can therefore gain a deeper understanding of the Yarmukian culture. (Miller 2002)

¹⁴² Korn et al. in Garfinkel and Miller 2002, pp. 188-208

¹⁴³ Shlomo and Garfinkel in Garfinkel and Miller 2002, pp. 209-213.

figurines are defined as “prehistoric art” that carry both cultural and chronological connotations.¹⁴⁴ The cover photo gives the same message by showing an example of the art in the foreground and by adding its archaeological context in the background; the building in which the highest concentration of these figurines was found in Area E (Garfinkel and Miller 2002). The title and cover layout both convey the semiotic Ground of interpretation “this object was found in here”. It is simple but, as we shall see, quite a powerful combination in the production of meaning to archaeological signs.

Context of the Figurines

As her semiotic Ground Miller emphasises the meaning of the archaeological context of the prehistoric figurines rather than leaning on some hazy general classifications as “fertility figurines”¹⁴⁵ or “Mother Goddess”¹⁴⁶. Furthermore, recent research has emphasized the importance of context and definition, while stressing the need to place these objects within the overall considerations of a particular society.¹⁴⁷

¹⁴⁴ Using the word ‘art’ for prehistoric figurines is subject to debate as the word could distort the understanding of prehistoric objects by introducing a modern term that does not necessarily correspond to how the makers of the figurines themselves understood these objects. Garfinkel has been accused of anachronism because of the use of this term (Gopher and Orrelle 1999, p. 133). But he defends the use of the word ‘art’ despite the criticism and adds a practical point:

“Language is a means of communication. Developing a highly specialized jargon in a discipline may lead to a better understanding among the members of the discipline, but it will be a barrier to the people outside this exclusive group. The term “art” is understandable to a general audience. It enables straightforward communication between the archaeologist and the larger public. By using terms like “imagery” we immediately disconnect ourselves from the public, and from those who may wish to know more about our research” (Garfinkel and Miller 2002, pp. 188-189).

¹⁴⁵ The interpretation of “fertility figurine” is dominant in the work on Sha’ar Hagolan figurines by Tamar Noy and Moshe Stekelis (Stekelis 1972); Noy 1986; Yisraeli-Noy 1999.

¹⁴⁶ In particular the work of James Mellaart at Anatolian sites has brought the “Mother Goddess” interpretation to the forefront. The famous seated woman giving birth to a panther is a classic example. Mellaart et al. 1989, p. XX.

¹⁴⁷ Garfinkel and Miller 2002, p. 221; the importance of context is a leading theme in the first volume of Sha’ar Hagolan publication by Garfinkel and Miller 2002. Miller refers to the paper by Hamilton et al. 1996.



Figure 14: Female figurine from Yarmuk, drawing by Kauko Suontama.

Obviously the iconography is there helping to understand what a figurine depicts. But the meanings produced in the minds of modern archaeologists by iconic signs are not necessarily the same as the original authentic meaning that was intended by the one who manufactured the object. Manufacturing techniques and attempts to define the function of the figurine in its micro-context could add to the semiosis and reveal meanings, function being the “basic or general purpose for which an object was designed or employed”.¹⁴⁸

In the case of Yarmukian figurines we might explore where, how and by whom the figurines were employed. The meaning of an object “refers to what is intended or signified or understood to be expressed by an object” and is tightly embedded in the symbolic value placed on the object¹⁴⁹.

Archaeological context could really be the key to understand the purpose of the object. Let us assume that a female figurine had been discovered in Sha'ar Hagolan on a pedestal in which it was set in a room full of ritual items or in a private house, for example, in a niche. However, nothing of this sort was found at Sha'ar Hagolan.

¹⁴⁸ Miller 2002, p.221: This definition is quoted from L.E. Talalay *Deities, Dolls, and Devices. Neolithic Figurines from Franchthi Cave, Greece*. (Excavations at Franchthi Cave, Greece 9). Bloomington 1993.

¹⁴⁹ Miller 2002, p. 221

Lacking such direct indexical signs that would reveal the meaning of the figurines, the modern mind has real difficulty in imagining what was associated with the art by its makers.

As Talalay rightly points out, the meaning of an object is often more complex than its use, and is almost always more difficult for an archaeologist to decipher (especially in prehistoric societies or those for which textual accounts are lost or undeciphered). This is because the meaning of an object is not only culturally determined, but can change with time and the individual¹⁵⁰.

Miller suggests that the way objects are made and used and the symbolism placed on them are closely linked. By understanding the manufacturing (local or import) and function better we can learn more also about the symbolism “encoded in their morphology” and, similarly, better a understanding of symbolism helps us to understand their function in the prehistoric society (Miller 2002, p. 221).

Who made the figurines? Where were they made – are they of local manufacture or exotic imports? Who used them? Where and how they were used? Finally, we may also ask what happened to the figurines after they came out of use?¹⁵¹

The manufacturing of all the figurines is local. Miller demonstrates that the figurines were made locally from local clays and the pebbles were picked from the nearby river with no evidence of imports: Sha’ar Hagolan was the place in which the clay figurines were manufactured and the pebbles incised. She suggests a difference in the skill levels required in making the two kinds of symbolic objects: manufacturing the female figurines demanded skilled potter hands and some craft specialization. Anthropologists have suggested that pottery making was such an art that it gave the

¹⁵⁰ Miller 2002, p. 221

¹⁵¹ *ibid.*, p. 222

potter the authority of a “shaman”. On the other hand, almost anyone could make the simple incisions on the pebble figurines.¹⁵²

After these conclusions Miller seeks to answer the questions about who used these figurines and how they were used. The entire excavation campaign between 1996 and 2004 was geared towards gaining a better understanding of the context of these figurines. This goal remained central even after the surprising discovery of advanced architecture and many other unexpected findings previously unknown from the Pottery Neolithic period. With its careful recording of the findings, a single, rather undisturbed period of occupation and a relatively broad exposure, Sha’ar Hagolan is an ideal site for studying the local context of these fascinating figurines. The study of the material in its archaeological context revealed an important fact that has direct impact on the understanding of the function and meaning of the figurines:

To begin with, all of the Sha’ar Hagolan figurines were found within the general domestic context of the site; figurines were found within what appear to be multi-use domestic structures, whether from within rooms or courtyards or occasionally, in the cleared areas between buildings. Thus we can conclude that the figurines were not reserved for use as burial objects.¹⁵³

The distribution of the figurines and their fragments was studied by Ben-Shlomo and Garfinkel¹⁵⁴. Miller concludes that because the figurines were not concentrated in any particular building complex and were found in all excavation areas, they do not indicate exclusive use by a specific group of the population, but were used by persons living all over the site. However, the distribution of different types of figurines does show variation. A particularly high number of these figurines were discovered in one

¹⁵² Miller 2002, pp. 222-224; Pottery Neolithic is the first period of pottery-making in the region and the reddish-brown clay used for ceramics was also used for the figurines. “Petrographic analyses of samples from pottery vessels found at Sha’ar Hagolan indicate that this clay was obtained from the immediate vicinity of the site” (*ibid.*, p. 222).

¹⁵³ Miller 2002, p. 224; “Few burials have been found at Sha’ar Hagolan so far therefore Miller carefully notes that it is possible future excavations may reveal burials with these figurines. Nevertheless, burials were not the principal destination of these objects” (*ibid.*)

¹⁵⁴ in Garfinkel and Miller 2002, pp. 209-213

of the buildings, Complex II. There is also a small special group of figurines and a statue that was buried in a pit.¹⁵⁵

Interpreting archaeological evidence is not easy even when the excavation is done properly and recorded very carefully. Miller notes that while the distribution patterns indicate that most figurine fragments were found in the courtyards near the entrance, it does not necessarily mean that these had the function of “guardian of the house” and were attached to the door¹⁵⁶. Perhaps they were used inside the rooms and unceremoniously swept to the courtyard through the door during cleaning!

Figurines were found singularly and not in groups of two or more and no cache containing many figurines has been discovered at Sha’ar Hagolan.

Thus, it is reasonable to surmise that whatever function these figurines served, they were able to act alone and probably used one at a time.”¹⁵⁷ One exceptional clay figurine was found broken in the context of a small pit instead of from the courtyard debris as most of the small ones. “This contextual information, along with unique aspects of the manufacture of this unusually large figurine as discussed above, seem to indicate that the statue served some special, and probably cultic, function.”¹⁵⁸

Miller notes the difference in work and skill between clay figurines and pebble figurines and, consequently, that their usage was more concentrated on some part of the population. However, they were all found in domestic contexts, rather casually discarded whether after use in the courtyards or thrown there while cleaning the houses.¹⁵⁹

¹⁵⁵ Miller 2002, p. 224

¹⁵⁶ Shlomo and Garfinkel in Garfinkel and Miller 2002.

¹⁵⁷ Miller 2002, p. 225

¹⁵⁸ *ibid.*

¹⁵⁹ *ibid.*

Meaning of the Figurines

Miller gives a clear and concise description of her own archaeological semiosis proceeding with detailed questions and answers. For example, she asks “How can we interpret the meaning of the specific features of the figurines, such as the prominent oblique eyes that appear on so many of them?” She then answers: “We can speculate on the meaning of Yarmukian figurines by examining the symbolism represented by their features.”¹⁶⁰ In this respect semiotics comes to help with a somewhat more detailed tool box that suggests that the signs in these figurines are simultaneously indexical, iconic and symbolic. This fundamental sign typology helps in analysing the processes of interpretation and in keeping it conceptually clearer.

Eyes

The iconic sign of the prominent eyes on the figurines has been understood in different ways. Miller notes that Tamar Noy has suggested that they resemble, as iconic signs, cereal seeds or date stones rather than real human eyes (Noy 1990, p. 228).¹⁶¹ Garfinkel, on the other hand, thinks that the eyes of the figurines resemble iconically the cowrie shells known, for example, from Pre-Pottery Neolithic plastered skulls.¹⁶² And yet another iconic similarity has been seen in the same prominent eyes. Gopher and Orren have suggested that the depiction of both the protruding lips and the prolonged shape of the eyes bring to mind the vulva (Gopher and Orren 1996).

On all these three interpretations of the iconic sign Miller claims: “In fact there can be no real debate regarding these interpretations; the symbolism attached to cowries themselves derives from the resemblance of their aperture to both the human eye and vulva, while all three (shell, vulva, and seed) are related symbols of fertility.”¹⁶³ But

¹⁶⁰ Miller 2002, p. 226

¹⁶¹ This interpretation of the Iconic sign obviously leads to suggestions of specific kinds of symbolism relating to agriculture and fertility. On the other hand, since Noy understands the female figurines as fertility symbols, this Symbolic Sign might influence the way she interprets the Iconic Sign. (Noy 1990).

¹⁶² Garfinkel 1995; Also Garfinkel has a Ground for his interpretation, not in a theory of the meaning of the figurines as in Noy’s case but rather in the suggested cultural continuity between Pre-Pottery and Pottery Neolithic periods and persistent artistic traditions.

¹⁶³ Miller 2002, p. 226 referring to Clark 1986.

how does she know this? The Neolithic people left no texts describing the symbolic meaning of their art. There are no cases where the vulva is actually depicted in the figurines or Pre-Pottery Neolithic B statues and no known case where cowrie shells are used to symbolize the female sex organ.

Miller also examines the cowrie shells from European Upper Paleolithic burials as described by Clark (1986).¹⁶⁴ Nothing in the placement of the shells on the bodies suggests sexual symbolism. Furthermore, Garfinkel has convincingly refuted the interpretation of the pebble figurines as male sex organs as was initially suggested by Stekelis¹⁶⁵ (Garfinkel 1992). So how do we suddenly have vulvas in the eyes of the figurines? Essentially, this sexist interpretation of the iconic sign of the eyes may rather be a construction of the modern scholar than in the minds of those who made these figurines.

Instead of symbolizing sex, the cowrie shell may well symbolize the ability of the eye to see and perhaps even improve sight. In this discussion Miller takes us back to Kenyon and her discussion of the Jericho skulls.

Cowrie shells (*C. lurida*) inlaid into eye orbits of plastered skulls at Pre-Pottery Neolithic B Jericho [...] may mark the first identified use of cowrie shells to represent the eye. They are far from the only such shells to be used this way; surprisingly similar in appearance are terracotta heads, with cowrie shells in the place of eyes, from the Sepik River region in modern New Guinea [...] It seems that cowries not only represented the human eye, but generally were believed to improve sight. For this reason they were used to decorate the prows of canoes in the Pacific Islands and frequently attached to the bridles of horses in all parts of the East, Near East and also Hungary¹⁶⁶

¹⁶⁴ Miller 2002, p. 226 referring to Clark 1986

¹⁶⁵ Garfinkel 1991.

¹⁶⁶ Miller 2002, p. 226 referring to Clark 1986.

Indeed, it makes sense that cowrie shells inlaid on the face may symbolize eyes and eye sight and perhaps even spiritual sight in the realm of divinities and dead. It is interesting how effortlessly Miller develops the suggestion by Garfinkel that the eyes of the figurines are Iconic Signs resembling cowrie shells and by her extension of the discussion not only to the Pre-Pottery Neolithic B Jericho but to the Sepik River and to worldwide ethnographic comparisons. So we learn that cowrie shells were also used as charms against the evil eye in Ancient Egypt and even as currency in Ancient China¹⁶⁷ (Miller 2002, p. 226). Critical and methodical discussion on the probability of these added meanings is missing, as Miller paints a broad picture of the use of cowrie shells around the world.

The iconic sign of the cowrie shell – one of the possible understandings of the figurine eyes – is associated with the vulva in a similar fashion by referring to any time and to any place in the world as proof of a concept. “In its association with the vulva the cowrie was often worn to promote fertility and assist in parturition. Thus, in many areas of the world ‘cowries are worn by women as amulets, presented to them in many places as bridal offerings, and used by sterile and pregnant women to attain the respective benefits.’”¹⁶⁸ For instance, Tibetan women wear girdles made of cowrie shells as charms against barrenness (Clark 1986:26)” and so the comparative analysis continues to a 7th century AD burial of a Saxon woman at Camerton in Somerset and the scientific name of cowrie, *Cypraea*, from the Island of Love.¹⁶⁹

Accordingly, in order to understand the iconic sign of the figurines, Miller adopts Garfinkel’s suggestion that they are like Pre-Pottery Neolithic B cowrie shells on the detached heads and combines this with the suggestion of Gopher and Orren that they also look like vulvas. She ignores in passing Noy’s idea of iconic resemblance to seeds. So, in summary of her process of giving meaning, she combines the cowrie shells and vulva and furthers this process by comparing the use of cowrie shells from different times and places around the world. Finally, she comes to her interpretation of the sign of the eye.

¹⁶⁷ Miller 2002, p. 226.

¹⁶⁸ Sheppard 1939 in Miller 2002.

¹⁶⁹ Miller 2002, p. 226.

Equipped with prominent ‘cowrie eyes’, the Yarmukian figurines may thus have served a dual role as all-seeing protector, with particular charms against the evil eye, as well as enhancers and promulgators of fertility. Both functions would have been useful within the general domestic context in which they were placed, as described above.¹⁷⁰

Other Facial Features

Miller discusses at length the theory suggested by Gopher and Orren (1996) that the figurines are actually representing some kind of dual-sexed creature. “According to this interpretation, various facial and body features of the clay Yarmukian figurines are seen as ‘combined representations of male and female genitalia. The use of mixed gender symbols in one image may suggest that an element of mutable gender existed [in Yarmukian society]’ Gopher and Orren 1996: 255.” Specifically, these scholars see the elongated head of the figurines as resembling a phallus, the cheeks as testicles, lips as labia, the nose perhaps as phallus, and the eyes, as mentioned above, as vulvae.”¹⁷¹

In order to evaluate this suggestion Miller concentrates on the iconic sign and demonstrates that the shape of the head (or nose) is visually different from the shape of the real phalli depicted in the few Yarmukian male figurines. She also takes a broader look at all the figurines and finally casts doubt on such ideas. She demonstrates only a ‘few cases’ in which the head of the figurines resembles a phallus, for the majority, that shape is that of ‘sharp points or forms a cone’¹⁷². In this case Miller simply studies the iconic signs within the context of Sha’ar Hagolan art and comes to the conclusion that the figurines do not represent the phallus. With this simple note she destroys the foundations of the symbolic sign interpretation by Gopher and Orren.

¹⁷⁰ Miller 2002, p. 227.

The purpose of this thesis is not to discuss the validity of the conclusions made by the archaeologists studying the evidence and giving it meaning. Rather, the task is to analyze how the process of archaeological semiosis is happening. In this limited definition of the purpose of this study I still would like to point out that the idea of “all seeing protector” is included in the conclusions here without any clear reference how such an interpretation is derived.

¹⁷¹ Miller 2002, p. 227.

¹⁷² *ibid.*

Body Features, Posture and Position

The striking exaggeration of the lower part of the figurine is no less intriguing than the strangely deformed head, prominent eyes and pierced earlobes indicating the presence of earrings. When Miller writes that “the lower torso, with hips, thighs and buttocks rendered in generous proportion to the upper body” it is quite an understatement even for a steatopygous female. But from here she develops an interesting idea about the meaning of the extremely fat presentation as a matriarch.

On the other hand, a mature matron, having already produced, suckled and raised a fair number of offspring may find herself with a figure not dissimilar to that seen in these Neolithic figurines. The difference between the two is that in the former interpretation, the voluminous figurine represents one who is able to reproduce, the fertile field, so to speak, while in the latter she presents one who has already reproduced, the mother, the matriarch of the family.¹⁷³

Miller searches for the meaning also in the posture of the depicted woman. Perhaps the broad backside was for a practical reason - making it easier to keep the figurine in position.¹⁷⁴ Or, perhaps, the seated woman is in a birthing position comparable to the Çatal Hüyük seated female figurine (Mellaart 1975, p. 88. Fig. 11) thus suggesting fertility and reproduction associated with agriculture (Noy 1985, p.66). Again Miller uses iconic sign to disprove the theory: the legs are held tightly together and the figurines do not depict swollen abdomen or breasts.¹⁷⁵

Since seated woman figurines begin to appear in Neolithic at a similar time as the rise of agriculture Miller puts forward the interpretation that such figurines are symbolic signs that indicate sedentism:

¹⁷³ Miller 2002, p. 228

¹⁷⁴ *ibid.*

¹⁷⁵ One peculiar figurine which is quite different from the figurines discussed here by Miller is interpreted as a fragment of a woman giving birth to a child. (Garfinkel and Miller 2002).

With the growing importance of agriculture for human economy came the increased association of human groups with land “ownership”. The Yarmukian figurine is thus stationary and fixed; firmly seated in the home of her family and in her village. The seated position is also a position of power and authority. In later iconography, figures in command (whether god, king or official) are consistently shown seated, thus differentiating them from the ordinary, standing, mortals gathering around to pay tribute.¹⁷⁶

Miller abandons the attempt to explain why the figurines are holding their left hand under the breast and right hand on their thigh. The iconic sign of a woman holding both her breasts is very common in the ancient Near East. “The consistency of the posture of the Yarmukian figurines indicates that some specific meaning is thereby being communicated, but beyond speculation, we can read nothing clearly from it so many years later.”¹⁷⁷

In these discussions, Miller concentrates heavily on the iconic sign and uses this to argue against the symbolic sexist and fertility figurine interpretations. Furthermore, her own suggestion, that the figurine is an authoritative maternal person, is based on the iconic depiction of the posture. From this she infers the interesting suggestion that the symbolic sign presents the new kind of sedentary settlement and an early society where ownership and continuity of settlement are important.

Costume: Clothing, Coiffure and Jewellery

The figurines are clothed and wear earrings. Miller looks at the depicted clothes from a practical point of view and suggests that they are iconic signs, ceremonial or ritual costumes rather than everyday clothing. She refers to Garfinkel (1999, p.45) who suggested that the elongated heads depict either a mask, elongated hairstyle or tapered hat.¹⁷⁸

¹⁷⁶ Miller 2002, pp. 228-229.

¹⁷⁷ *ibid.*, p. 229.

¹⁷⁸ *ibid.*

The interpretation is supported by Miller with references to other figurines in Anatolia, Catal Hüyük and Hacilar VI, Tell es-Sawwan in southern Mesopotamia and in Samarran culture at Chogha Mami, and closer by at Tel Kishion and Munhata. Nevertheless, these comparisons do not provide any concrete results, rather, they lead to an interpretation beyond a vague guess: “Whether a hat or coiffure, the particular form worn by the Yarmukian figurines undoubtedly encoded specific meaning, perhaps about status or group identity”.¹⁷⁹

Red Colouring

There are traces of red colouring on the figurines and on some of the pebble figurines. While Gopher and Orrell (1996) readily associate this colour with blood and the menstrual cycle in the realm of reproduction, Miller is much more careful. The red pigment on the stone pebbles may not even be intentionally applied. It may thus be indexical rather than iconic or symbolic sign. Importantly, even if the colour red suggests blood, Marija Gimbutas has for example, associated the colour on Neolithic figurines not with reproduction but with blood and life in general and others have suggested youth and vitality¹⁸⁰.

Function of the Figurines

Miller describes in detail what she is looking for in her research and we can see how she tries to find answers to these ancient riddles. Here is yet another illuminating example of her style of argumentation:

Questions that pertain to the understanding of the function of Yarmukian figurines include the following: Why are there so many of them at Sha’ar Hagolan? Why are they all so similar? Do these anthropomorphic figures represent humans, ancestors or divinities? What role might these figurines have served in Yarmukian society?

¹⁷⁹ Miller 2002, p. 229

The powerful idea of a ceremonial mask would have also been worth of some elaboration. It is only mentioned in passing by Miller who seems to accept that the peculiar shape of the head of the figurine is a hat or coiffure.

¹⁸⁰ *ibid.*, p. 230.

The above discussion of how, where and by whom the figurines from Sha'ar Hagolan were manufactured and used, as well as key iconographic symbols which may elucidate their encoded meaning within Yarmukian society, has placed us in a better position to evaluate various hypotheses concerning figurine functions.¹⁸¹

Unfortunately, she finds it difficult to answer these questions on the basis of contextual archaeology and comparative study. So we learn that the fact that there are so many figurines at Sha'ar Hagolan indicates that “the figurines must have therefore had an important and necessary function in Yarmukian society. Undoubtedly they were considered as important in everyday life during the Pottery Neolithic period as pottery, stone tools and other ‘utilitarian’ objects”.¹⁸² Similarly we learn that the “surprising standardization” of the figurines “the people of Sha'ar Hagolan felt the need to depict this figure repeatedly, both in details, as made by the specialists in clay, and, in more stylized form, as could be made by most inhabitants of the site.”¹⁸³

These are rather obvious conclusions that do not help much in understanding the meaning of the figurines. To gain a better understanding of the figurines Miller analyzes four theories about their function in Yarmukian culture.

Fertility Votive

Neolithic figurines depict mostly women. Women symbolize agricultural fertility so the figurines are connected with fertility cult. The idea had already been expressed by Tobb (1950, p.163 in Miller 2002) and recurs in discussions of the meaning of these objects. Miller refers to Anati's criticism (1986) against such generalisations and who points out that there is very little hard evidence to suggest such rituals before the Bronze Age.

Accordingly, Miller discusses the subject in general terms and tries to find a midway position. She states that these symbols must have had ‘multiple meanings’ of which it is ‘probable’ that although the figurines may have given the general context of

¹⁸¹ Miller 2002, p. 230.

¹⁸² *ibid.*

¹⁸³ *ibid.*

fertility ‘this is not necessarily their only function’.¹⁸⁴ She also rejects the notion of fertility votive figurines suggested by Bisson and White (1997) who say that such figurines are highly personal objects created by the shaman for persons in need. Sha’ar Hagolan figurines are almost standard.¹⁸⁵

Birth Charms

Miller concludes that if the figurines were talismans for pregnancy, for the delivery of healthy babies and safety of mothers, they would probably have some iconic signs about pregnancy or child birth. Except for the one figurine (Garfinkel and Miller 2002, Fig 13, 26) nothing of the sort appears in these figurines.¹⁸⁶

Tokens of Individual Identity

Miller considers Bailey’s theory (1994) that the figurines in the Chalcolithic site Golyamo Delchevo in Bulgaria were tokens of individual identity. In her opinion standardization of the figurines excludes this function.¹⁸⁷

Emblem of group identity

After considering all the possible aspects of the figurines Miller is ready to suggest the probable function of the figurines at Sha’ar Hagolan and thus also the meaning of these objects. If the many different figurines at Golyamo Delchevo were tokens of individual identity so the highly standardized Yarmukian figurines are an emblem of group identity. In other words, the society had a symbol that represented the collective one, the group of people as separate from other groups of people.

This emblem depicts one and the same person whoever she is. Both the clay figurines and the pebbles repeat her characteristics and here is her description on the basis of this analyses:

¹⁸⁴ Miller 2002, p, 231.

¹⁸⁵ *ibid.*

¹⁸⁶ *ibid.*

¹⁸⁷ *ibid.* p, 232.

The specifics of her identity are lost to us, but she seems to be a mature woman, one who has given birth several times; she wears ritual, ceremonial or high status regalia, and appears in a pose indicative of power and authority. She may have the ability to promote fertility or protect, and she can be appealed to in times of great dangers, such as during childbirth. She is ubiquitous to Yarmukian society, and appealed to by all members of the population. She serves primarily in the domestic sphere, although occasionally she may function in more public ceremonies (e.g. the statue). As plastered skull found at Jericho, Kefar ha-Horesh and Nahal Hemar cave seem to indicate, some form of ancestor worship already existed in the Levant by the Pre-Pottery Neolithic. I therefore propose that she is probably a deified ancestor, the Matron of the Yarmukian people.¹⁸⁸

Thus Miller calls the Yarmukian figurine an ancestral deity unique to the culture and not a generic “Mother Goddess”. She does not suggest that this deity would indicate anything about the position of women in the society or matriarchal structure. However, this was an evolving agricultural community that depended on communal cooperation and the female deity might have functioned in providing social coherence in addition to the protection of the homes and providing for the fertility of the fields. Miller leaves open the question of social hierarchy and the possible existence of an elite group that might have used this symbol to control the settlement.¹⁸⁹

In conclusion, Miller’s study provides good examples of how a careful comparative examination of Neolithic finds may eliminate certain semiotic processes. She argues with the aid of iconic similarities of how certain “so-called fertile interpretations” cannot match with details in archaeological finds. Thus her study provides another important fundament for semiosis: when careful archaeological examination attempts to preserve as many indexical signs as possible, as Kenyon has shown, then careful iconic comparisons can offer good guidance for semiosis.

¹⁸⁸ *ibid.*

¹⁸⁹ Miller 2002, p. 232.

Chapter 7. David Lewis-Williams at 'Ain Ghazal

Inside the Neolithic Mind: Consciousness, Cosmos and the Realm of Gods (Lewis-Williams and Pearce 2005) is a major contribution to the study of prehistoric symbolism. It is a bold attempt to penetrate the minds of people who never wrote a single document about their beliefs and ideas. Even though the other scholars studied in the previous chapters are attempting the same endeavour - to give meaning to the Signs from the past - none of them attempts to achieve this on such a grand universal scale as does David Lewis-Williams.¹⁹⁰

Sign production by Hard-Wired Brains

The semiotic Ground in Lewis-Williams approach to Neolithic symbolic objects and structures is based on the view that these signs are produced by human brain activities that are hard-wired deep in the neurological system. The brain generates religious and symbolic signs in all human minds, ancient and modern, which has two fundamental elements: a three-tiered cosmos and a three-stage path in altered states of consciousness.

The brain is deeply hard-wired and universal. It produces similar symbolic and religious signs all over the world and has done so for as long as Homo sapiens have existed as a species. While there are a multitude of cultural, geographical and temporal variations in the signs, the basic landscape is determined by the neuropsychological processes and this has not changed. Lewis-Williams compares sign production with the geological processes producing the main structures in natural landscapes which can be seen underlying the many variations caused later by geomorphologic forces. This master view over the human mind comes from Lewis-Williams' theory of religion as a product of borderline activities of the brain in dream states and trance as caused by electrical and chemical biological activity.

¹⁹⁰ The study continues an earlier landmark study by David Lewis-Williams that concentrates on Upper Paleolithic cave art in Europe (Lewis-Williams 2002).

Its generality is founded on the working of the human brain that, in all its electro-chemical complexity, creates what we call our minds. The neurological functioning of the brain, like the structure and functioning of other parts of the body, is a human universal. The specific contents of individual minds, their thoughts, images and memories, are another matter altogether; content is largely, but not entirely, provided by cultures as they are, or were, at specific times in human history. Content is therefore always changing. The way in which brain structure and content interact to produce unique life-patterns and beliefs systems is a key issue that we explore.¹⁹¹

Such a very broad definition includes in archaeological semiosis both the “long-distance” anthropological and ethnographic comparisons. For example, Kenyon suggested that the 19th century culture in Sepik River Valley in New Zealand could be a possible source for understanding the detached skulls she had found in Jericho. Lewis-Williams says a resounding ‘yes’ to such a way to try to understand Neolithic minds. But the definition also includes the more restricted searches for parallels in geographically and chronologically closer sources, like the study by Schmandt-Besserat of ‘Ain Ghazal skulls that includes an overview of ancient Near Eastern documents and images. All examples from around the world, past and present, may be valid points of comparison since the sign producer is the same unchanged neuropsychologic activity of the human brain.

Contrasts between the sites of Atlantic Europe and those in the Near East enable us to ask further questions. In what ways did beliefs about the rock-immured dead of Gavrinis, Newgrange and other megalithic sites differ from beliefs about skulls buried beneath Near Eastern mud-plastered floors? Was there underlying, not easily detected, bedrock of belief that expressed itself in contrasting ways? In geological terms, was there a subterranean chamber of molten rock that rose to the surface in different places to form batholiths, each similar to others in its origin but

¹⁹¹ Lewis-Williams 2005, pp. 6-7.

each shaped by the forces of erosion to display its own hills and valleys?¹⁹²

Although the above quoted paragraph is written and posited as a question it is, of course, the fundamental thesis of the author.¹⁹³ Essentially, by understanding the deeper processes in the human brain we acquire a universal key to interpret symbolic signs anytime, anywhere.

As we have suggested, the human mind is an experience that is created by the working of the brain. The enormously complex neurology of the brain, its lobes, synapses and electro-chemical functioning, facilitates our thinking and our consciousness – in short, our minds. Now here is the pivotal point: the neurology and functioning of the brain create a mercurial type of human consciousness that is universal. And the ways in which that consciousness can be accommodated in daily life by human beings are not infinite, as world ethnography, spanning a multitude of cultures, indeed shows.¹⁹⁴

Deduction or Induction?

The key concept *universal functioning of the human brain* is so central to Lewis-Williams' understanding of symbolic signs that he approaches deterministically: "But Neolithic people could not escape what was wired into their brains" (Lewis-Williams 2005, p. 87). In his work he emphasizes how first he established the principles of brain functions and only then picked up examples from real life to illuminate them. Lewis-Williams explicitly rejects a semiotic process in which the opposite occurs, where specific symbolic signs are first selected from the archaeological record and then given anthropological comparisons with the assumption that the modern symbolic interpretation already existed in the prehistoric example.

¹⁹² Lewis-Williams 2005, p. 8.

¹⁹³ I concentrate on the work of David Lewis-Williams although the book was jointly published by him and his colleague David Pearce.

¹⁹⁴ *ibid.*, p. 9.

All of which means that we do not argue by naïve analogy. We do not find something in the archaeological record, search the ethnography, pounce upon what seems to be a parallel, then declare that the human actions and beliefs that bring about the ethnographic instance must have been present in the past as well: before moving on to another archaeological feature to start the whole process all over again. That is the sort of arbitrary ethnographic analogy that has marred the archaeological literature; we try to work differently. We propose certain principles that we derive from the universal function of the human brain. We then use ethnographic instances as illustrations of the ways in which that universal functioning can find expression. The ethnographic illustrations help us to see the practicality of our argument. We do not argue from them.¹⁹⁵

In other words, Lewis-Williams is claiming that his logic is purely *deductive* moving from the established generic principles of sign production in the brain to the specific examples from the field of archaeology. This is the Ground of deterministic neuropsychology that in the semiotic process connects sign to significance. According to the most basic theory of logic, in deductive reasoning the conclusions are as valid as the basic assumptions and the results are necessary consequences of the principles.

Inside the Neolithic Mind corresponds to the above described approach and its contents are indeed deductive. Many different examples are taken from around the ancient world in order to demonstrate that “also in this case the fundamental principle works”. Hard-wired human brain functions are used in order to give meaning to the many different archaeological objects and structures, and theories are formulated from the same Ground.

But we may still wonder is this ground-breaking research as deductive as Lewis-Davidson wants the reader to believe? There are simply too many different possibilities to choose from when selecting guiding principles from the myriads of human brain activities. One would expect that there is at least some preliminary

¹⁹⁵ Lewis-Williams 2005, p. 9.

inductive study in the selecting of relevant brain actions for the study. According to the basic laws of logic these preliminary inductive conclusions would not be necessities from the basic parameters. Instead, the results of the research would be expressed as “expected possibilities” and the success of the work measured as probabilities.

In the book *Inside the Neolithic Mind*, the authors do not elaborate on the inductive processes that support the solid Ground of interpreting signs. However, the personal scholarly background of the two authors provides a strong and interesting indication of the background for the type of archaeological semiosis developed in this study and in the study of Upper Paleolithic Cave Art (Lewis-Williams 2002).

Both David Lewis-Williams and David Pearce are experts on the culture of the Bushmen in the University of the Witwatersrand in Johannesburg. Emeritus professor David Lewis-Williams is also the Senior Mentor of Rock Art at the university. His *Believing and Seeing: Symbolic Meaning in Southern San Rock Paintings* (1981) is considered by many to be a pivotal work in the general development of cognitive archaeology.

The semiotic Ground of the study of the Neolithic is visible when we look at the subjects in a chronologically arranged bibliography. The listing shows the original field work among the Bushmen that yielded the raw material for a theory of the early religious experience as basic brain functionality and how the study reaches Western Europe. The deductive principles for *Inside the Neolithic Mind* were developed inductively during the course of this long-running research.

1981 *Believing and Seeing: Symbolic Meanings in Southern San Rock Painting.*

1982 *The Economic and Social Context of Southern San Rock Art.*

1987 *Paintings of Power: Ethnography and Rock Art in Southern Africa.*

1988 *The Signs of all Times: Entoptic Phenomena in Upper Palaeolithic Art.*

1990 *Discovering Southern African Rock Art.*

1993 *On Vision and Power in the Neolithic: Evidence from the Decorated Monuments.*

1996 *Harnessing the Brain: Vision and Shamanism in Upper Palaeolithic Western Europe.*

- 1998 *Wrestling with Analogy: a Methodological Dilemma in Upper Palaeolithic Art Research.*
- 1998 *Quanto? the Issue of 'Many' Meanings in Southern African San Rock Art Research.*
- 1998 *The Mind in the Cave - the Cave in the Mind: Altered Consciousness in the Upper Palaeolithic.*
- 1998 *The Shamans of Prehistory: Trance Magic and the Painted Caves.*
1998. *Fragile Heritage: a Rock Art Field guide.*
- 1999 *Images of Power: Understanding San Rock Art.*
- 2000 *Stories that Float from Afar: Further Specimens of 19th Century Bushman Folklore.*
- 2001 *The Enigma of Palaeolithic Cave Art.*
- 2002 *A Cosmos in Stone: Interpreting Religion and Society through Rock Art.*
- 2002 *The Mind in the Cave: Consciousness And The Origins Of Art.*
- 2003 *Images of Mystery.*
- 2004 *San Spirituality: Roots, Expressions and Social Consequences.*
- 2004 *On Sharpness and Scholarship in the Debate on "Shamanism".*
- 2004 *Consciousness, Intelligence and Art: a View of the West European Upper Palaeolithic Transition.*
- 2004 *Southern African San Rock Painting as Social Intervention: A study of Rain-Control Images.*
- 2005 *Inside the Neolithic Mind: Consciousness, Cosmos, and the Realm of the Gods.*

The two studies, on the Upper Palaeolithic Cave Art and on the Neolithic mind, are not mere by-products of the penetrating research of Bushman culture and Upper Paleolithic cave art. They are logical syntheses of the ideas from field study enriched with a broad palette of evidence from elsewhere that fit the basic concept of early religion and society.

San and Prehistory

The power of Lewis-Williams' ideas is in the original source. He has studied a unique and wonderful world that has survived on the fringes of the awesome deserts of Kalahari and produced the rich rock art in Drakensberg Mountain range caves and elsewhere. They are a kind of "culture fossil": the Bushmen were pushed to the periphery regions by invading people who were taller, had stronger weapons and were richer because of their agriculture-based economy. The Bushmen look different as they have lighter skin colour, curled hair, and an epicanthic fold in the upper eyelid.

Their very peculiar-sounding clicking language sets them apart from the dominant Bantu people. The effect of all this is that their unique culture has survived in isolation and is today a rare relic from the common human past.

San people have been studied recently and it is now known that they are unique among all the living people upon the Earth. According to Spencer Wells (2003) and others taking part in the study of the African human genome, their blood has the oldest known genetic markers. The Y-chromosome haplogroup Type A is said to represent the oldest existing human population. Wells refers to them as the “genetic Adam”.¹⁹⁶

Bushmen may represent the only surviving culture that has continued uninterruptedly at least since the Upper Palaeolithic period more than 20,000 years ago. The San cave art in thousands of Drakensberg Mountain caves and on the rocks in this region may be the oldest continuous art tradition in the world. The very isolation enforced on the San people may have created a special laboratory where the oldest human genes and oldest continuing traditions have survived under Stone Age like conditions and hunting and gathering subsistence strategy.

This extremely rare ancient group of people has provided David Lewis-Williams and his colleagues, anthropologists, ethnographers and archaeologists, a true diamond mine for authentic information about this unique culture. For many reasons we may safely assume that the surviving Bushmen represent continuity from prehistoric times. As such, their habits and traditions and world view serve as a kind of living bridge to the minds of their ancestors and possibly even to those of them who lived in prehistoric times thousands of years ago.

Although *Inside the Neolithic Mind* refers to many other cultures and places and the Bushmen are only occasionally mentioned in it, the semiotic Ground for understanding their signs has been established by studying them. This fact emphasizes the importance of these humble and persecuted people to humanity in its entirety.

¹⁹⁶ Wells 2003.

San Religion

The following short description of the religion of the San people is intended to demonstrate how the Ground is built from San religion to the interpretation of prehistoric art and archaeological findings. The key concepts are first developed by studying the Bushman and then applied to broad global context both in *Upper Palaeolithic Cave Art* and *Inside the Neolithic Mind*.¹⁹⁷

San people say that the world consists of a spirit world and the material world which they understand to be a *three-tiered cosmos*. The spirits live under and above the world of the people. In order to enter the spirit world to perform tasks, trancing has to be initiated by a *shaman* through the hunting of *power animals*. Once a power animal, such as an eland or an elephant, has been killed, a link opens between the realms of the cosmos. The shaman can now dance and reach a trance to enter the spirit world. Once the shaman is there, sharpened with animal senses, matters of importance to his people are taken care of – both good and bad things.

Lewis-Williams studies the rock art from a cognitive, neuropsychological perspective. He connects sign production, the making of these drawings and carvings with hallucinations and states of altered consciousness. The background for this kind of brain activity does not come from the shamans' stories nor from the rock art itself but from modern laboratory experiments using hallucinogenic drugs such as LSD. Trance is a state of mind that can be induced through rhythmic dancing, music, sensory deprivation, intense concentration and even by severe migraine.

¹⁹⁷ San Religion 2009 [Online] Judging from the references, this summary article relies heavily on the work of D.J. Lewis-Williams.



Figure 15: Bushman trance dance¹⁹⁸

The trance has three stages as the state of altered consciousness deepens. The shaman is physically present but the eyes are looking at something else that the Bushmen believe is the spirit world and not just the hallucinations of a drugged human brain.

In the first stage, the trance to the spirit world begins with the visual experience of various geometric shapes. Such things seen without using one's eyes, visions and dreams, are called *entoptic phenomena*. Moving zigzags, chevrons, dots and other flecks of light, grids of lines and U-shapes have been described.

The visions cause the brain to try to make sense of the geometrics. Therefore, in the second stage of the trance the shaman tries somehow to understand the strange visions by associating them with something that looks familiar. For example, the visual U-shapes can be seen in the rock art depiction of honeycombs that have deep religious meaning for the San people.

Finally, in the third stage, the excited brain loosens its grasp of reality and the shaman becomes part of the visual experience. There are hallucinations of movement through holes, strange monsters and animals that maybe very fearsome or kind, depending on

¹⁹⁸ Bushman 2009 [Online]

the situation. Mixed creatures consisting partly of humans, partly of animals are also seen and the shaman may actually feel like an animal with heightened senses.

In brief, the idea of cognitive archaeology is to provide meaning to the signs by referring to the mental processes of the individual. Lewis-Williams did this among the San people by using the trance of the shaman and the imagery created by altered states of consciousness to explain the motifs in rock art and cave paintings. The strength of this approach is in the very long continuity that allows one to speculate that very similar ideas already existed in prehistoric times.

The theory of the ultimate origins of religion as a result of abnormal brain activity is rooted in this background. And indeed, with the Bushmen Lewis-Williams is probably as close to the early mind of humans as one can get by talking to living people today. The world of religion is very complex and difficult to generalise, so the approach of using the most original and most simple process as the key is useful. His application of this principle to Upper Palaeolithic cave art in Europe has established cognitive archaeology as a *sine non qua* in any archaeologist's semiotic toolbox.

Case Studies of Archaeological Semiosis

The Ground for the archaeological semiosis in *Inside the Neolithic Mind* is developed from the relatively simple case of San art and religion. However, religion is not reduced to experiences with the dream world and altered states of consciousness. It is rooted in greater complexity where the Bushman's trance is a stepping stone into a promising but highly complex and difficult study of cognitive archaeology. There are many powerful ideas and suggestions in his works that initially arise from the simple trance-related schema of the Bushman's religious experience.

Two case studies help us to analyse the complex archaeological semiosis in his studies of Neolithic signs. The first case is his interpretation of the clay statues of 'Ain Ghazal and the detached skulls. What can he add from his perspective to the understanding of these Iconic Signs? The second case is the particularly important issue of prehistoric architecture with its connotations of the development of human

society in general during the Neolithic period. How do the homes of Barasana Indians in Columbia, South America help to understand Neolithic structures?

Case One: Eyes - Statues and Detached Skulls

Tiered cosmos is a central concept in Lewis-Williams's view on hard-wired products of the human brain. It is present in a relatively simple form in the San peoples' belief in the material world and spirit world that can be reached by the shamans.¹⁹⁹ The key to understanding is the belief in a tiered structure of the cosmos, which according to the author's view of religion, is a hard-wired product of the brain:

Because the levels are created by the nervous system and are related to various forms of consciousness, people who experience those 'visions' believe that they can actually *see* the levels. That, after all, is how they know what they are like and what beings or animals inhabit them. Although all the senses have the potential to hallucinate, people speak the most about sight. Seeing becomes especially vivid as it reveals 'worlds upon worlds' and the seer passes through realms; transcological travel and preternatural sight go hand in hand. The experience is, at least potentially, a human universal²⁰⁰

The eye is both an iconic and symbolic sign. During the state of trance the eyes of the shaman may look altered to onlookers, even frightening. The San people describe the shining big eyes of their shamans when in a trance. But the shaman is believed to be seeing beyond ordinary mortals and this entoptic phenomenon also focuses attention on the physical eyes. In addition to which, the power of sight is believed to reach also to the nether world and the realm of the dead. Lewis-Williams sites a significant case of comparison to the Neolithic practices when an Alaskan Inuit shaman had been buried with ivory eyes set in the eye sockets of the skull.²⁰¹

¹⁹⁹ This is purposely simplified since the broad palette of cultures discussed by Lewis-Williams and David Pearce goes from prehistory to European philosophers and Jewish-Christian world views. The simple San religion gives a good foundation for understanding the basic line of arguments that can otherwise be overshadowed by the complexity of the issues at hand.

²⁰⁰ Lewis-Williams and Peirce 2005, pp. 69-70.

²⁰¹ *ibid.*, pp. 71-72.

‘Ain Ghazal statues

These ethnographic notes are the key to Lewis-Williams’s interpretation of the 32 large clay statues that were discovered in two closely packed caches in the PPNB settlement of ‘Ain Ghazal. Following Schmandt-Besserat’s study (see chapter 5),²⁰² he first briefly examines the indexical data about how these statues were manufactured and notes that they were intended to be seen from the front. He notes the archaeological context, two specially dug pits under the floors of what were according to the excavators not ordinary living surfaces but “long abandoned houses”. The statues in the two caches are somewhat different which, according to the excavators, may be of chronological significance.

The bodies of all the statues are highly stylized, more so in the second group in which the strange two-headed figurines appear. In both groups the main focus is on the heads and especially the eyes which are “disproportionately large and set far apart”.²⁰³ There is a poignant quote from Brian Fagan who describes these unique and remarkable statues in the Smithsonian Institute after their restoration:

Androgynous and near life-size, the 9,000 year-old plastered figures gazed wide-eyed across the centuries, as if possessed with boundless wisdom. It ... felt as if their eyes were following me around the room - their impact upon me lingers still.²⁰⁴

The findings of the ‘Ain Ghazal statue group together with the Jericho statues found by Garstang raise many questions. Schmandt-Besserat has suggested that these statues could be *ancestors* and represent spirits involved in magic rites. Another suggestion is that the statues represent anthropomorphic gods and goddesses reflecting changes in society and religion in Neolithic Levant. Many other suggestions can be made to explain the meaning of the statues, for example by comparing the burial of these statues under the floor in groups and the manners of burial of people at ‘Ain Ghazal.

²⁰²Schmandt-Besserat 2000.

²⁰³Lewis-Williams 2005, pp. 72-75, Figs. 13, 14.

²⁰⁴Quoted in Lewis-Williams 2005, p. 74.

The evidence is quite limited as currently such statues are known only from two sites through limited excavations.

‘Ain Ghazal art challenges modern interpreters with the presence of two-headed statues in the second cache. Schmandt-Besserat researched meanings for these statues from Mesopotamian sources. Two-headed divinities are mentioned there as having ‘infinite beauty, omnipresence and wisdom’. But because of his almost axiomatic approach Lewis-Williams focuses especially on the Babylonian chief god Marduk who in some texts is said to have ‘four eyes and four ears’ providing the god with limitless sight and hearing. From this he suggests that the two heads duplicate the eyes and thus emphasize the seeing power of the subject. Hearing is not emphasized in this way as the ears on the ‘Ain Ghazal statues are small.

Comparable supernatural seeing and hearing were probably characteristics of the personages that ‘Ain Ghazal figures represented, or, perhaps, more likely, embodied. Their ability to ‘see’ was beyond anything that ordinary human beings could experience. They were frighteningly omniscient.²⁰⁵

This is a telling example of how Lewis-Williams wants to understand the Neolithic mind. The Ground is different from that of Schmandt-Besserat who studied these remarkable discoveries by paying close attention to the indexical signs. For her, the minute examination of archaeological context, excavation reports and field work, chronology, the setting of the caches within the settlement and of the iconic details gives the raw material for interpretation.

Lewis-Williams expected to find and did find the familiar San shaman’s spiritual relatives in the PPNB settlement of ‘Ain Ghazal. He recognizes the iconic sign of eyes and gives the meaning of seeing to the world of the spirits in a three-tiered cosmos created by the brain. The text of Marduk is brought as evidence to show the two heads are symbolic signs for this powerful seeing.

²⁰⁵ Lewis-Williams 2005, p. 75.

As in all his deduction processes also here the validity of the interpretation rests on the validity of the initial parameters:

But we argue that, if we can envisage social and consciousness contracts set in a tiered cosmos, we can go further in explaining the prominence of the eyes of the 'Ain Ghazal figures.²⁰⁶

The exclusive importance Lewis-Williams gives to the eyes of the statues may be related to his work with Bushman's rock art as the Senior Mentor of the university collections. The emphasis on the visual is not meant as a final interpretation of the meaning of the statues but more as an opening statement inviting additional research using the methods and theories of cognitive archaeology. Especially the way the two-headed statues are understood but possibly also the shamanic meaning given to the enlarged eyes poses, however, a danger of twisting the interpretation of the iconic sign according to a predefined concept. There is probably much more in these remarkable statues than just another case of shamanism and altered consciousness at 'Ain Ghazal.

Detached Skulls

The meaning given to the detached skulls is also given by the emphasis on the eyes.

Post-mortem skull removal as part of burial practices seems to have had a long history in the Near East, having started as early as 10th -9th millennium BC and lasting until the end of the 7th millennium BC. The modeling of some adult skulls was a temporary and geographically restricted practice that grew out of this tradition. Eyes were presented in various ways: cowry shells embedded in the plaster (Jericho), bivalve shell fragments embedded in the plaster and partly covered with the plaster eyelids (Jericho); hollow, open cavities narrowed by plaster eyelids (Beisamoun); 'coffee-bean eyes' created by the attachment of plaster eyelids (Kfar HaHoresh) An 'Ain Ghazal skull seems to have had

²⁰⁶ Lewis-Williams 2005, p. 75.

eyes outlined with bitumen, as do the statues from this site. An example exhibited in the Israel Museum, Jerusalem, has been described as a ‘nearly sleeping’ face. Open or closed, the eyes were important.²⁰⁷

Lewis-Williams emphasises the ‘importance of seeing in death’ (Lewis-Williams 2005, Fig. 15) despite the fact that some of the plastered looks seem quite sleepy. The famous Jericho plastered skull found and restored by Kenyon is highly naturalistic and does not seem to over-emphasise the eyes. Rather, the eyes are made in a manner that tries to represent a real human face.

Similar strong influence of the Ground on the interpretation of indexical and iconic signs is clear in the analysis of the positioning of detached skulls. With eyes added for seeing, the group of skulls are arranged so that they look in the same direction:

A final significant point is that many of the skulls were buried in caches (‘skull nests’). Some were found in carefully contrived arrangements. When arranged, it seems that it was not so much the overall configuration that counted (whether they were in circles or rows or arcs) as the fact that they faced in the same direction. At Nevali Çori three pits were found in each of which were two skulls: in all three cases, the skulls faced one another. As we have seen in Chapter 1, a circle of skulls at Jericho were, in Kathleen Kenyon’s phrase, all ‘looking inward’, and a further three sets of skulls were placed so that, within each cluster, they were ‘all looking in the same direction’. This congruence of direction, we believe, may indicate that the skulls were ‘looking’ in the same direction, that they were ‘seeing’ in death as they did in life, but with greater percipience and sharing their perceptions.²⁰⁸

This is indeed a bold attempt to penetrate into the minds of the Neolithic people and to explain the meaning of PPNB Neolithic plastered skulls to those who made them. However, the arrangement into groups ‘looking in the same direction’ is not always there as the recent discovery from Tel Aswad shows (Stordeur and Khawam 2007).

²⁰⁷ Lewis-Williams 2005, p. 75.

²⁰⁸ *ibid.*, p. 77.

The skulls were found in a pile similar to the seven Jericho skulls. The reddish skin colour emphasizes life rather than death and there is a skeleton of a small baby on top of the heads. The skulls are not arranged looking in any specific direction and the eyes appear closed as if they are sleeping rather than open and highly alert in the realm of the spirits and death.

Meaning of the Detached Heads and Burial Rituals

Lewis-Williams rejects the functional explanation that complicated burial rituals in which by burying the dead together with rituals the society gained social cohesion and the people were thus more capable of facing the challenges of life by acting together. But saying that social rituals have positive social function is a tautology that explains nothing.

To break out of the functionalist tautology we suggest that Neolithic people practised serial burials for mythological and, importantly, cosmological reasons, not simply because those religious practices were adaptive to environmental conditions. We suggest that their view of the cosmos entailed multiple stages of post-mortem existence that were lived out in multiple cosmological levels analogous to those we find in small-scale societies worldwide. The living had to ‘help’ the dead from one stage to the next with a series of sometimes widely spaced mortuary rites. In doing so, the living were able to tap into the supernatural percipience and power that the dead exercised during their lives and which was probably enhanced in death. If we had the opportunity to ask Neolithic people why they were processing the skulls, they would have given an answer along these lines.²⁰⁹

Whatever we may think of the details and whether we consider ‘seeing’ the key to understanding the ‘Ain Ghazal statues and heads, this paragraph by Lewis-Williams exceeds the theories proposed by archaeologists in the 20th century who were really at a loss as to how to bridge the distance between ‘us and them’. The beauty of this kind of theoretical Ground for understanding archaeological symbolic signs is that it can be

²⁰⁹ Lewis-Williams 2005, p. 79

tested and it can be used in formulating additional theories along the same lines in cognitive research.

The main risk is in being blinded by the parameters as if they were axioms from which the interpretation is deduced. When this happens, the owner of the beautiful theory aiming at explaining the symbolic sign may ignore the tiresome but all important indexical and iconic signs.

Case Two: 'Ain Ghazal architecture

The understanding of the architectural remains is of greatest importance to prehistoric research. Lewis-Williams carefully explains the Ground of his interpretation in the case of Neolithic buildings as also the case of 'seeing'. It is therefore illuminating to compare this scholar's presuppositions and points of view and how he applies them to archaeological semiosis. His discussion is broad and includes Anatolian Neolithic sites. Nevertheless, we concentrate here only on the case of 'Ain Ghazal which is sufficient to define the outlines of the process of giving meaning to signs.

The Ground

The introductory paragraph in the chapter on prehistoric buildings contains the essential elements that define Lewis-Williams's method of penetrating the Neolithic mind:

One of the principles that help us to understand the interaction between the materiality of Neolithic daily life and more abstract concepts of cosmological and religious belief is the notion that when people of that time built structures, cosmology was never far from their minds. They lived in a tiered cosmos that was *real* – whatever its specific details at different times. Sensations of moving through a subterranean passage to a nether world and also flying to higher realms to encounter beings and animals were wired into their brains. Even in houses designated principally for daily living, the cosmos was enveloping, simply because all life was played out in it, and the level on which people lived was only a part of the whole. What we call the supernatural was not something

separated from daily life; it intruded continuously. Nor could the supernatural be separated from the very structure of the cosmos.²¹⁰

The idea that the building reflects beliefs in cosmos is expressed carefully and is, the same way as shamanism, hard-wired into the brains of the people. The whole includes for the individuals the structures built at the settlement, the natural and also the supernatural. Lewis-Williams is convinced that this was the case also in the Neolithic Near East because the *universal human brain* produces the same basic landscapes everywhere.

We are not able to ask the inhabitants of the Neolithic 'Ain Ghazal about their beliefs concerning their houses. We only have the silent archaeological record that has been revealed in excavations and published. But since the human brain was the same then as it is today we can ask people whom we can reach to describe their beliefs and then apply this ethnographic information to the interpretation of Neolithic houses.

To illustrate just one of the many complex ways in which cosmology can invest architecture we turn to the Barasana Indian people who live in the densely forested Vaupés region of Colombia. Stephen and Christine Hugh-Jones have written the most detailed account of the symbolism of Barasana structures, and it is on their meticulous and insightful research that we draw. We do not, of course, imply that Near Eastern Neolithic beliefs were identical with those of South American Indians; we merely show, in one immensely illuminating instance,

- how the neurologically generated tiered cosmology can be embodied in structures that people build,
- how the results of their labour reproduce and sometimes modify beliefs about cosmos and
- how labour and buildings unite religion, social structure and cosmology.²¹¹

²¹⁰ Lewis-Williams 2005, p. 88.

²¹¹ *ibid.*

Stephen Hugh-Jones describes the Barasana Indian house, *maloca*, and its functions in detail. Extended families live from the cultivation of manioc and the diet is enriched by hunting and fishing. The houses are in the midst of manioc gardens positioned to rivers and have a plaza around them. The buildings are usually one to two hours distance from the next neighbour. The structure can be quite large, for example 24.4 m long and 12.2 m wide and as such can hold some thirty people, brothers and cousins, their wives and children. The interiors are divided for men and women and each group has its own door on the opposite sides of the building. The men's area is the dominant part of the structure and is conceptually divided into the men's circle and a visitor area. Women's area is separated from the main part by a screen and has the kitchen.

Overall, the maloca is a microcosm of the sort of universe that we have described as being neurologically generated: as Stephen Hugh-Jones says, 'the roof is the sky, the house posts are the mountains that support the sky, and the floor-space is earth'. Beneath the floor of the house is the nether world.²¹²

²¹² Lewis-Williams 2005, p. 90.



Figure 16: Interior of a Maloca house ²¹³

On the major east-west beam supporting the roof is a Sun post and the house is oriented along the Sun's path. The centre of the house is the centre of the world. The life of the families is centred on this building from birth to death. The house is thus intimately connected with life, religion and cosmos. The dead are buried under the floor - in the netherworld – with objects that he or she may need there.

Barasana male drink hallucinatory yajé to reach the spirit world in a trance and are supported in this joint trip by the women who sing and encourage them from behind the separation curtain. An important avatar on these trips is the jaguar, a mediator between the material world and the spiritual world of the ancestors, life and death, nature and culture. ²¹⁴

Of special interest for archaeological comparisons are the ritual objects in the house:

²¹³ Interior of a Maloca House 2009 [Online]

²¹⁴ Lewis-Williams 2005, p. 93.

Suspended between the roof and the floor are ritual objects, collectively known as ‘macaw feathers’ – instruments of transcological flight. Christine Hugh-Jones points out that these ‘correspond to the mediating tree and mountain layer between earth and sky which, appropriately enough, was the home of the macaws that [according to Barasana myths] were obtained for ritual ornaments’.²¹⁵

‘Ain Ghazal

Lewis-Williams makes a generic distinction between domestic architecture and special structures and underlines the significance of the latter to civilizations:

many societies have special buildings that lead directly and exclusively to access to the spirit realm. These structures, to which names such as ‘temple’, ‘shrine’ and ‘church’ are variously given, exert influence beyond the nuclear family and embrace larger communities that come together to celebrate and to contact supernatural levels, beings and powers. Some of these ancient structures are among the most impressive architectural creations of humankind.²¹⁶

The subject is of great importance to the study of the rise of Near Eastern civilizations in the 4th millennium BC with the massive temples and palaces of Mesopotamia and Egypt. The roots are in prehistory where they are indicators of social coherence and possibly also tell about the rise of hierarchy in the society. At ‘Ain Ghazal no special structures were found during the excavations of the earliest phases of settlement designated Middle Pre-pottery Neolithic B.’²¹⁷

Apsidal and round LPPNB structures

Excavations of the Late PPNB settlement revealed three rectangular buildings with a semi-circular apse at one end. In the centre of this apse there was in one structure a

²¹⁵ Lewis-Williams 2005, p. 90.

²¹⁶ *ibid.*, p. 95.

²¹⁷ It is important, though, to keep in mind the very limited scale of exposure at this huge site, as Denise Schmandt-Besserat did in her study of the detached skulls and burial habits.

large standing stone and in another one two stones. This sign, the apse and the orthostat, are given the following meaning by Lewis-Williams:

The attention of people entering the apsidal buildings was directed, or controlled: they were led to see what the designers of the structure intended them to see – the curved space of the apse and the adjacent orthostat.²¹⁸

These are understood as religious structures, the excavators called them ‘temples’ and Lewis-Williams emphasises that they precede the building of a ‘palace’, a special house for the ruler of the society. These houses are about the same size as other structures in the LPPNB settlement with average floor space of 7.5 square meters. The lack of significant differences in the sizes of the buildings means that there is no indication of *social differentiation* in the settlement. (Lewis-Williams 2005, p. 96)

Two small circular buildings with only two meter diameter were found.

Each focused on a central hole and had subfloor channels. The floors had been replastered many times, possibly in the performance of repeated rituals. They are so small (less than 5 sq. m/54 sq. ft) that they could hardly have been houses. The excavators think of them as ‘shrines’. One of these was the fourth and final design in a sequence that began with a rectangular building with an apse. It therefore seems that the circular buildings evolved out of the apsidal structures. Rollefson and Kafafi suggest that they were ‘specially dedicated to cult activity, possibly overseen by a shaman or priest who was associated with a particular kinship unit.’²¹⁹

Two ‘temples’ at LPPNB ‘Ain Ghazal

The excavators identified as temples two larger rectangular houses, one 20 sq. m and the other 36 sq. m in area. They contrast them with the small round structures which

²¹⁸ Lewis-Williams 2005, p. 96.

²¹⁹ *ibid.*, p. 97.

were presumably intended for smaller family units and call these communal structures.

In the smaller of the two there is a red-painted hearth: it is surrounded by seven stones, another three standing stones and ‘a large anthropomorphic orthostat’ in the eastern wall - quite a complex arrangement. Standing stones, or whatever they represented, were clearly important to the people of ‘Ain Ghazal, as they were at Göbekli Tepe.

The larger ‘temple’ is even more elaborate. It has two rooms, in one of which is an ‘altar made up of two large limestone slabs supported by six orthostats’ apparently set in pairs, against the centre of the eastern wall. In addition, there is an unpainted hearth in front of the ‘altar’; it was once surrounded by seven flat stones.²²⁰

Inside the two structures there were no other objects that could help the archaeologist to understand what purpose the rooms had. So Lewis-Williams brings the Barasana maloca house to help in giving meaning to the hearths, one painted red and the other unpainted, both surrounded by seven flat stones:

This sort of feature makes one wonder about the hearths in houses: did they serve a practical and a ritual function? We suspect that, whatever its exact nature may have been, the symbolism of fire, a transforming agent, was inevitably present in domestic contexts. There was probably no decisive separation between domestic activities and ritual.²²¹

‘Ain Ghazal people have left no written record about the purpose of the hearths, the orthostats or the entire structures. To understand what was going on in their minds he searches for information from other peoples since they have similarly hard-wired brains producing functionally identical signs. Fire is a ‘transforming agent’ in domestic use, for boiling water, changing the raw meat to cooked and changing dough to bread. This almost mystic power of fire is easily carried to the realm of spirits. The

²²⁰Lewis-Williams 2005, pp. 97-100.

²²¹*ibid.*, p. 100.

nearness of the two realms, material and spiritual, is evident in the everyday life and ritual in Baranasa Indian houses and how it was also at 'Ain Ghazal.²²²

The architectural design of the interior of the larger temple catches Lewis-Williams's attention because the screening wall physically restricts a person standing in the first room from seeing into the other.

The ritual activities that took place within this building were posited on 'seeing and not-seeing', as were activities in Barasana malocas. The immediate implication is one of social distinctions. Indeed, distinctions between what can be seen and what cannot be seen and by whom are features of ritual buildings right through the Neolithic and beyond, even into medieval cathedrals with their sanctuaries and elaborate screens.²²³

In the apsidal and round structures there was no sign that could be interpreted as indicator of developing social hierarchy, one that could be expected in a fast growing settlement practicing agriculture with the necessary storage arrangements for the surplus and caring for livestock. But such a sign is found in the architecture which demonstrates the power of one human to prevent another human from seeing what is hidden.

What more can he say about the special structures? The archaeological findings inside these structures are limited and do not provide evidence of symbolism or ritual. The circles with the holes and subfloor channels are enigmatic.

In order to give more information about what may have happened in the temples of 'Ain Ghazal Lewis-Williams takes a long trip to southern Turkey, Çayönü, where a veritable House of the Dead has been discovered. The structure is dated to Pre-pottery Neolithic and four hundred people had been buried under its floor. The archaeologists

²²² We could continue Lewis-Williams's line of argument saying, for example, that perhaps by parallel thinking the transforming power of fire to prepare food caused the hearth and fire became a transforming agent also for food for anthropomorphic divinities who craved burned offerings. And if so, then we can state that 'Ain Ghazal Neolithic people began to prepare meals for gods and goddesses in sacred structures, predecessors of temples, something that animorphic deities had not needed since animals are afraid of fire and never cook their food.

²²³ Lewis-Williams 2005, pp. 100-101.

also discovered 66 detached human skulls. In its earliest phase the structure had an apsidal end but in later phases the house was rectangular.

The Çayönü special structure had several orthostats and a large slab that the excavators called an altar after traces of human blood and auroch blood were found on it. A burial pit contained human bones and auroch skulls and horns. In another structure there was a slab decorated with the motif of a human head and it also had signs of human blood. In the Terrazo Building was a stone basin with signs of human blood on its rim.²²⁴ Since the detached skulls belong to young male and female adults Brian Hayden²²⁵ suggests that these were human sacrifices rather than ‘venerated ancestors’. The discovery at Kefar HaHoresh of a human skull in a pit with gazelle bones offers a way of comparison to the Terrazo Building human bones and auroch skulls. But here the skull was deliberately set in the pit so that it would actually look like one creature with the gazelle (Lewis-Williams 2005, pp. 80-81, 100).

There are both similarities and differences in the iconic Signs: the ‘altars’ at Çayönü special structures are large stone slabs while those in the two ‘Ain Ghazal ‘temples’ are hearths surrounded by stones. There is a huge missing sign, too – there is no mention of any burials of bodies or heads under the ‘Ain Ghazal buildings.

Lewis-Williams thus brings archaeological signs from Çayönü and Kefar HaHoresh together to help explain the special architecture at ‘Ain Ghazal, and he concludes that also there human sacrifices took place. And so we learn about things that occupied the minds of these people who lived over nine thousand years ago and never wrote anything concerning their belief systems:

The implications of these finds are far-reaching. A unity of opposites is built into the way in which sacrifice bridges the cosmos: human beings and animals, so different in this world, are united – or transmuted into one another – by cosmological beliefs, as they are in Stage 3 hallucinations. Whether there were human and animal sacrifices or not, the interaction in some Neolithic ritual contexts of human beings and

²²⁴ Verhoeven 2002, pp. 238-239.

²²⁵ Hayden 2003, p. 198.

animals and, moreover, their combined cosmological importance seems clear.²²⁶

These are challenging and important interpretations that call for continuous research and demonstrate the significant value of a cognitive approach. The formulation of theories helps to bring together widely scattered evidence and suggests a unified method of interpretation on the basis of human brain activities. The value of this approach is in the ability to formulate more theories and also to test them in the light of accumulating archaeological evidence. Lewis-Williams gives the following summarizing points that are specific enough to test the theory and that can guide further research on Neolithic symbolism and the prehistory of Near Eastern religions:

Standing stones emphasize the vertical dimension of the tiered cosmos.

Holes sunk into the floor and the subfloor channels are indicative of verticality.

Hearths suggest transformation by fire.

Structures that guide what people can and cannot see.

Sacrifice as cosmological transition.

Ritual being associated with social differentiation.

Lewis-Williams 2005, p. 101

In conclusion, Lewis-Williams provides a new interesting semiotic challenge to understanding Neolithic religious symbolism. He suggests that human brains produce iconic signs which an ancient man tried to understand and interpret. This new heuristic model is interesting because, in principle, it offers the possibility to control and verify how the semiotic interpretation has been produced. Nevertheless, even here the Ground plays an important role in the way how iconic signs have been interpreted.

²²⁶ Lewis-Williams 2005, p. 100

Chapter 8. Conclusions

In archaeology, as in all other human activities, the construction and presentation of meaning can be better understood through the use of sign theory. Signs, after all, according to Charles Sanders Peirce, are fundamental to the process of semiosis in which humans recognize the significance of things. In our case studies, excavators found in the field interrelated objects, for example, detached skulls in a burial pit in a Pre-Pottery Neolithic B settlement at Jericho. With the experience and knowledge gained from over 200 years of modern archaeological research the researcher is constantly in the process of archaeological semiosis by trying to give meaning to the objects and their relations.

Ferdinand de Saussure was deeply interested in human language and defined the arbitrary signifier that creates the meaning of the signified in the human mind. He was searching for a scientific way to determine the deeper structures underpinning human language that could be expressed in an objective and generic way. The extended concept of cultural signifiers was then adopted, for example, by social anthropology as various individual human and social activities express the signified. The fundamental idea is valid and often implicitly present in archaeological interpretation in the search for broader meanings to the discovered elements, the physical objects as signs. The focus is on the generic, on the common, on principles and deep structures that acquire meaning from what is known.

As an example of de Saussurean type semiosis we can look at the archaeological understanding of female clay figurines in the Levantine Pottery Neolithic village of Munhata or Sha'ar Hagolan. The sign is a figurine depicting an obese woman, sitting, with a strangely formed head. Archaeological and historical theory concerning the origins of agriculture provides a possible background, a deeper structure that suggests meaning to these signs. Since early farming was highly dependent on environmental factors and the subsistence strategy of the village was thus dependent on rainfall we may assume that famine was a constant threat. So it is assumed that there existed a mental religious structure trying to assist the fields to yield crops and this took on the shape of a prehistoric divinity. The archaeologist may almost automatically suggest on such grounds that the meaning of the strange figurines is expressed through the

words 'fertility goddess'.

Peirce went deeper in his analysis of the processes of giving meaning. Instead of the dyadic signifier and signified, he had introduced, well before de Saussure, another model. For Peirce the sign is triadic and includes the object, sign and interpretant. The power of this model is in the interpretant; the meaning created in the human mind as a relation between the object and the sign. The aim of the Peircean model is not towards constructing generalizations nor searching for deep structures; rather, the focus is of a practical nature, on the actual existing signs and the interpretations created in the mind. There is no 'railroading' of general concepts and theoretical models. Rather an acceptance of the gradual processes of the building of understanding of the meaning from the Firstness of the sign to an understanding in Secondness and final comprehension in Thirdness.

Social theory has increasingly realized the major importance of understanding, 'Verstehen', where the individual scholar is observing some human social activity. There are possibly multiple meanings but the scholar herself, the subject who is giving the meaning, is increasingly present. This does not make the science subjective but rather objectively takes into account the inherent subjectivity in the process of giving significance to things. Peircean sign theory places the interpretant in the human mind to the foreground and this way the sign can be used, as Umberto Eco noted, to lie as well as to tell the truth.

When we look at archaeological evidence from a semiotic point of view, the research literature does not describe prehistoric Jericho as such with its myriads of signs. Rather, archaeological excavation reports, published articles and monographs are an interpretant, the meaning created by the sign. Accordingly, we have "Jericho of Garstang" in his book and we can try to understand the "Jericho of Kenyon" from her massive publications (her monograph is easier for all but true experts of the periods in question). Of course, archaeologists are striving to maximize the objectivity and accuracy of the reports so that every statement can be verified by others. Very dry objective presentations of facts only leave others to the more subjective field of interpreting the meaning of these facts who then include the discoveries in their own archaeological theory and interpretation of the subject.

In the 1870s Peirce defined three types of signs: indexical, iconic and symbolic. He spent much of the rest of his life developing, from these simple beginnings, a huge and complex typology of signs. However, his famous early classification is sufficient and useful for the purposes of this research which concentrates on the interpreter, the archaeologist who is giving meaning to discoveries. The three main categories are very helpful in clarifying the processes in archaeological semiosis and provide a carefully built critical apparatus for penetrating the argumentation presented by the researcher. None of the scholars studied in this work use semiotic terminology or elements of sign theory but this does nevertheless describe quite nicely the flow of thinking in the semiotic processes.

1. *Index*

Peirce's semiotic indexical signs often provide hard facts because Index is directly related to reality. We have argued in this study that all archaeological investigations should always emphasize this fundamental step in interpretation. First of all, archaeological excavations should be made carefully so that all available indexical signs can be preserved. At the same time it must be accepted that some indexical signs will inevitably be destroyed in every archaeological excavation. Therefore, it is important that some parts of a site are always left unexcavated so that future archaeologists may have the possibility of checking and finding more evidence of archaeological details in the site.

Each archaeological find has many indexical signs. Materials and techniques used in different parts of the find can be determined carefully and the context with stratum and layers defined accurately. It is then possible to argue whether or not a certain find has been made locally or imported, what is intrusive and what in situ. From our case studies, it becomes clear that the work of John Garstang is an example of excavations that are technically and methodically not well suited for the accuracy demanded by prehistoric research. Too many workers, too few supervisors, weak documentation and limited publication of the field records all contribute to this low evaluation of his work. Because of the lack of accuracy he even bends the hard facts as in the case of the so-called Megaron. Nevertheless, the credit of discovering and identifying hitherto almost unknown pre-pottery Neolithic culture in rich undisturbed deposits at the base

of the Tel belongs to him.

All details gathered from the field work are important in archaeological argumentation but the Peircean approach underlines the identification of significant signs as key to giving meaning to the discovery. Kathleen M. Kenyon meticulously applied the Wheeler-Kenyon method to her Jericho excavations but the amount of information from the rather limited trenches is such that the last volumes were published after her death by T.A. Holland. The sheer quantity of indexical signs recorded by Kenyon is at one extreme of the scale whereas the rather limited work of Garstang represents the other.

The interpretation of indexical signs is not a purely objective endeavour despite its nature as being representative of reality. Every archaeologist knows that field work includes decisions and evaluations and the field record on a locus or basket is already the result of selecting those deemed significant. The budget, the skill of the workers and supervisors, the time assigned for the project and many other real life factors influence the way excavation results are published for others to read. In this way, the interpretation of the material record also reflects the person who is directing and/or publishing the work; essentially, the interpreter's role is present from the preliminary to the final stages of production.

All the scholars studied in the cases chosen for this book deal with indexical signs, especially, of course Kathleen M. Kenyon. This type of sign is particularly central to the work of Denise Schmandt-Besserat, who insisted on trying to personally handle every detached skull she discusses, and to Miller who reported vividly as if straight from the dusty heat of the field at Sha'ar Hagolan. However, they approach these signs differently when trying to decipher their meaning.

The archaeological semiosis of Schmandt-Besserat is characterized by pure Aristotelian classification and intra- and inter-site comparative work. She tries to derive meaning for the detached skulls first by grouping them by selected criteria within 'Ain Ghazal, then at other sites where they have been found, and by comparing these groups to each other. In my opinion, the semiotic basis for this approach

towards first understanding the significance of indexical signs is derived from her work on prehistoric tokens. She amasses considerable information that is most significant in demolishing a number of theories put forward for the plastered human crania. Her frustration is obvious in the final publication. However, the negative results are important in themselves and we can understand that classifying and comparing logical signs made by humans, such as numerical tokens, yields more easily convincing results than dealing with prehistoric belief systems and symbolism.

Miller, on the other hand, emphasises in her semiosis of indexical signs the importance of the context in which the Yarmukian figurines were discovered. The trend has its background probably in Yosef Garfinkel, the director of the Sha'ar Hagolan Project, who himself was frustrated by the lack of contextual data and archaeological exposure of the site during previous excavations. Miller also furnishes a wealth of indexical signs and gains significant information from the contextual analysis. Her effort was not defeated by the symbolic nature of the figurines and pebbles but rather by their very strange distribution pattern. Instead of finding a clear context that would demonstrate where and how these figurines were placed in the buildings, doorways or courtyards, the excavators found such figurines and their pieces scattered all over the site in a very unhelpful way. One of the figurines had real context and it is given special discussion in Miller's highly accurate study of indexical signs.

2. Iconic

The second step is to examine iconic signs. This natural approach is inherent in all the case studies in this book as prehistoric art objects or funeral arrangements look like something and obviously present something. The study shows quite interesting variations and nuances in the way archaeologists themselves understand iconic signs.

Moshe Stekelis suggested that the pebbles with a few incised lines on top and with their elongated shape are phallic symbols. And they indeed do look like that. His interpretation was not challenged before Yosef Garfinkel did so. As Garfinkel and Miller show, the comparison of the pebbles in a group makes it possible to map iconic charts of Pottery Neolithic symbolism so that the haphazardly drawn details in

one pebble can be understood by other more detailed pebbles. The focus is not on the modern scholar's association of the iconic sign but in setting the pebbles in their own context and giving them a chance to explain themselves. Anyone, and this does not specially require archaeological training, can understand the iconic signs when the pebbles are set in a group and the facial features become clear: the iconic presentation does not depict a penis but a human face.

Iconic signs are by their character open to multiple interpretations in the light of Peircean semiotics. Therefore, it is important to emphasize that in this respect scholars often find different interpretations. Iconic signs may lead them to find some parallels in ancient or modern times which then result in the Ground for the interpretation. This point is illustrated nicely by comparing the interpretation of the iconic sign of the modelled skulls by Schmandt-Besserat and Lewis-Williamson. These modern scholars give almost opposite interpretations of the eyes and the look on the faces. Schmandt-Besserat describes the dreamy, half sleepy expression on many of the faces, an impression created by the shells used as eyes and other details.

In the perspective of the five modelled skull assemblages, Ain Ghazal stand as the point of departure of a millennium long Levantine tradition of plastering severed heads. Skull 88-1 exhibits an outstanding quality of craftsmanship with unusually harmonious features and an enigmatic dreamy expression.²²⁷

Lewis-Williams, instead, emphasises the powerful and alert sight of shamans and suggests that as in the 'Ain Ghazal statues also in the plastered skulls the eyes were particularly made to indicate seeing in the other reality. Schmandt-Besserat has noted also a kind of feline look in these iconic signs, an effect on the viewer also caused by the technique of using shells for the eyes. Obviously, if correct, this meaning given to the iconic sign has far reaching consequences for the understanding of these skulls.

The female figurine is a very powerful iconic sign in the Yarmukian culture. Miller analyses the iconic aspects in detail from head to toe leaving nothing unremarked. The

²²⁷ Schmandt-Besserat 2001, p. 11.

process is that of seeing and recognizing familiar features. We see here a modern human looking at the product of another human who lived almost ten thousand years earlier. Both have heads, eyes, ears, hands, legs and clothing, however the eyes are strange and the head is unusual and the special clothing may indicate social status. Why is the figurine depicted as being so obese?

Tamar Noy sees in the eyes grain seeds and associates the figurine with agriculture (or sees the grain because of the theory that this is a fertility goddess). Gopher and Omri see the eyes representing the female sex organ, thus, also associating the figurine with fertility. Garfinkel thinks that the creators were trying to imitate the Pre-Pottery Neolithic cowry shells such as the eyes of the plastered skulls. All these scholars are searching for symbolic signs in the iconic. According to Peirce, a sign may well present all the three types and be indexical, iconic and symbolic.

There is a real difficulty in understanding the original meaning of the iconic sign in the prehistoric context when no texts help the archaeologist directly to understand what is depicted. Had the Yarmukian people written a dedication on a pedestal “To the Matron” or “To the Goddess” or some such, the matter would be much easier to decipher. We can compare this to a situation where a person who knows nothing about Judaism or Christianity finds in a desert cave an icon depicting, for example, Elijah being fed by a raven. With no knowledge of the Bible she might understand many iconic signs about this icon and yet the real meaning of the object would remain obscure. What its function was, why this man is depicted in such a strange formal manner with a halo around his head and so forth. It might be impossible to be certain about the meaning of prehistoric iconic signs regardless of the many familiar aspects we recognize in the object.

Is it all in the eye of the beholder? Peircean semiotics does not give an answer to which of the meanings is correct. It simply describes the process by which the iconic sign creates an interpretant and even suggests that there may be multiple meanings. Possibly none of the interpretants listed above are correct and the prehistoric artist had something entirely different in mind when making those eyes. But these Signs do create meanings also in the modern mind.

3. Symbolic

The third step is examination of symbolic signs. They are always dependent on the interpreter and, therefore, the archaeologist's role is fundamental in this semiotic process. The archaeological find itself does not contain any symbolic sign but it is the interpreter who recognizes it. This produces a modern interpretation which in itself is also a (modern) symbolic sign and which tries to interpret the ancient symbolic sign in a certain way. This study has shown how difficult this process in fact is.

In the past some archaeologists may have preferred to ignore as secondary the symbolism and the belief systems prehistoric symbolic signs reflect and, instead, to concentrate on the primary facts, hard scientifically researchable data in the tradition of Gordon V. Childe's materialism. However, this approach concentrating mostly on indexical signs about the progress of "Neolithic Revolution" in early farming villages, hunted animals, domestication and all such important aspects of human existence including iconic signs depicting such activities tends to reduce man to an anonymous element in some deep structural process. On the other hand, an archaeologist who takes seriously the symbolic sign in prehistoric society sees humanity in its early stages more comprehensively and thus encounters man as a complete physical, social, spiritual being, an individual who is not so different from modern man in his or her inventions, dreams, hopes and aspirations.

In fact, the case studies in this book demonstrate, how decidedly and forcefully scholars try to penetrate into the Neolithic mind and understand the symbolic sign. It is not just human curiosity but it is a deep need to understand our ancestors and the frustration when there is not enough clear evidence to solve the lingering questions. Great ingenuity is shown by these scholars, each in his or her own way in trying to decipher the mysteries of Levantine Neolithic symbolism.

Denise Schmandt-Besserat works very hard using classification and careful comparison to deduce the meaning of the detached skulls and the funeral traditions possibly even with the help of later Near Eastern texts and pictures. Michelle A. Miller is determined that by studying all the aspects in the Yarmukian signs, indexical as well as iconic, in their proper archaeological context she will eventually gain

understanding of the symbolic sign.

David Lewis-Williams chooses a rather different approach. From his background in the studying of the San people in South Africa he starts to build a neurological structure of the human brain where symbolic ideas are determined by the cortex and other parts of the brain. He suggests that much of the iconic and symbolic can be understood universally as products of brain activities that are similar in all parts of the modern world and also in the recent past of Neolithic Levant and Anatolia or in the heads of the people who created Upper Palaeolithic cave art.

After building a basic model with the Bushman, he then travels the world among modern native societies in the Amazon River area and elsewhere, penetrates to prehistoric England and the Near East comparing, suggesting meanings and completing his theory with facts from the field. Thus, he is able to suggest from the deep neuro-structural model meanings to symbolic signs found at 'Ain Ghazal, Jericho and elsewhere in the Neolithic Levant. However, as our case studies demonstrate, this approach suffers from the same dangers as the structuralism founded on de Saussure's semiotics. Everything starts to look like shamanism, the details are not as important as the underlying generic concept and so the bloody knife is a symbolic sign of a sacrifice, the meaning of which we know from the universal knowledge of what sacrifice as an idea deeply rooted in human brain chemistry and neural wirings is.

Ground

The case studies include profiling of the scholars in an attempt to define the semiotic Ground that helps them to connect object to sign and cause the interpretant in their mind. This is not as deterministic as it sounds because each of the studied researchers is describing new discoveries, new observations and new ideas that develop during the semiotic process. This makes their writing such fascinating reading as we can follow almost step by step the reasoning, the arguing for and against, the verification of facts and the resulting interpretant of the sign and see archaeological semiosis in action.

Several types of Ground were noted in the research. Garstang's Jericho is an example of meanings given rather freely from a pre-existent view of what Levantine Neolithic must have been. His book paints the Neolithic almost like the modern imagine of Lot's Wife. Some meanings are provided with very little connections to facts and some even by distorting the facts a little or by extending them beyond what they are. It is as if John Garstang has in his mind a touching human painting of Neolithic world influenced by Sir James Georg Frazer's *Golden Bough*. Although he takes the credit for discovering Jericho Neolithic, his interpretations of the findings are practically forgotten in scholarly literature as baseless products of fertile imagination. K.M. Kenyon hardly mentions them at all.

Kenyon's Jericho is the product of a professional archaeologist with excellent skills of observation, strictly stratigraphic digging, and a highly accurate recording of details and the careful scientific mind of one of the greatest archaeologists of the 20th century. Just ten years after Garstang's excavations she produced a Jericho that modified the understanding of the history of humanity. Indexical sign was for her the most important and all important among them was proper understanding of the layers of soil in the thick deposits of Jericho Neolithic. Her work is the foundation for the study of the archaeology of Levantine Neolithic and the very detailed publication of the facts is of lasting value to mankind.

Why did the two scholars reach such a different understanding of Jericho Neolithic? Both observed similar indexical signs but the semiotic Ground is very different. Garstang was searching for understanding from what he knew, or assumed he knew, about prehistory. Kenyon pursued the hard facts and did not assume very much before having acquired them. (Interestingly, she abandoned her own strict rules of not digging into the section wall to rescue the plastered skulls after the end of the season - and then totally misunderstood their true context.)

The example of Denis Schmandt-Besserat and Michelle A. Miller in the footsteps of Kathleen M. Kenyon demonstrates that archaeological semiosis rests on the foundations of indexical signs. They also demonstrate that once the facts on the ground are correctly understood, there is a need to try to understand iconic signs, a process that is intimately involved with the most difficult area of interpretation, the

symbolic signs.

The case studies discussed in this book are just a small selection from the vast literature written by archaeologists trying to make sense of signs from the past. Discussion will continue, new methodical approaches will be developed and existing ones will be refined to gain a better understanding and to penetrate the Neolithic mind deeply. But beyond all this interpretation and analysis of interpretation this study demonstrates that there is one overwhelmingly significant way to increase our understanding of the signs created in antiquity: archaeological discovery.

Jericho was a major discovery but Garstang's work left many fundamental questions open. The understanding of the meaning of the Neolithic layers and their contents was radically deepened and modified by going back out to excavate more of the site. In this way Kathleen M. Kenyon was able to increase our understanding of prehistoric Jericho and Yosef Garfinkel revolutionized the understanding of Yarmukian culture at Sha'ar Hagolan. The field archaeologists are nourishing the processes of archaeological semiosis with new important facts and insights. Similarly, additional discoveries will someday deepen our understanding of the meaning of the detached plastered heads in the ongoing processes of archaeological semiosis.

Archaeological discovery has brought a vast new understanding of the question with which I started my personal journey to the past of the Near East, the symbolism in the earliest Levantine temple structures and objects. Fascinating new discoveries at Göbekli Tepe and also elsewhere have pushed the research of this subject chronologically far back in time from Neolithic to Epipaleolithic and geographically from southern Levant to the borders of modern Syria and Turkey. My semiotic Ground for interpretation was a model, a theory, about the evolution of prehistoric society and religion. I argued that anthropomorphic deities were understood as needing shelter and food and care like humans. But facts revealed from the ground have shown, instead, that special structures were already built for animorphic deities before the building of houses for humans had begun. Thus the meaning given to the earliest known sacred structures for Epipaleolithic people in the Levant was not necessarily based on a logical analogy translating human needs to divine needs. The sign is out there waiting to be discovered, recognized and given meaning.

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The subject of this book is the study of the processes of archaeological semiosis; to examine how archaeologists give meaning to discoveries. The analyses are based on the branch of semiotics originally developed by Charles Sanders Peirce over a hundred years ago but that have only recently gained stronger interest by those theorists of archaeological research who have come to realize the limitations of the more influential de Saussurean branch of semiotics. The purpose is not to provide yet another interpretation of Neolithic symbolism from Southern Levant but to illuminate through case studies how modern archaeologists give meaning to the fascinating prehistoric discoveries.



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