Signs of Shared Complexity
Glyptic and Large Scale Social Transformations in the 4th – 3rd Millennia Near East

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Also cause and effect don't seem to hang properly together. At one time huge and powerful causes give rise to tiny and unimpressive little effects, occasionally to none at all; at another a brisk little cause gives birth to a colossal effect.

Søren Kierkegaard, *Diapsalmata* 1843
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Dissertation Abstract

Important social transformations took place during the late 4\textsuperscript{th} – early 3\textsuperscript{rd} millennia BC in the greater Near East. These changes were reflected in the archaeological record, but a component of these transformations was the result of interplay between cognition and material culture. A few key concepts are approached in this thesis in an attempt to understand the relationship between ideas and their material expressions, and the way that this interaction resulted in social change: simultaneity and diffusion in archaeological analysis, emerging complexity and in particular, what has been termed the “Urban Revolution” near the end of the 4\textsuperscript{th} millennium, and the nature of identity in the formation of social settings. Glyptic artefacts (seals and seal impressions) from the 4\textsuperscript{th} - 3\textsuperscript{rd} millennia greater Near East are examined stylistically and statistically in order to elucidate these key theoretical concepts. Cylinder seals are perhaps the perfect artefacts with which to trace emergent complexity because through these materials one can track economic transactions and inter-regional exchanges; but they were also works of art, and through an analysis of the glyptic styles, political, social, religious, and ideological characteristics can be interpreted. From the glyptic analysis it can be determined that the social transformations that took place were the result of a change in perception of identity, from identity of smaller-scale groups with more permeable boundaries to more rigid regional state-level identities. These identities became established not through stimulus-diffusion from a core to a periphery; rather the identities were formed as a response to a complex Network of interacting, “more-or-less peer” agents. Early states were defined by a sense of ‘same’ and ‘other’ that could have only come about through individual and group interaction on many different levels.

In this study, a general survey of prehistoric external symbolic storage devices will be approached. The nature of the Near Eastern Network that resulted in these large-scale social transformations will be elucidated through a description of the materials used to exchange information in prehistory. Secondly, it will be shown that the glyptic styles in multiple regions in the Near East began to fragment according to the individual circumstances affecting the respective regions, reflecting the establishment of state-level identities. Through calibrated radiocarbon dating, it appears that these changes did not take place in a definable sequence, but rather happened so quickly that we ought to regard them as having occurred simultaneously. Finally, incipient writing and its equivalents as expressions of identity can be seen in many different locations in the 3\textsuperscript{rd} millennium, and evidence will be provided that the so-called “peripheral” communities exhibit qualitative similarities to the traditional “core” communities, such that they can truly be identified as possessing state-level identities. This further underscores the simultaneous nature of the formation of early state society, and the need to understand the way cognition and information exchange relates to the material record.
Table of Contents

Table of Contents

List of Figures (i-iv)

Frontispiece (v-ix)

Introduction (x-xi)

Chapter 1
Theory and Literature Review (1-39)

Chapter Introduction

Section I: Thesis Statement
Thesis Statement
Theory
Modelling
Analysis

Section II: Historiography
Historiography
Causality

Section III: A Case for a Cognitive Archaeology
A Case for a Cognitive Archaeology

Section IV: Literature Review of Archaeology and the Origins of Civilisation
Vere Gordon Childe
Karl Wittfogel
Robert Carneiro
Colin Renfrew
Robert McCormick Adams
Guillermo Algaze
What is Civilisation?
- City Invincible
Definition of a State
Charles Redman
Chapter 2
The Near Eastern Network

Chapter Introduction

Section I: The Near Eastern Network
Definition of the Near Eastern Network

Section II: Materialism
Materialism
Dynamic Relations of More-or-Less Peers

Section III: Meme’s the Word
Evaluation of the Evidence
Meme Theory
Stylistic Analysis
Dynamic Systems and Culture Change

Summary

Chapter 3
Calibrated Radiocarbon Dating and Comparative Stratigraphy

Chapter Introduction

Legitimacy of Chronology

Section I: The Prehistoric Periods
Egypt
Palestine / Transjordan
North and South Mesopotamia, Iran, and Anatolia
The Uruk Expansion

Section II: Two Centuries of Cultural Transformations
Chapter 4

Phase 1: Signs, Seals and Tokens

Chapter Introduction

Section I: Administrative Residue
Administrative Residue
Prehistoric Tokens
Development of Tokens as Symbolic Devices
Neolithic Symbolic Representation
Plain Tokens
Complex Tokens

Section II: Stamp Seals as Administrative Tools
Stamp Seals as Administrative Tools
Administrative Residue as Expression of Bureaucracy
Stamp Seals as Expressions of Culture
Survey of Stamp Seals: Neolithic through Early Bronze Age

Section III: The Uruk Phenomenon
Social Ideology in the 4th Millennium
Material Cultures and Sequential Background of Phase 1
Archaeological Context
South Mesopotamia
Sites Considered Part of the Greater 'Uruk' Culture
Sites in the Southern Mesopotamian Plain
Uruk
Anu Ziggurat
Eanna Precinct
Tell Abu Salabikh
Eridu
Tell Uqair
Ur
Middle Euphrates Sites
   Habuha Kabira
   Tell Qannas
   Jebel Aruda
   Tell Sheikh Hassan
   Hacinebi Tepe

Upper Euphrates Sites
   Hassek Höyük
   Arslantepe

Khabur Valley
   Tell Brak

Iranian Sites
   Susa
   Choga Mish
   Godin Tepe

Synthesis

Northern Syria

Section IV: The Greater Near East

Anatolia
Proto-Elam

Egypt
   Visitors in the Delta? The Maadi of Lower Egypt
   Naqada I / Amratian

Southern Levant
   The Early Bronze Age
   Early Bronze IA
   Early Bronze IB
   Egyptian/Palestinian Contact in Late EB I (B)
   Late EB I (B) in Palestine/Transjordan

Section V: Early Writing and Numeracy

Early Writing and Numeracy
Numeracy and Writing
Early Scripts
   Egypt
   Southern Mesopotamia
   Northern Mesopotamia
   Iran
   Indus Valley

Summary

Chapter 5 (165-268)

Phase 2: Presentation and Evaluation of the Glyptic Corpus

Chapter Introduction
Phase 2
Observations from the Glyptic Corpus
I. Statistical Observations
   A. Height to Diameter Ratio
      Southern Mesopotamia
         Uruk
         Kish
         Tello
         Ur
         Nippur and Larsa
         Fara
      Iran
         Susa
      Northern Mesopotamia
         Nineveh and Sulaimeh
         Tepe Gawra
      Northern Mesopotamia - Khabur
      Diyala Region
         Diyala Types I and II
         Type I
         Type II
      Palestine
      Egypt
      T-Tests
   B. Height Analysis Including Seal Impressions
   C. Materials
      - Colours
   D. Stamp v. Cylinder Seal
II. Impressions
III. Emblemic Designs in the 3rd millennium
   A. Egypt
   B. Palestine and Syria
   C. Northern Mesopotamia
   D. Anatolia
      D1. (Part 2) Syria-Anatolia: the case of Jerablus Tahtani
   E. Sumer
   F. Elam and Iran
   G. Indus Valley
   H. The Aegean and the Eastern Mediterranean
Conclusion
   Synthesis
   Memes
Chapter 6
Phase 3: The New World Order and State Level Identity

Chapter Introduction

Section I: Society Structured within a New Framework
Society Structured within a New Framework
Society and Economy
Southern Mesopotamia
   *The Kengir League*
Northern Mesopotamia
   *No Kengir League*
Anatolia
Elam
Egypt
   *Dynastic Egypt in the Archaic Periods*
   *Rise to Civilisation in Egypt*
   *Naqada II-III / Gerzean*
Southern Levant
   *Early Bronze II: Urbanisation*
   *‘Abydos’ Ware*
   *Early Bronze III*
   *Khirbet Kerak Ware*
   *Early State Formation in Palestine/Transjordan*
Indus Valley

Section II: Writing and Literature
Early Scripts
   *Egyptian Hieroglyphics*
   *Sumerian*
   *Abu Salabikh*
   *Akkadian and Early Northwest Semitic*
   *Mari*
   *Ebla*
   *Tell Beydar*
Elamite in Iran
Indus Valley Script
Glyptic Styles in Literate Cultures
   *Egypt*
   *South and North Mesopotamia*
   *Elam*

Section III: Exchange Relations
Exchange Relations
   *“Self” and “Other”*

Summary
Chapter 7
Conclusion and Modelling

Chapter Introduction

Section I: Thesis Statement
Section II: Fully Incorporated Model
  External Symbolic Storage
  Memes
Section III: Validity of Approach
  Validity of Approach
  Areas for Further Study

Appendices

Appendix 1 - Introduction
  Excel File: Corpus of Glyptic Artefacts
  Map of Areas and Sites Mentioned in Appendix 1
  Original Drawings from the Ashmolean Museum

Appendix 1a - Introduction
  Excel File: Kish Glyptic

Bibliography
# List of Figures

1. How objects fit into the Mind/Material loop - *Page 11*
2. How seals fit into the Mind/Material loop - *Page 12*
3. Map showing spread of Ubaid material culture in Southwest Asia - *Page 52*
4. Interaction between identities within a non-state-level network - *Page 53*
5. Interaction between identities within a state-level network - *Page 53*
6. The coat-of-arms of the University of Edinburgh - *Page 54*
7. Predynastic chronology of Ancient Egypt - *Page 63*
8. Chronology for Palestine/Transjordan - *Page 64*
9. Regional chronology from SAR conference - *Page 66*
10. Northern Mesopotamian chronology - *Page 68*
11. Southern Mesopotamian chronology - *Page 68*
12. Anatolian chronology - *Page 69*
13. Susiana chronology - *Page 69*
14. MASCA Calibrated radiocarbon dates from Tall-i Malyan - *Page 70*
15. Oxcal Calibrated radiocarbon dates: Tall-i Malyan Transitional Proto-Elamite Phase - *Page 71*
16. Oxcal Calibrated radiocarbon dates: Jebel Aruda Late Uruk Phase - *Page 71*
17. Comparative Chronologies - *Page 75*
18. Calibration curve wiggle at 2900-2800 BC - *Page 80*
19. Inscribed Ravi sherd from Harappa - *Page 84*
20. Seal impression from Harappa - *Page 85*
21. Examples of tokens and envelopes - *Page 93*
22. A map showing the geographic spread of tokens - *Page 100*
23. Examples of plain tokens - *Page 101*
24. Examples of complex tokens - *Page 103*
25. Map of Bevel Rimmed Bowl distribution in Southwest Asia - *Page 110*
26. Egyptian/Palestinian correlation - *Page 149*
27. Periodisation of Naqada sequence - *Page 157*
28. Proto-hieroglyphic tags from Abydos U-j - Page 158
29. Stratigraphic distribution of Diyala cylinder seals - Page 175
30. Differences in metric styles – tall-skinny vs. short-squat - Page 177
31. Cylinder seal analysis: Uruk Phases 1, 2 and 3 overlay - Page 178
32. Cylinder seal analysis: Kish and Jemdet Nasr Phases 2 and 3 overlay - Page 183
33. Cylinder seal analysis: Kish 3rd – 2nd Millennium BC Cylinder Seals – from Appendix 1a - Page 185
34. Examples of a ‘Kish’ style - Page 187
35. Cylinder seal analysis: Tello Phases 1, 2 and 3 overlay - Page 188
36. Cylinder seal analysis: Ur Phases 1, 2 and 3 overlay - Page 189
37. Cylinder seal analysis: Nippur and Larsa Phase 1 overlay - Page 191
38. Cylinder seal analysis: Fara Phases 2 and 3 overlay - Page 193
39. Cylinder seal analysis: Susa Phases 1, 2 and 3 overlay - Page 194
40. Cylinder seal analysis: Susa Periods: Proto-urban recent; Proto-elanite contemporary with tablets; Proto-elanite Mesopotamian Style; Proto-elanite Classic; Proto-elanite Old; Susa Pre-Sargonic; Susa ED - Page 195
40a. Cylinder seal analysis: Susa Mesopotamian Style - Page 197
40b. Cylinder seal analysis: Susa Proto-elanite contemporary with tablets - Page 198
40c. Cylinder seal analysis: Susa Proto-elanite Classic - Page 199
40d. Cylinder seal analysis: Susa Presargonic - Page 200
41. Cylinder seal analysis: Combined Nineveh and Suleimeh Phases 1, 2 and 3 overlay - Page 201
42. Cylinder seal analysis: Tepe Gawra Phases 2 and 3 overlay - Page 202
43. Cylinder seal analysis: Tell Brak Phases 1 and 2 overlay - Page 203
44. Cylinder seal analysis: Diyala Phases 1, 2 and 3 overlay - Page 205
45. Cylinder seal analysis: Palestine Phases 1, 2 and 3 overlay - Page 209
46. Cylinder seal analysis: Egypt Phases 1 and 2 overlay - Page 210
47. T-Test: Paired Sample Statistics, Correlations and Test - Page 212-3
48. Height analysis of seals by region, Phase 1 - Page 215
49. Height analysis of seals by region, Phase 2 - Page 216
50. Height analysis of seals by region, Phase 3 - Page 217
51. Colour analysis of seals by region, Phase 1 - Page 220
52. Colour analysis of seals by region, Phase 2 - Page 221
53. Colour analysis of seals by region, Phase 3 - Page 222
53a. Colour analysis of entire glyptic corpus, Phase 1 - Page 224
53b. Colour analysis of entire glyptic corpus, Phase 1 - Page 225
53c. Colour analysis of entire glyptic corpus, Phase 1 - Page 225
54. Imported cylinder seal found in Egypt - Page 230
55. Short and squat cylinder seals from Egypt - Page 231
56. Typical 3rd millennium Egyptian cylinder seal construction - Page 232
57. Hama/Palestine design comparison - Page 233
58. Byblos/Palestine lion motif comparison - Page 235
59. Lerna/Palestine seal impression comparison - Page 236
60. ‘Squatting figures’ seal design from Tell Brak - Page 237
61. Figural scene from Phase 1 Nineveh - Page 238
62. Seal impression from 3rd millennium Tell Brak - Page 239
63. Seal impression from 3rd millennium Nineveh - Page 239
64. ‘Dancing animals’ scene from Tell Brak seal impression - Page 240
65. Seal impressions from Tell Sabi Abyad - Page 241
66. Stamp seal from Degirmentepe - Page 241
67. Comparison of birdman motifs - Page 243
68. Examples of école syrienne seals - Page 244
69. Seal impression on sherd from Jerablus Tahtani - Page 245
70. Sealed cone from Jerablus Tahtani - Page 246
71. Typical Phase 2 (Jemdet Nasr) style seal - Page 249
72. Reconstruction of a ‘city seal’ - Page 250
73. ‘Fara’ style seal design drawings - Page 251
74. Figural style seal - Page 252
75. Increasing standardisation in animal depiction seen in Jemdet Nasr style seal - Page 253
76. Jemdet Nasr style seal, animal scene - Page 253
77. Abstract ‘Brocade’ style animal scene - Page 253
78. Early Dynastic II seal - Page 254
79. Seals from Tepe Hissar - Page 258
80. Imported Indian seal from Tell Asmar - Page 259
81. Jemdet Nasr style seal impressions, one with Indus motif - Page 260
82. 3rd millennium Indus cylinder seal - Page 261
83. The Narmer Palette - Page 285
84. Social Organisation of the Early Bronze Age Palestine - Page 293
85. Indus Chronology - Page 299
86. Ravi Phase map of the Indus Valley - Page 300
87. Peribsen cylinder seal - Page 310
88. Egyptian hieroglyphic sentence - Page 311
89. 4th millennium script forms from southern Mesopotamia - Page 313
90. Mid-3rd millennium script forms from southern Mesopotamia - Page 314
91. Northern Semitic script variations - Page 234
92. Seal impressed proto-Elamite tablet - Page 328
93. Inscribed Harappan sherd - Page 329
94. Unicorn Seal from Harappa - Page 329
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Introduction

The organisation of this thesis is extremely important to the conclusions drawn herein. It is akin to climbing a ladder, as each step must be made in sequence in order to reach the objective. Therefore, a brief overview of the structure is given in this introduction.

Chapter 1 presents the bulk of the thesis statement, even though this thesis statement is difficult to sum up into a single phrase. A case will be made that a new methodological approach and a new theoretical framework should be adopted in order to shed light on some complex archaeological problems. This case will be made through both a presentation of the problems at hand, and through a literature review of important authors' contributions to our understanding.

Chapter 2 expands upon the methodology used in this thesis by examining the way in which we study human societies. The relationship between the material world and cognition will be examined theoretically by looking at concepts such as style, signification and the way that the mind works.

Chapter 3 provides the time and the place for this thesis. A particular focus in the chronological section is to emphasise the fact that our method of dating only allows us a certain degree of accuracy. It is argued that rather than simplistically assigning chronological primacy to one culture or another, co-evolution should be considered as a valid and appealing way to view social changes, especially when our dates lack the necessary precision. There will be three phases outlined in Chapter 3, Phase 1 corresponding to the 'before', Phase 2 to the 'during' and Phase 3 to the 'after'. The social change dealt with in this thesis corresponds to these phases. Also, methodologically we will be only looking at cultures that are represented in the chosen artefactual record, even though the actual social changes may have been spread over a larger area than observable through this approach.

Chapter 4 deals with the Phase 1, or 'before' phase of development dealt with in this thesis. A case will be made that a complex Network existed, whose dynamics resulted in the formation of state-level identities during Phase 2.
Chapter 5, through a detailed analysis of statistical and stylistic traits taken from the Corpus of Glyptic Artefacts (Appendix 1), will explain the nature of the process of early state formation in Phase 2.

Chapter 6 will give a basic outline of the results of the social changes that took place in Phase 2. Phase 3 society will be shown to have been organised by a new set of rules established from within a new layer of identity.

Chapter 7 will recapitulate the basic themes of this thesis, expand the implications of what was demonstrated, and suggest avenues for further research.
This thesis is an attempt to explain the transformations that took place in the period that has been termed the Urban Revolution. The questions relating to the origins of civilisation are some of the most important archaeology has approached. Enigmatic as these questions may be, their answers remain vital to knowledge of the human condition as a whole, and so they are worthy of pursuit. This being said, the idea that theoretical modelling can accurately characterise historical processes is far from universally accepted. Even the degree to which we can know the past is debatable and uncertain. Therefore, in Section I, we will attempt to establish exactly what we hope to achieve here through theory, modelling, and analysis of the past.

Secondly (Section II), because we will be attempting to explain a major transitional period in human history, that is, the Urban Revolution, the notion of causality needs to be addressed. While the causality behind the transformations in the periods in question will be fleshed out as the archaeological data is presented, the mere concept that causes can be known is a somewhat problematic assertion. It will be argued that while Chaos Theory effectively put an end to the simplistic 2-dimensional and unilinear reductionist models of causality, the scientific study of complexity has provided us with a new approach to some very ancient questions. This new approach embraces, rather than hoping to explain away, the multiplicity in causality and reality. Rather than accept defeat at the sight of an infinite number of possibilities, the study of complexity seeks to find order in the Chaos.

The Urban Revolution is being approached in this thesis as a cognitive change. Therefore, cognition itself must be understood. Unfortunately, as of yet, a coherent Cognitive Archaeology does not exist. This means that we will need to open up to include multidisciplinary approaches. Any discipline that helps to understand culture, the mind, or symbolic representations benefits this study. In Section III, some fundamental statements of how we observe reality will be examined. It is hoped that this will provide a framework upon which to build the analytical models that will be presented later.

Finally, in Section IV, the previous research that has made this thesis possible will be described. The position of this thesis will be shown in light of previous theories. Only the most recent or most important (for the present purposes) attempts at explanation of the origins of civilisation in the Near East will be considered. The strengths and weaknesses of former theories will be isolated, and a case will be made that a new theory is warranted and necessary. A brief summation of the approach and conclusions of this thesis will be included in anticipation of the in-depth presentation of the archaeological facts referred to or compiled herein.
Section I

Thesis Statement

Important social transformations took place during the late 4th – early 3rd millennia that forever changed the human condition. The nature of these changes is the central point of investigation for the entire thesis. These changes were reflected in the archaeological record, but the transformations were the result of interplay between cognition and materials. There are three assertions made in this thesis that form the core idea. All of the data presented herein is meant to support these assertions. These assertions constitute the thesis statement:

1) There was a long development of a network of interactions between humans, their communities and their environments.
2) This development was occurring throughout the greater Near East among more-or-less peers.
3) The development of the Network accumulated in complexity especially in the 4th millennium, and at the end of the 4th millennium simultaneous social changes occurred resulting in a multiplicity of state-level identities and expressions thereof.

Relating to this thesis statement, a few key concepts will be approached in an attempt to understand the relationship between ideas and their material expressions:

1) Simultaneity and diffusion in archaeological analysis.
2) Emerging social complexity; in particular, what has been termed the “Urban Revolution” near the end of the 4th millennium BC.
3) The nature of identity in the formation of socio-economic settings.

Glyptic artefacts (seals and seal impressions) from the late 4th – early 3rd millennia greater Near East will be examined stylistically and statistically in order to elucidate the key theoretical concepts. From the glyptic analysis it can be determined that the social transformations that took place at the end of the 4th millennium were the result of a change in perception of identity, from identity of smaller scale groups with permeable boundaries to more rigid regional state-level identities. These changes took place as a result of a great deal of diffusion, but not
without autochthonous development as well. The social transformations took place as a result of the complex system of interactions between “more-or-less peer” agents, and not as the result of a single innovation that branched out from a core.

In this study, evidence of external symbolic storage in the periods before circa 3100 BC (Phase 1) will be examined. These objects will be put into a general sketch of the entire socio-economy of the greater Near East. It will be shown that an increasingly complex network of interactions and exchanges was occurring on a huge scale. The description of this “Near Eastern Network” will be described in two chapters. Firstly, the geography and chronology will be approached in Chapter 3. The regions being dealt with here will be discussed and through calibrated radiocarbon dating techniques, and it will be shown that the causal primacy of so-called “pristine states” is unfounded. In Chapter 4 the artefactual evidence from this Near Eastern Network will be examined to show that the development was not isolated or particular to one group of people. Rather, the developments were inherently linked to interactions of all participants within the Network.

Secondly, it will be shown that the glyptic styles in multiple regions in the Near East began to fragment according to the individual circumstances affecting each respective region. This regional fragmentation of large “state-level” identities occurred between "more-or-less peers", as a result of an emerging complexity which many societies at this time possessed. In Chapter 5, the Corpus of Glyptic Objects (Appendix 1) will be examined to show that in Phase 2, newly formed state-level identities were beginning to form. In Phase 1 these identities were not present but by Phase 3 rigid regional identities are observable through stylistic qualities in the seals.

Finally, in Chapter 6, Phase 3 will be generally commented upon in light of the observations of the nature of the social transformations that took place in Phase 2 and continued on into Phase 3. This was a New World Order, developing on new trajectories and organised according to a new set of rules, both social and economic. Incipient writing and its equivalents will be considered in light of these changes. Artefactual evidence will be shown to reflect that in Phase 3, state-level identities were present in each of the regions approached here. Furthermore, archaeological evidence will be approached to show that some regions that have often been regarded
as being peripheral, actually possessed fully-formed state-level identities simultaneous to when the "core" states supposedly developed their own state-level identities. These formerly "peripheral" areas will be shown to possess cognitive perceptions of society and identity similar to the "core" regions, even though the archaeology and artefacts have traditionally led scholars to conclude that their smaller scale meant that they were less developed.

Chapter 7 will present the conclusions to the questions spelled out in Chapter 1, with the benefit of having observed the data and the theory in full.

Theory

Some of the theory used as background for this dissertation is largely unprecedented in archaeology, although much of it is based in common sense. Much of the theory being used here will in fact not even come from archaeological thought; rather, an integrated approach to knowledge and understanding is being adopted. Incorporated into the theory will be ideas absorbed from History, History of Science, Artificial Intelligence, Evolutionary Biology, Cognitive Science, Psychology, and Philosophy among others. The end result, however, is not a compartmentalised or departmentalised analysis based on one of these disciplines.

Therefore, in the literature review section in this chapter, much effort will be spent addressing the new ways of thinking, rather than focussing on previous explanatory efforts made by earlier archaeologists. A few notable exceptions to this will be evident.

The methodology and the approach taken in this thesis will be elaborated in Chapter 2, where many of the interdisciplinary themes will be addressed. The purpose of spending so much time on theory is to make clear that while the dataset being used is far from new material, the way of looking at the data can increase our understanding of these social conditions at the period of transition, and to comment in a more general sense on the human condition.
Modelling

Because of the highly cognitive approach taken here, the description and the modelling is a difficult task. The end result will not be a conclusive statement or a Grand Unified Theory. Rather, this thesis seeks to answer the questions posed in this chapter and readdressed in Chapter 7. The way in which modelling of systems works in this case is by carefully defining the scale of observation; in other words the modelling is the lens that provides us with a certain degree of resolution. The conclusions drawn from the observations will begin to break down if one takes into account information that supports a different resolution. A case will be made, however, that scale is the only way in which scientific inquiry will ever accurately describe reality.

For instance, the database being used in this thesis does not contain every piece of information available. Certainly, some critics could argue that without a complete dataset conclusions are invalid. This is a poor outlook, however. Archaeology will always have incomplete data, even if all surviving data are included. That is, unfortunately, the nature of the beast. On the other hand, even if we would try to approach the task of describing reality in a modern day situation, where all of the information is readily available, the situation would be no better. Having all the data is meaningless if one cannot observe patterns from within. A database, no matter how complete, is just a bunch of zeros and ones until we, as the scientific observers, draw some sort of conclusion from it. The conclusions that will be drawn from the incomplete database presented in this thesis are valid because they illustrate patterns in reality that are observable. These observations cannot be made through purely algorithmic means. The scientific substantiation for these conclusions, taken from the dataset, is valid if the strengths and weaknesses of the dataset are understood and addressed. This will be done in Chapter 5, when the Corpus of Glyptic Artefacts (Appendix 1) is presented.

The modelling of the observable data will be designed to incorporate more than one aspect of reality. Both cognition and materials will be dealt with in an integrated approach. The material analysis does not dictate what the interpretation of
the cognitive aspect will be. Likewise, cognition will not predetermine categories into which the materials must fall. Both of these aspects are two sides of the same coin, and must be taken together as a whole.

Analysis

Cylinder seals are perhaps the perfect artefact with which to trace emergent complexity due to the fact that through these materials one can track economic transactions and inter-regional exchanges; but they were also works of art, and through an analysis of the glyptic styles, political, social, religious, and ideological characteristics can be interpreted. It can be shown that a shift in glyptic styles was occurring simultaneous to the period of urbanisation in the Near East. This shift, however, was the culmination of several thousand years of social development which began to reach a super-critical level near the end of the 4th millennium BC. This development can be traced from the appearance of token (an archaic recording device) usage through to the first traces of writing (c.8000-3000 BC). The seals themselves will be shown to reflect and to actually help shape the formation of state-level identities that were emerging at around 3000 BC. By the 3rd millennium, well-developed identities and corresponding social systems had been established in definite regions. While these identities and social systems were the result of interaction of more-or-less peers within a Network, each instance was sensitive to the autochthonous factors that led to individual development. That is to say, although the establishment of institutions such as kingship took place partly as a result of exogenous interaction, the individual manifestations varied according to endogenous development. For instance, a ‘per-o’ (Pharaoh) was peculiar to Egypt, the ‘lugal’ (king – literally, ‘big man’) or ‘en’ (high priest) was peculiar to Mesopotamia, etc. In the seals, these differentiations in identities will be shown to develop in the time period around 3100-2900 BC, and become fully-established in the 3rd millennium.
Section II

Historiography

There is truth. There is truth in history and it can be articulated. Analysis of materials through the *particulars* is, however, merely an articulation of particulars within a whole. But this whole *cannot*, even theoretically, be understood through the particulars, or even through the material systems. This is not to say that systems are not objective. For instance, social systems are objective, but the logical articulation of these systems must be subordinate to an understanding of the nature of the "whole".

This "whole" is both conceptual and non-conceptual. It not the purpose of this paper to reconcile the concept with the non-concept, but it is necessary that the epistemology of how we approach the "whole" be clearly elucidated. This method uses the only logical tool we as human beings possess, concepts, to reveal the non-concepts, the ungraspable. This is the essence of philosophy and it is critical to this study.

Empirical data in this thesis will be given as illustrations of what manifests materially, even though the *reality* of the historiography lies within the philosophy. No objects are wholly knowable through logic alone, and as such objects do not help us to approach reality as a whole. They support philosophical truth *only inasmuch we already see the truth outside objectivity.*

The graphs that will be show in Chapter 5 and the description of the empirical data will highlight an objective "system". A *top-down* description will take place in this thesis, based on an initial observation of the whole system which can be broken down according to scale. The constituent parts, or the particulars, make up part of the observable *system*.

The material world is an unknowable quantity of chaos, infinite but bounded. Chaos and determinability are ideas that cannot be divorced from the "non-concept" of infinity. Chaos and indeterminability are now widely accepted empirical notions that fit into physical systems.
But infinity must be grasped in order that these empirical concepts can be reconciled logically and rationally. Infinity is often thrown around willy-nilly in common parlance, but it should not be forgotten that infinity, by its very definition, is unfathomable.

Infinity (Chaos) is an unfathomable morass of unimaginable size, dimension, density, complication and complexity. This is precisely how we should regard infinity: wholly unknowable, as if a black veil shrouds our view. The fact of the matter is that material reality is bounded infinity, and thus unknowable through material science alone. Once we resign to the fact that quantitative analysis will always under-represent even physical reality, we may focus on observing patterns in the whole.

In essence, what shall be done in the presentation of the material data in this thesis is to select patterns within this infinite unknowable morass of truth. The system observed is not truth unto itself. The unknowable morass is the truth, and parts of this truth can only be observed through the proper perspective. This perspective does not function the way "normal science" does 99% of the time (Kuhn 1962), through a Baconian or Hegelian dialectic; rather the proper way to perceive these patterns is through a negative dialectic (Adorno 1966) that can bring us to a new outlook.

Causality

Chaos theory, in essence, challenges the popular notion of historical cause and effect. With the greater explanatory sophistication allowed us by Chaos Theory, however, come greater problems. Chaos theory states that everything is important in cause and effect, right down to the last subatomic particle. Therefore, if we mean to represent historic cause/effect through empirical means, we must accurately describe every particle that has ever existed since the beginning of time! This, of course, is a ludicrous aim, but the opposite aim is equally difficult to reconcile. If models become so general that they are boiled down to a single moncausal prime mover, another error would be made. The model would be reduced to such a simple form that it is rendered meaningless and useless.
So where do we go from here? Both directions seem theoretically untenable and the middle ground seems tantamount to wishy-washy, relativistic pessimism. The solution is simpler than one might think, and the chances are that many archaeologists have been thinking this way whether or not they knew it. The answer is scale. Any model or representation should be describing reality at a certain scale. The only way we can hope to accurately represent cause and effect in history is to clearly predetermine what scale we would like to describe in.

Therefore, we must very carefully formulate our approach. There will always be details that are lacking; even in physics this is true. But if we ask questions that we can hope to answer, we can focus on details that are both positive and pertinent. By positive it is meant that we should only use data that assert, rather than negate. By doing so we can avoid assuming that absence of evidence is evidence of absence.

How can any of what was just said have anything to do with cognition? To answer that we must return briefly to Chaos theory and the concept and infinity. So far, we have been talking only about empirically measurable material reality. But reality is much more complex than that, and for our ontology to be a basis for further explanation, we must embrace the whole of reality.

Non-material reality is a physical concept, even if physics has trouble explaining it. Scholars of the mind/body problem, for example, are not limited to the esoteric field of philosophy. Scholars from the fields of AI, mathematics, physics, chemistry, biology and psychology (among others) also participate. The reason for this interdisciplinary approach is plain to see: it is easy for us to describe the material world because we possess a non-algorithmic and non-material tool with which to describe it. But how do you describe the tool?

This tool, of course, is our mind, our cognition and the collective cognition of humans. There exists another infinite but bounded world “inside” our minds and in a non-material place between the minds of others. But we should not think of this “virtual world” as being outwith the material world. It is in us, among us, around us. It is behind our symbols, it is in the tone of our voice and it is in our hearts and minds.

Therefore, an integrated approach must be adopted that takes the material and cognitive worlds as a whole. What might such an approach look like? Firstly, the
question must be carefully formulated around a sense of scale. The bounded infinity of a combined cognitive / material approach might look something like a fractal image, patterned and self-similar at different scales, but limitless in variation. Take, for example, the Mandelbrot set (Gleick 1988), a mathematical equation that can be manipulated in ways to visually show the infinite amount of complexity that the equation generates. With fractal images, we are faced with the perplexing question of "how do you map a coastline?". When does the amount of detail incorporated into the resolution become "enough"? The answer, of course, is simply that the amount detail is "enough" when the resolution shows what scale you would like to observe. The faithfulness to the whole of reality is never compromised if one clearly states what scale is to be examined at the outset. The makeup of the system at whatever scale is being observed does not represent the entirety of the whole, but rather more like integers on a line.

The image of infinity in archaeology must be integrated with representations of both the material and virtual worlds. Of course, as archaeologists, we deal with the material remains relating to humans. But everything observed or touched by a human (either great or small) is irrevocably included in the virtual world, even if that observation or touch is imperceptible to us today. Chaos works in cognition as well, and therefore we should expect to model this virtual world on the similar conceptions of infinity as we do in the material world.

Even a simple cooking pot was made by someone as a result of an intention that came from their own virtual world. This may sound difficult to describe, but no more so than asking someone what the British flag means to them, for example. It would be impossible to convey that sort of sentiment even between two people standing next to one another. The bounded infinity that is the virtual and material worlds would need to be replicated to actually convey the "truth". But a person would be able to give an "impression" of what the British flag means based on a predetermined scale. This could come in the form of an anecdote, for example (small scale), or in the form of general feelings (which would be larger scale).

To show how this modelling according to scale can be done in archaeology, 4th - 3rd millennia BC seals and seal impressions will be observed. Before we look at these objects theoretically, let us first show how objects fit into reality.
According to the above diagram (Fig. 1), the only thing that falls fully in the material world is an object itself. Culture, people and ideas are all at least partly virtual, and the object itself is often created by an interaction of cognitive elements. Therefore, to ask questions other than simple ones of morphological or taxonomical distinctions, some virtual modelling must be derived.

This virtual model given in this thesis will include observations of patterns according to scale. In the case of the social transformations in the 4th-3rd millennia, the questions are posed through a macro-scale approach. For this thesis nearly every seal or impression that survives from a c.1000 year period has been collected in order to compile a database. After having generally observed the cultures of the people who used these seals, an hypothesis began to form. It makes sense to think that the social transformations in the 4th-3rd millennia that resulted in Early State formation were the result of a complex set of interactions between individuals and communities on a macro-scale. This is especially true because seals were used over such a vast geographical area.

A commonly held view was to explain these macrophenomena through other macrophenomena. For example, Early State formation was a result of environmental
factors; or religion was a result of the economy. Try telling that to an Egyptian priest. It does not make sense that the individuals, big or small, should be left out of the explanatory descriptions. Because individuals owned and used seals, and because seals were used on a macro-scale, observations from the corpus of glyptic artefacts should be able to substantiate the hypothesis.

Glyptic artefacts fit into the loop of cognitive / material interaction in the following manner:

![Diagram showing the loop of cognitive/material interaction.](image)

**Fig. 2** How seals fit into the Mind/Material Loop.

It is hoped that we see a transformation in identity take place in the analysis of the corpus. It makes sense that Early State formation is a cultural phenomenon, but culture, as we have seen, is part of a loop of interactions between the Mind and Materials (see Figs. 1 and 2). Certainly, there are some missed factors, but the question when posed in terms of scale makes only certain factors applicable.

The supposition made about how the social transformations came about have to do with the nature of the mind and how identity works. In the 4th millennium, the material record shows that increasing production and exchange was occurring (see Algaze 1989, 1993, 2001). This means that more ideas were being channelled through this loop than ever before. Minds have a limited capacity to associate ideas
with materials. Simplification to a larger scale must occur if too many ideas become associated with symbolic objects. A symbol has no meaning unless a mind can interpret that meaning. At the beginning of the 3rd millennium, Early States were created as large-scale identities. Through these identities, resources could be exploited, power could be agglomerated, and the newly formed social systems could function. These new identities were reflected in material culture (symbols), and in particular seals.

This happened in response to and as a result of the increasingly complex interactions between individuals and communities. In the Corpus of Glyptic Artefacts (Appendix 1), this is observable. In the 4th millennium, there appears to be no cultural opposition to incorporating varied stylistic elements in seals. By the 3rd millennium, rigid stylistic qualities in seals have been formed that roughly correspond to what we know of as Early States through other archaeologically observable means.

Therefore, every individual and community participating in the interactions that went to form these state-level identities is included in this model of Early State formation. The intricacies of these individuals and communities can be further sussed out in regional studies of a completely different scale. But as far as the scale that is intended by the approach in this thesis is concerned, it appears as though this model for macroscale explanations of Early State formation takes into account both the material and virtual worlds. Every individual mind and material can find its place somewhere in the patterns that stand out in relief from the black morass of Chaos.

Section III

A Case for a Cognitive Archaeology

There is a connection between material culture and the ideas from whence they sprang, but it is difficult to articulate. A great deal of scholarship has gone into supporting the viewpoint of either the primacy of materials or the primacy of cognition. The fact of the matter is, however, that cognition would be nothingness were it not based in a material world; and a material world without cognition or re-
cognition would be lifeless. Therefore, to properly answer questions about things such as social phenomena, an integrated approach must be attempted. This approach should equally represent the concrete world of materials and the virtual world of ideas.

For example, the issue of why certain materials exhibit such remarkably uniform characteristics through standardisation cannot be understood properly without delving into both an explanation of a cognitive impetus and the constraints that the material world places upon humans. It is clear that both viewpoints must be engaged in order to more accurately understand and describe the way humans manipulate the material world.

Whether the ideas came before the material expressions or vice versa is beside the point, and in fact can be thought of as less interesting than the question of why standardisation occurs. In and of themselves, technological or economic advances mean very little; it is only in the way in which human beings see these material expressions in their culture that is important to the archaeologist. It is the relationship between the concept and the material expression that we are interested in when we attempt to explain artefacts and institutions in human societies.

The material world and the virtual world of ideas interact freely through human intervention. One world influences the other at certain points of contact where creation occurs. Objects imperfectly correspond to ideas, and ideas are incapable of being fully accurately expressed in the material world. Nonetheless, a constant replication of ideas into objects into ideas into objects happens through the workings of people and cultures. An individual person creates objects, which in turn make up the entire repertory of material culture. This agglomeration of material culture, however, is partly mental too. Susan Blackmore (1999) would call culture or cultural institutions “memeplexes”. The observation of the entire cultural repertory and the re-cognition of the cultural ideas behind the objects creates individual ideas inside a person’s head. These ideas are then created into objects and the cycle continues.

It is on these points of creation and interaction between the material and virtual worlds that we should be concentrating (see Figs. 1 and 2). In fact, a single object, and likewise its corresponding single idea, is not extremely important when
taken out of context. Furthermore, for modern archaeologists, it would be inconceivable to even attempt to correlate an ancient object with the idea that brought about its creation. What is much more important, and likewise a more valid line of inquiry, is the way in which humans and their minds interacted within a cultural framework. The isolated object is meaningless unless it is taken in context. A representation of how the social context functioned cannot work accurately unless we take into account how individual people might have fit into the structures. A particular aspect of how humans fit into their social structures is identity, and this will be of the utmost importance in this thesis.

As one can see from the diagrams (Figs. 1 and 2) shown in Section II above, the only aspect of reality that is fully within the material world is the objects themselves. Of course, material objects exist in a world that is non-manmade as well, and the material world must also be regarded as consisting of the entire natural world. But the man-made objects should never be regarded as being created by anything other than thinking human beings, and for this reason these objects are simply one point in the interaction between cognition and materials.

Therefore, any model that seeks to explain something such as why objects tend to become standardised is incomplete if either the material world or its virtual counterpart is neglected. An emphasis on the material world would result in the reduction to environmental or economic determinism; an emphasis on the virtual world would reduce our conclusions to ethereal generalisations isolated from the observable objectivity.

A key concept that must be grasped when one deals with standardisation in material culture is that human beings are essentially social beings. Society is an elaboration of mental traits that we all possess. These mental traits are extensions of biological traits, but biology tends to take a back seat to the culture that constrains our minds.

On the most basic level, our minds tell us that we are individual human beings, separate from another individual human being. This is the most basic unit of what is called “identity”. But identity is a cognitive construct, because even on a biological level, our separateness and individuality is not a certainty. In the cognitive
world, we tend to organise our perceptions of the material world around categories that we create in our minds. What this means is that objects that are created by humans tend to be constructed to fit into these mentally produced categories. This is what we shall be calling “style” in this thesis. The categories are created through observations of the material world, but the categories also serve to change the material world that they seek to observe in the process. It is in this sense that an integrated approach of the material and virtual worlds is absolutely essential for accurate descriptions, as one cannot be understood without the other.

The identity of the community is actually defined by the style of the objects created by individual craftsmen’s hands. It is identity that we should be looking at when we try to explain standardisation of material culture. Even if the materials being observed are particularly sensitive to environmental or technological factors, the integrated approach must be embraced, because, after all, these objects are being created by people from within a certain social milieu.

Sometimes it is difficult to isolate cultural or identity traits from objects relating to something like storage (seals were used to bureaucratically control commodities) due to the highly functional nature of storage and bureaucracy. But even so, a closer examination reveals that even such a function-laden aspect of material culture exhibits cultural traits that correspond to more readily identifiable expressions of cognition and identity. To approach this, we shall be taking a look in this thesis not purely at storage strategies, but at metric glyptic data and artistic expressions as seen in seals and seal impressions. From these data, it can be seen that distinct cultural groupings can be observed through overt expressions of identity through the glyptic remains. In particular, the glyptic characteristics that we shall be talking about are emblemic (assertive) and emulative styles.
Childe’s thinking has created a staunch following and very vocal opposition to his views on many subjects. In particular, his materialist bent prompted the likes of Robert McC. Adams, among others, to refute strongly some positions taken by Childe regarding the nature of the origins of civilisations. In Childe’s great number of syntheses, the central idea of diffusion serves as the thread that binds his ideas together. Indeed, the meaning of the word ‘diffusion’ will be important to understand in the present thesis, and the ideas of Childe have served as the starting point (and in some cases the finishing point) for the present synthesis.

What one can gather about diffusion from Childe’s New Light on the Most Ancient East (1934) is easy to misinterpret in a modern context. The reason for this is not because of faulty logic or poor writing on Childe’s part. On the contrary, for his time period, Childe was using appropriate language and concepts, and in fact was extraordinarily far-sighted. It is important to take Childe’s writings in context, because his definitions for terms may not be exactly the same as we know them. Even the word “diffusion” itself often connotes to the modern reader “stimulus-diffusion”. This conflation of terms was probably not intended by Childe, although it can also be supposed that Childe’s theory was always work-in-progress.

In a publication late in his career, Society and Knowledge (Childe 1956), a non-archaeological study, he addressed many of the issues of cognition and information exchange on a theoretical level. The clarity of expression in Society and Knowledge informs archaeologists of Childe’s true intentions when he sought to explain culture change through archaeological case studies. His views are remarkably modern, although his language and writing style betrays his immediately post-Victorian context. In fact, Childe’s views are so well thought out that much of what will be said in this thesis will end up being a rephrasing of what Childe has
already noted, although through a rigorous methodology more palatable to the modern reader.

It is not intended to suppose here that even Childe had all of the answers, but rather to make clear that the questions regarding the origins of civilisations have been asked and addressed by many authors. It is hoped that the present thesis will expand on the ideas of these previous thinkers: expand in factual analysis, expand in methodological procedure, and expand in theoretical outlook. The present thesis is not, however, intended to be the final word or the ultimate solution to these problems.

*Karl Wittfogel*

In a highly influential but now often disregarded thesis (1957), Wittfogel suggests that the early civilisations, especially those in the greater Near East formed into urban states due to a technological impetus. These social transformations were, according to Wittfogel, the result of power agglomerations that came about through the need to control hydraulic systems. In other words, because of the need to develop and implement irrigation systems to support agrarian population concentration, institutions (such as kingship) arose in order to allocate resources (including human resources).

The models developed from Wittfogel’s thesis have been often been dismissed as monocausal, unilinear and reductionist. There is some truth to this criticism, but there is also merit in his ideas. It appears as though Wittfogel was attempting to take an integrated approach to social theory by using technology, environment and cognition (in the form of social institutions) in a single model. His attempt fell short of its aims, but there is merit to the idea he supports that there was an interaction between culture and nature, and that social change came about through this interaction. A flaw, however, was to place primacy on the technology and the materials, rather than to take cognition and materials as parts of a whole. The result is that ‘oriental despotism’ comes across sounding as though human institutions are a product of technology, and that technology is the reaction to the environment. The
end result is indeed a too simplistic view; in this model humans are merely slaves to nature, acting with little intention.

Robert Carneiro

Carneiro (1967, 1970) has emphasised the role of population growth and population pressure as the primary factor in the development of complex urban societies. It is certain that to be an urban society, that society must display some characteristics of “urbanism”. But this brings us to the question of what urbanism truly is. If it simply means living in a densely populated city, then we see these changes occurring much earlier than the time period in question in this thesis. Sites as early as Çatal Hüyük might therefore be an example of urbanism. Gibson (2001) has argued that at Tell Hamoukar there is evidence of importance in the pre-Uruk phases, which he would argue pushes the dates back on when we should view the first empires as having started. Gibson is right to suggest that there was more going on in the North of Mesopotamia than has been previously acknowledged by scholars, but to follow the route that Carneiro suggests, i.e. that population agglomeration equals an Early State, leads to some difficult to accept conclusions.

To be fair, Gibson also warns of the reverse situation (i.e. that innovation occurred first in the North rather than the South) being potentially hazardous, and suggests that the North was more of a rival participant in the exchanges between North and South, rather than either an underdeveloped cultural backwater or a new location for the “core”. Nevertheless, to push the situation further back in time, as Gibson suggests, by assuming that the process of Early State formation must be where we see the first “big cities”, leads to a slippery-slope argument that raises the question of what is the quantity where a population becomes “urban.”

Wright and Johnson (1975) challenge the notion that population pressure is a sufficient criterion to determine a designation as a “state”, and approach what more complex models might look like. At the same time, Carneiro’s idea does have merit despite the aforementioned pitfalls. There is something to centrality and population agglomeration, but it will be argued in this paper that centrality is less important for its quantity than for its qualitative distinctions. This centrality, it will be argued, is
the agglomeration of ideas around state-level identity. This centrality must be approached through an integrated look at materials and cognition.

Nissen (1987) has argued this point by refuting the primacy of population. In fact, Nissen’s comments closely mirror the opinions in this thesis, although this thesis will represent the first systematic study based on this assumption. Nissen says in opposition to both Gibson (although Gibson’s comments were written after Nissen’s publication) and Carneiro:

At another occasion [...] I have assembled hints for the presence of a fixed group-consciousness during the Early Dynastic period, used to set oneself apart from other groups. [...] Most probably, one line of development of such group-consciousness is tied to the development of central places; that would mean that this feature originated quite early. However, I have the feeling that a radicalization can be tied to a specific historic situation: the rapid changes in settlement patterns during the time from Late Uruk through Early Dynastic III, or from 3300 to 2400 BC, with the trend of decreasing the number but increasing the size of settlements.
(Nissen 1987, p.292)

Nissen’s impressions give a good starting point into which the investigations will continue throughout this thesis, including how chronology, urbanisation, central places and identity will be approached. Nissen also includes in his statement a hint at the cognitive aspect of this thesis:

Even the erection of city walls, what in Babylonia starts Early Dynastic times comes to my mind should be placed in this context. [...] I am inclined to take the erection of city walls not only as the final answer after one too many attacks but also as a deliberate move towards the building up of a group’s identity.
(Nissen 1987, p.293)

Nissens’s comments provide an excellent prelude to this study, and his profound knowledge of especially the southern Mesopotamian material provides a firm basis from which this thesis moves forward.

Colin Renfrew

A staunch processualist, Renfrew has stuck to his guns over the years and has often come out on the winning side of the processualist/post-processualist debate because of his keen insight. In spite of this, it is clear that Renfrew would like to
explain some of the problems that are brought up in this thesis. In “Peer Polity Interaction and Socio-political Change”, (1986) he attempted to formulate a processual model that can explain social phenomena that are largely cognitive in nature.

Most importantly, the Peer Polity Interaction model attempted to provide a model that counteracted the idea of “stimulus-diffusion”, which had flourished after Childe’s influential career. Stimulus-diffusion insists that social changes must have been “invented” in one place, and from there they branched out exponentially to create widespread changes on a macro-level. Peer-Polity Interaction places more emphasis on autochthonous development from within regions that gave rise to the polities in question. These polities interacted in their various stages of development as “peer” units.

A problem with the latter model is that it does not explain how the internal systems initially formed, making the logical leap that comes from being a historian able to see future events and end products. In other words, how did the polities come to be? While the obvious teleological bent is evident in this model, Peer-Polity Interaction represented a welcome swing in the pendulum of scholarship, bringing the focus away from a “central core area” of stimulus-diffusion to an emphasis on multiple nodes of development. In this thesis, a network approach will be used to view the signs of shared complexity that gave rise to these peer polities.

The present thesis has used many of the ideas from the Peer-Polity Interaction model, while acknowledging that the truth behind what causes social change probably lies somewhere between endogenous and exogenous forces. A recurring term that will come up in this thesis is “more-or-less peer”. This term refers to the position taken in this thesis that there is some middle ground between core-periphery models and peer-polity interaction models. Cultures were developing at different speeds, through different interactions and in different circumstances. Chaos dictates this. The sentiment of “more-or-less peer” interaction is one that allows for both emulation and assertion in the identity formation process that is integral to Early State formation.
Adams essentially reinvented the way we do archaeology through his pioneering survey work. (Adams 1965, 1972; Adams and Nissen 1987) In particular, in Mesopotamia he established that fully urban cities were not the only settlements in southern Mesopotamia in the 4th and 3rd millennia. Smaller sites and pastoralists continued to co-exist alongside urban centres, and in fact the existence of the urban centres cannot be fully explained without making reference to non-urban dwellers. While population was important, the complexity of the society could be seen in the interaction between the rank-size analysis of the settlement landscape. This opposes Carneiro's ideas in the sense that urbanism does not necessarily equal complexity, or participation in a complex society.

Adams’ methodology was to observe settlement distribution patterns through geographical survey. While this thesis does not use a similar methodology to approach the subject of Early State formation, the arguments made here are still highly spatial in nature. The spatial differentiations, however, when taking the integrated material/cognitive approach are not simply ones of geographical distance. Social differentiations and the establishment of identity had to do with territorial distinctions, but at the same time these social differentiations were not limited to geographical distinctions. Regional state-level identities will be examined in this thesis as they developed. But these regional identities were equally cognitive as they were material.

Highly influential and well argued, Algaze's core-periphery model (1989, 1993, and 2001) for Early State Formation represents a major school of thought in archaeological theory. Essentially, Algaze argues that southern Mesopotamia had at least by the Late Uruk period emerged as the leading cultural entity in the Near East. Through exploitation by means of colonisation of the periphery, natural resources were acquired and processed in the core that was in southern Mesopotamia. To
Algaze, southern Mesopotamia existed as an interacting and dynamic core, but in his argument a “giant sucking sound” can almost be heard from the peripheral regions into the core. This is quite plainly unilinear and monocausal reductionism. Algaze has stuck to his argument and in a more recent article (2001) has tried to more adequately explain the way his core functioned, and in fact many of his descriptions now sound remarkably similar to some being put forward in this thesis. The major difference is that Algaze still insists that emerging social complexity was so overwhelmingly advanced in southern Mesopotamia that it is the only region worth even considering for the origins of the social transformations.

Algaze’s bias toward southern Mesopotamia, and even Uruk itself are in part because of the history of archaeology and because of a predisposition to think that size equals complexity. Historically, archaeologists excavated in southern Mesopotamia first; therefore we know more about this region. The more we learn about the so-called peripheral areas, the more we realise that the “periphery” was nothing of the sort. Social complexity in the “periphery”, although perhaps not amounting to similarly sized agglomerations, were of the same kind as in southern Mesopotamia.

It might be mentioned as well that Algaze’s model does not actually address the subject of identity. His model is purely based on economic and material exploitation. A sense of inevitability and optimisation is conveyed in his emphasis on economic primacy. His model certainly does not explain the sort of standardisation in seals and other materials that we see in the archaeological record, nor does it address the cognitive aspects of these widespread phenomena.

Algaze’s argument represents the culmination of a trend in archaeology to search for the inventor, the very first to do something. There appears never to be a doubt in his argument that southern Mesopotamia, and indeed Uruk itself, “invented” civilisation. It is hoped that the present thesis can refute that this as a valid assumption. The “inventor” of anything cannot be taken out of context, and it will be shown that it was the very (human) dynamic of the Near Eastern Network itself that gave rise to the social transformations that we call the first civilisations. Frangipane (2001b) has given a response to Algaze’s most recent synthesis that mirrors Nissen’s argument about the difference between size and complexity (see Carneiro above).
her response, she argues that Arslantepe represents the type of “peripheral” ingenuity and autochthonous development that makes Algaze’s argument untenable.

*What is Civilisation?*

- **City Invincible**

A symposium organised at the University of Chicago in 1958 in order to answer the very question of “what is civilization?” gathered some of the greatest archaeological scholars of the day. The publication of the symposium, called “City Invincible” in publication (1960) did not actually answer the question (of course), but it did provide some interesting food for thought. Different schools of thought were displayed and many scholars were able to have their say. An underlying theme, however, was that many believed that material criteria, possibly described as a checklist, would suffice for a definition of civilisation. Some believed, for instance, that the use writing was absolutely essential for a culture to be thought of as a civilisation; others did not.

Trying to establish criteria for civilisation has always proved problematic, but a resolution to the problem is foreshadowed by Stuart Piggott in his Preface to Max Mallowan’s *Early Mesopotamia and Iran* (1965).

We should not be far from the mark if we thought of civilized societies as those which worked out a solution to the problem of living in a relatively permanent community, at a level of technological and societal development above that of the hunting band, the family farmstead, the rustic self-sufficient village or the pastoral tribe, and with a capacity for storing information in the form of written documents or their equivalent. Civilization, like all human culture at whatsoever level, is something artificial and man-made, the result of making tools (physical and conceptual) of increasing complexity in response to the enlarging concepts of community life developing in men’s minds. (Piggott 1965)

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1 For instance, Glyn Daniel described Robert McC. Adam’s criteria (from the City Invincible symposium) for civilisation (which do not necessarily include writing) as a “functionally interrelated set of social institutions which he listed as: 1. class stratification marked by highly different degrees of ownership of control of the main productive resources; 2. political and religious hierarchies complementing each other in the administration of territorially organized states; and 3. complex division of labour with full-time craftsmen, servants, soldiers, and officials alongside the great mass of primary peasant producers” (Daniel 1968, p.25).
Nissen (1987) has had some things to say about the nature of "civilisation". In a sense likely meant by Childe, the term "civilisation" is an emergent process coinciding with the period of social transformation that gives rise to the "Urban Revolution". Nissen acknowledges that Childe, while possibly erroneous in some of the details, coined a useful phrase in "Urban Revolution". This term's usefulness stems from the fact that a rapid change occurred not in the materials, in which sense Childe in his Marxist bent may have been mistaken, but rather in the revolution of state-level identity. Nissen says, "In fact, in my mind, the term is still applicable if talking about the emergence of an urban consciousness, and it is this aspect a consolidation of which in fact justifies that one starts a new phase within the development of settled life" (Nissen 1987, p.293).

Therefore, while the term "civilisation" is qualitative and difficult for many scholars to accept as unbiased, in the sense that civilisation was the end product of the "Urban Revolution" (of group consciousness, or state-level identity), there is really no other cultural phenomenon that we can call civilisation. "Civilisation" is apparently not when we see the first sedentary agriculturalists, it is not when we see the first notions of religiosity and it is not when we first see people settling into fixed urban populations. "Civilisation" is a cognitive product, which is why it is difficult to describe and why it has different values to everyone. But "civilisation" in the sense of Early States is also reflected in the material record through expressions of identity. It is this identity that is that heart of civilisation (civilisation as it is meant here), and it is this that the present thesis hopes to bring a better understanding.

**Definition of a State**

In this dissertation the nature of the transformation into state-level identity is being examined, and as such an exact definition of what state-level society is difficult to propose from the outset. In essence, this thesis proposes that the cognitive changes associated with identity agglomeration on a scale that can be defined as 'state-level' is at least a component of the actual definition of the 'State' itself. It is self-referentiality and self-organisation that create the symbols of state-level identity, although these symbols are at the same time reflective and constitutive.
of this identity (see Chapter 7). In other words, the ‘symptoms’ that come from complex state-level society are things like urbanism, conspicuous monumentality, writing, etc., but the definition of what a ‘State’ is must include both material reality and the cognitive responses that reshape that reality.

So for a definition of a ‘State’ as used in this thesis, we should be thinking in terms of continuums, as can be illustrated in Figures 1 and 2. A ‘State’ is not a condition in which one suddenly wakes up to find oneself; rather it is a continuous process of material and cognitive definition of oneself and others. It is not helpful in this thesis to think of ‘Statehood’ as being comprised of a set of necessary material criteria, or as a step on a ladder, or as a ‘club’ in which certain societies belong, whereas others might belong in the ‘Complex Chiefdom Club’. The distinction between what is and what is not a state is, as shall be demonstrated, a process of self-referentiality and self-organisation at a scale that did not exist prior to the transitional period that will be dealt with in this thesis. Any more concrete of a definition of the state would not allow for this cognitive process to be observed.

Charles Redman

Redman expands upon Childe's (1950) characteristics of civilisations in the Urban Revolution and offers a context into which we may place Childe's helpful but ultimately incomplete criteria. It is not necessary enumerate Childe's criteria; it is sufficient to explain that, as Redman points out, these physical characteristics (such as size and density of cities, labour specialisation, commodities surplus, and class stratification) must exist within some system. It will be proposed in this thesis that the system was a network that underwent a large-scale change resulting in the formation of state-level society. This contextualisation of Childe's material traits is not new. Redman has eloquently phrased this in terms of how we view cities, and it is worth repeating here in its entirety:

A city [is] a functioning node in a broader civilizational network. The importance of this [...] can be evaluated only in terms of the system as a whole. A node is defined as a junction in a network. In a complex society, there can be different kinds and levels of interaction that create networks at different levels of organization. Each of these networks has functioning nodes. The differentiating characteristic is that a city is a node within a civilizational network serving as a center for the very institutions and mechanisms that characterize that society as a civilization.

(Redman 1978, p.216)
The last sentence in this quotation is important because Redman apparently believes that a city (determined as such by material characteristics) is at once a node within (thus a part of) a Network, and also a source that actually goes to create the Network of which it is a part. Colin Renfrew (1986) has picked up on the Network idea in his Early State Modules and Peer-polity Interaction Spheres, and more recently (Renfrew 2001) has addressed the notion of self-referentiality. Therefore, Redman and others provide a methodological precedent for both the Network hypothesis used in this thesis, and the use of self-referentiality to explain emerging social systems.

**Literature Review of Cognitive Theory**

*Richard Dawkins*

In the final chapter of Dawkins' 1976 *The Selfish Gene*, he proposed extending the theme of his biological synthesis into the human socio-cultural realm. This chapter has since provided Dawkins with a great deal of both praise and opposition, questioning and certainly more book opportunities. Dawkins is an evolutionary biologist who in *The Selfish Gene* was more-or-less giving a synopsis of current thinking in biology to a general readership. A strong theme in this book was that genes, not species, were the only thing one should look at when explanations of evolutionary manifestations are sought. Genes as digitally encoded replicators have the ability to persist as a code. This is done by the remarkable ability of this code to develop structures from and around the gene in order to ensure three things regarding further replication: longevity, fecundity and accuracy. Organisms, including humans, are merely the temporary carriers of these genes. From the gene's "point of view"², our life and individuality is meaningless except to ensure the survival and the replication of the gene itself. Therefore, any traits acquired through natural selection should not be regarded as being "for the good of the species", because a species is

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² Of course genes do not have a point of view, but it is in the sense that the way they exist and survive is to replicate often and accurately. It is a circular argument, but if they do not survive, then they did not succeed. This is the way that "intentionality" should be viewed in genes – if they survive, they are part of the process, if they do not, they are inconsequential to the observable scale of the process. Therefore "intentionality" and "viewpoint" are not literal, but metaphorical.
meaningless from the point of view of the gene. These traits should be regarded as being either beneficial or detrimental to the gene, which is the only important replicator and the only real beneficiary of the evolutionary process.

Furthermore, traits that are naturally selected are not limited to physical properties. Some cultural traits are also naturally selected. For example, when a baby bird chirps to get its mother to feed it, who is really in charge? Is the mother bird in charge because without her the powerless baby would surely die? Or is it that the baby bird is in charge because there is genetically pre-coded information in the brain of the mother bird that she must feed her hungry baby? The answer, while clearly being a combination of both of the above options, must include the fact that the genes have ensured, through natural selection, that the survival of the young offspring is achieved. Therefore, the effects of genetic selection can extend beyond the body. Traits that get selected are not simply things like speed and agility; they are also things like altruism and charisma (Dawkins 1989).

In the final chapter of The Selfish Gene, Dawkins proposes that this argument begins to break down when we come to humans and their culture. How can genes possibly select cultural traits like religious suicide, for instance? It seems anti-natural selection. Dawkins, however, saw similarities between the way in which genetic selection and cultural selection worked and he postulated that there was a replicator similar to genes that existed as the fundamental building block of cultural evolution. He invented the word “meme” as a similar-sounding name to gene that is supposed to stand for the basic unit of cultural evolution. Essentially a meme is a coherent idea able to be transmitted. The analogy between genes and memes is not a perfect one, and the strengths and weaknesses of this comparison will be further elaborated in Chapter 2. But as a tool, memes work very well to direct our focus away from the analogy of the species, in cultural terms this would be the “culture”, and bring into focus the individual ideas that exist to make up that culture. Memes are the ideas that exist to replicate themselves, forming “bodies” through expression that help them to survive. The cultural “bodies” only exist to ensure the longevity, fecundity and accuracy of these replicators.
In *The Meme Machine* (1999), Susan Blackmore took Richard Dawkins' memes seriously enough to push the idea a step further, introducing the concept of “memeplexes”. Coming from a background in Psychology, Blackmore was interested in how memes worked within cognitive systems. “Memeplexes” are her term for groups of memes that organise themselves into simple packages, which arguably make them more successful replicators. Essentially, by taking the idea of memes and further delineating how they would function as replicators, she has produced a method of describing social systems in “meme-terminology”, which in turn can be used to describe the corresponding physical expressions of these social systems.

Blackmore’s introduction of the concept of “memeplexes” is appealing, especially as it can be used as a tool to help describe the way in which ideas organise themselves, especially into identities, and to approach the developmental processes that occur in cognitive structures. Previously, any discussion of the latter resulted in vague intuitive and unsubstantiated conjectures; this terminology allows us to approach these systems more thoughtfully and rigourously.

*Dan Sperber*

In a parallel argument to the meme analogy, Sperber introduces what he terms an “epidemiology of representations”. In some ways Sperber’s epidemiology metaphor better explains the way in which representations reflect thought and the way in which thoughts “infect” other people’s brains. This is the concept of information transfer that is vital to the study at hand. It is the position taken in this thesis that Sperber’s metaphor and memes are not mutually exclusive, and both models will presently be used, in part, to explain the way in which information moves. It is important to remember that there are always going to be the material and cognitive aspects of reality, and ideas and representations are constantly being shuffled about. At the same time, this shuffling between individual people’s heads
and the objects that they produce allows transfer of information from one head to another head and the cycle continues.

Sperber talks about ontology and how to view materials correctly (Sperber 1996). He addresses the basic problem in anthropology of how one goes about describing relative cultural traits. Something like marriage is a predetermined category into which we as scientists place cultural manifestations that correspond to the correct criteria. This a priori scientific designation brings Sperber to question the place that materialism holds in anthropological and other social sciences. He concludes that there are three approaches to ontology: materialist (one of which he calls self-contradictory, the other empty), dualist or pluralist (which he seems to imply is not rigorous, unappealing and unscientific) and his own original approach to materialism. Essentially Sperber’s “true materialism”, taken from the ontology of psychology, is thus:

Anti-reductionism is quite compatible with a modest form of materialism that acknowledges different ontological levels in a wholly material world, as recent developments in psychology show.
(Sperber 1996, p.12)

His approach mirrors to a large extent the approach taken in this thesis. Sperber’s “interpretive vocabulary” that is used by anthropologists (i.e. anthropologists do not describe, but interpret culture at different ontological levels) corresponds to the framing of questions according to scale that is used in this thesis.

Terence Deacon

A biological anthropologist, Deacon takes a look at developmental and evolutionary biology in the development of the human brain and human culture. He states that the dichotomous juxtaposition of concepts such as mind/body, intentional/mechanical and human/animal (Deacon 1997, p.442) do not address the same differences in each instance. This is important to the foundation of a study of cognition because the philosophical mind/body problem, the evolutionary and biological distinction between human and animal brains and the social concept of intention versus unthinking instinct must be dealt with without relying on each other.
Even more importantly, however, Deacon insists that the question of consciousness cannot be adequately dealt with on the level of theoretical algorithmic experimentation (as Searle 1992 suggested was possible). Deacon’s argument is that there is a difference between indexical and symbolic relationships. Indexical relationships are ones that can be mirrored by computers, or even by other animals. But symbolic representations are ones that are exclusive to the human animal.

In particular, Deacon focuses on the way in which the human brain developed though time in different primates. Deacon correctly assumes that symbolic reference is not something that is intrinsic to the human brain. This point has two prongs. Firstly, Searle’s Chinese Room experiment (see Searle 1992) argument is that the materials that make up the algorithmic computer (or brain) have all of the components for producing what humans produce – i.e. a human who speaks no Chinese can produce a product that looks like he knows Chinese if the conditions are correct. While Searle is correct, the moment the conditions are changed, the result will change, due to the fact that human beings actually do have a non-algorithmic aspect of thinking. Secondly, the non-intrinsic nature of symbolic representation in the human brain is underscored by the fact that it was not always there. By explaining the way that human minds developed the capacity for symbolic reference, it becomes clear that it must have been a response to things that were observed in the material world.

This last point is the first step in the approach taken in this thesis because in order to model cognition and cognitive processes, it must be understood that cognition does not occur without interaction and symbolic reference to a material world. But at the same time, there would be no cognition at all if there were nothing but the material world. It is indeed the interaction between the two “realities” where the truth lies.

Steven Mithen

Mithen’s *The Prehistory of the Mind* (1996) is quite possibly the only, and certainly one of the best, major archaeological synthesis to date that specifically targets the cognitive aspects of human prehistory in a rigorous manner. While the
focus is on early prehistory, the so-called "sapient paradox" and the origins of cognitive structures in the first hominids, some attention is given to the origins of agriculture and how some of the institutions that occur later on in History came to find their foundations. Mithen's work is important more as an inspiration than as a baseline, because the subject matter is much earlier than that dealt with in this thesis. The approach he takes is pointedly archaeological, but seeks to explain human cognition and its development in prehistory. Therefore, Mithen's work has served as a model for the present study in the sense that this thesis is an archaeological study. Where Pascal Boyer's synthesis (see below) serves as the model of how to deal with a question of a cognitive case study, Mithen's work will serve as the model of how to approach archaeological data to explain these questions of cognition.

Merlin Donald

In a much lauded synthesis, Donald offers in Origins of the Modern Mind (1993) a new way to look at the development of the brain and cognitive abilities from early hominids through to modern man and modern ways of thinking. Donald proposes that there are three stages of development along this path: mimetic, mythic and external extended memory. These three stages correspond to: Homo erectus for a prelinguistic mimetic culture, language acquisition and use of symbols by hominids for mythic culture, and the extension of speech and other forms of thought into retrievable forms of information storage, i.e. "external symbolic storage", for the external extended memory stage.

It is important to note that these three abilities are superimposed in human brains through this development, not replaced. Therefore, to understand the modern mind, we must understand how it functioned in each of these stages, how the new abilities were acquired, and how each of these capabilities combines to create a whole mind.

Particularly useful and relevant to this thesis is the concept of external symbolic storage. Writing developed at the time period in question in this thesis, but the way in which writing was used at different times relates to different features of thought. Therefore, an understanding of the way in which people think and use
external symbolic storage is vital to understanding the material manifestations of writing. Furthermore, the difference between writing as an expression of spoken speech is not clearly qualitatively different from artistic expressions or other forms of external symbolic storage. As long as the system of information storage and retrieval is understood by those using the system, the physical form that the storage devices take is unimportant. Therefore, seals as external symbolic storage devices can be used in preliterate and literate contexts to analyse social characteristics.

*Pascal Boyer*

Boyer takes a case study not of a physical question, but of an aspect of human cognition. His case study is religion. Notably, however, Boyer successfully describes the 'Naturalness of Religious Ideas' (Boyer 1994) in an interdisciplinary approach that takes into account both the material and cognitive aspects of reality. As a starting point, the question as to why, in the multiplicity of religious manifestations, religious ideas and representations take such startlingly common trajectories. The answer, of course, is that religions all have similarities because humans all live in the same world. All of our bodies need food and water (examples of physical necessities) to survive and all of our brains function similarly in response to this physical world and physical needs. Therefore, an integrated approach taking into account both the material and cognitive worlds is the only way that the concept of religion and the material manifestations of this concept can be adequately described and explained.

Additionally, however, some of the earliest physical manifestations of religion come in abstract supernatural forms. Therefore, materials alone cannot explain the way in which human cultural institutions develop. The way in which the mind works must also be dealt with if the “naturalness of religious ideas” is to be understood.

In this thesis, a similar approach is taken. The concept being dealt with is one of “statehood” and “group identity”. The cognitive questions will be dealt with in an integrated approach that takes into account both the idea of group identity and the physical representations of this identity. For this reason, Boyer’s pioneering work serves as an excellent model for the present study.
Colin Renfrew

Renfrew, recognising the significance of Merlin Donald’s (1993) conclusions, identified that there was indeed a piece missing from the puzzle. Renfrew suggested that there ought to be a new category in Merlin Donald’s sequence. In Renfrew’s revised sequence of human cognitive phases, there is the added “symbolic material culture” phase. This would make Donald’s sequence look as such:

Episodic culture characteristic of primate cognition
   (first transition)
Mimetic culture, characteristic of *Homo erectus*
   (second transition)
Linguistic or mythic culture, characteristic of early *Homo sapiens*
   (third transition)
External Symbolic Storage, employing symbolic material culture, characteristic of early argarian societies with permanent settlements, monuments and values
   (fourth transition)
Theoretic culture using sophisticated information retrieval systems for External Symbolic Storage, usually in the form of writing, frequently in urban societies
   (Renfrew 1998, p.4)

Renfrew’s revision of Donald’s sequence is extremely important to the study at hand. Essentially, Renfrew broke Donald’s External Symbolic Storage category down into two units. The first unit comes at the time when we first see sedentary agriculturalism, and likewise we see early examples of shared values, monuments, and religious and symbolic artefacts (see Cauvin 1997; Watkins 2001 – BANEA conference paper). The second unit is the transition into theoretic culture, which is often seen as characterised by writing and urban society. Essentially, this distinction brings us back to the Agricultural Revolution and Urban Revolution proposed by
Childe many years ago, and with whom we considered earlier in the literature review of this thesis.

Renfrew has made a case for what he would like to call a “Cognitive Processualist” approach in archaeology (Renfrew 1989; Renfrew and Bahn 1991, 431-4; Renfrew and Zubrow 1994; Renfrew 1998, p.2). Whatever the terminology used for what this trend in archaeology has been and will be, the task of defining the parameters of this study is not complete, nor does it look likely to be any time soon. This thesis is an attempt to provide both a case study for questions of cognition in the 4th–3rd millennia Near East, to better explain the material analysis of this time period, and to offer some general commentary on the way in which cognitive archaeology might proceed.

Trevor Watkins

The culmination of all of these approaches has produced a framework for archaeological interpretation. There is still more work to be done to deal with specific questions of methodology and theory, but there is already scholarship being conducted that will lead to cognitive archaeological syntheses. Nowhere is this more evident that in the recent work done by Trevor Watkins (Watkins 2000a; Watkins 2000b; Watkins 2001). The approach taken in the present thesis owes a great deal to the greater understanding of cognition and social change in the Agricultural Revolution that is a result of his work. There has been little else written about culture transmission and information exchange besides what has come from him (Watkins 2000a; Watkins 2000b; a notable exception is the Stephen Shennan edited volume – Arcaeoological Approaches to Identity, 1994), and therefore in formulating the analysis of the Near Eastern Network (Chapter 4) guidance has necessarily come from this source.
Overview of Methodology

What are Seals?

In this study, we shall be looking at signs of shared complexity in the 4th and 3rd millennia BC. These will necessarily include a wide range of materials and contexts, given the macro-scale analysis being attempted herein. In some regions, we have less architectural evidence and more artefactual evidence; in other regions the opposite is true. Different analyses will be administered when necessary to bring to light common features in the Near Eastern Network. In Chapter 4, these analyses will largely deal with External Symbolic Storage strategies and emerging bureaucratic systems. In Chapter 6, it will be shown through a similarly wide range of approaches that the 3rd millennium ushered in great changes in identity, cognition and social and material expressions.

There is one central analysis, however, that will be used to tie the entire greater Near East together. This analysis is of seals and seal impressions. A glyptic corpus (Appendix 1) has been compiled in order to flesh out the nature of this shared complexity in a way that has never before been attempted. This particular macro-scale approach would not be possible without the information provided through seals and their impressions. But what are seals and how were they used?

There are essentially two types of seals: stamps and cylinders. The seals that survive to us are generally made of durable materials such as stone, bone, clay, metal, shell or in some surviving examples, wood. The more durable the material, of course, the better chance are that they will survive from antiquity and therefore we have a distinct bias in material – most are in stone. Seals would have usually been carved in intaglio which would have produced a relief impression when stamped (in the case of stamp seals) or rolled (in the case of cylinders) onto wet clay or other such impressible material (we know of wax being used in later periods - see Collon 1987, for a detailed explanation of seals and sealing practices through various periods). The carvings would often be in the form of artistic designs of figurative, geometric or stylised types.
Seals served a dual purpose – they both functioned as bureaucratic devices and they were among the highest forms of Art in ancient Near Eastern material culture. Because of this duality, they can tell us a great deal about economy, identity, religion, cognition, politics, communication, society, warfare, eating habits, mythology, etc. In fact, there is hardly an aspect of life that cannot be gleaned from cylinder seals through one mean or another.

The scenes depicted, for instance, could suggest what people at this time looked like, how they worshipped or how they viewed themselves as a community. The representational and symbolic scenes and stylistic attributes are not the only tools we have to help us understand these aspects of society, however. The way that the seals were used can additionally be taken as more rigorous proofs.

Seals would have been used as a way to mark objects and seal objects in much the same way that we use seals even today. They would have been rolled onto wet clay that sealed doors or containers tied with rope, or rolled directly onto containers or tablets. They were often used to mark ownership and bureaucratic authority, sealing objects behind doors or in containers such as pots, boxes, bags or baskets. These clay seal impressions survive to us, and represent additional evidence for sealing practices as well as supplementing our understanding through their functional qualities.

Seal were also ubiquitous. In virtually every Near Eastern site from this time period one might expect to find evidence for sealing practices in some form. Although some regions and sites are underrepresented, this nevertheless wide geographic distribution allows one to observe the macro-evolutionary trends at work at this time. Because they served the dual purpose as an integral functional part of the socio-economic system and as work of Art, they are thus sensitive indicators of interregional and intra-community styles and identities on the macro-scale.

Chapter 5 will deal with the evaluation and presentation of some of the findings from the glyptic corpus. It has not been conceivable to attempt to cover every aspect of glyptics and their relation to ancient Near Eastern society. Instead, the issue of the transformational period at the turn of the 3rd millennium is approached by looking at stylistic qualities of large numbers of seals and relating this
information to archaeological contexts. This observable information is then put into a model that is argued better suits the data.

What is Style?

A major theme that will be developed in the following chapters is that changes in stylistic attributes that mirror social transformations can be tracked in order to better understand the nature of these transformations. But what is style and how can we observe it? This topic will be dealt with again in Chapter 2, but for now we can approach some of the basic concepts.

The definition of style used here is that used by Wiessner (1983) and Wobst (1977), that style is “formal variation in material culture that transmits information about personal and social identity” (Wiessner 1983, p.256). Furthermore, style is a means of information exchange (Wobst 1977), similar to other, perhaps more formal, systems of external symbolic storage and transmission such as writing. Indeed, it is clear that style can be used to relay information reliably and thoroughly. Style takes both active and passive forms, active being that it functioned as an integral part of the formation processes of social transformation, and passive in the sense that style is a tradition that exists at any one time as the collective idea of society (Earle 1990, p.73).

The interpretative methodology used here is not new. Others have explored ways to evaluate stylistic qualities of objects and how they relate to society. In particular, Ian Hodder (1990) succinctly says that style “is both an objective way of doing [...], and it is the subjective and historically evaluated referral of an individual event to an interpreted way of doing” (Hodder 1990, p.51). His definition refers specifically to the inherent dynamism that exists in style (ibid.), and this dynamism relates directly to the loop between the mind and materials mentioned in Section II above.

The position taken in this thesis that style at once makes reference to and helps to define identity is mirrored by Polly Wiessner (1990). In fact, Wiessner specifically includes identity in her definition of style when she claims that the unity in stylistic analysis comes from the perspective that style is “a means of non-verbal
communication to negotiate identity” (Wiessner 1990, p.105). The categories of identification defined by style that she isolates are as follows:

- Social boundaries and interaction
- The individual and society
- Status and power
- The nature of relationships

(Wiessner 1990, pp.108-111)

All of these categories will be presented somewhere in the stylistic analysis of the materials approached in this thesis, although they will not be individually broken down according to these categories. The reason for this is that they are all inter-related, and to break them down in this manner draws artificial boundaries where they should not be drawn. It is important to keep in mind, however, that while the intended scale of interpretation in this thesis is macro-scale, the analysis of the stylistic attributes of the materials can always be open to further interpretation on another scale. This does not in any way invalidate the conclusions in this thesis. Rather, this should open up further study on other scales that can in turn relate to and further define this macro-scale account.
Chapter 2
The Near Eastern Network

Past debates over the origins of civilisation have been lacking certain features that are crucial to understanding the Urban Revolution. Victorian Romanticism lacked scientific rigour, Marxist Materialism was dangerously monocausal, and Processualism failed to take into account the human aspect. A name like Cognitive Processualism (if one must adopt an "-ism") sounds appealing, but as it is still in its infancy, there must be qualifications and clarifications made. For now, ascription to any one formal theoretical tendency will be avoided, and a new approach will be formulated. The crux of the theoretical framework is based upon the idea that society existed as a complex adaptive network of interacting agents prior to the formulation of state level identities. Increasing complexity in this network (Phase 1) necessitated an ideological and cognitive reorganisation (Phase 2), resulting in the formation of a new system of interacting peer states (Phase 3).

Section I approaches what is meant by the definition of Phase 1 as being composed of a "Network". It will be shown that a great deal of indigenous continuity, coupled with an increasingly broad range of inter-regional contact was the nature of societal development from c.8000 - 3100 BC. Emerging complexity is the key element within this prehistoric system, but it should also be remembered that not every element was developing equally. Large parts of the Network were periodically experiencing trends of rapid socio-economic development that spread consistently throughout vast human populations. Increasing returns on cultural and economic trends allowed these elements to diffuse and become acculturated very quickly. Artefactual remains of culture will show that autochthonous cultural continuity existed side-by-side with inter-regional transference of popular cultural and economic expressions thereof, and technological administrative innovations.

In Section II, the primacy of materials in culture and culture change will be challenged. Culture is not the sum of all materials used by a certain group of people, because there must first be values placed on the materials. The ideological and cognitive framework used in a society determines the economic and technological uses, not the other way around. Therefore, causality in culture change must stem from an integrated approach using cognition and materials. Humans choose which materials to value, from basic necessities to prestige items. When cognitive and ideological frameworks changed, the materials, economies and technologies changed expressions to suit the new milieu.

Section III introduces Meme Theory, or Memetics. It will be shown that through the use of Memetic terminology as a tool, a rigorous approach to style, identity, cognition, culture, culture change and culture transmission can be achieved. These ideas are not new; in fact, Victorian archaeologists said similar remarks as will be presented through Meme Theory. Memetics allows us to insert the human element into the archaeology of the Urban Revolution while maintaining scientific integrity.
Section I

The Near Eastern Network

Before discussing (in Chapters 4, 5, and 6) the artefactual and archaeological evidence associated with each Phase\(^1\), especially Phase 1, the lengthy period of emergent complexity, it is absolutely crucial that a clear idea of what is meant and what is not meant by the term “Network”. For this thesis, one simple assertion is being made for what will be defined as Phase 1: a great deal of interaction and borrowing/sharing of ideas was occurring. This “great deal” may vary from site to site materially, contingent upon whether actual materials themselves were being exchanged.

Certainly, the more transmission and movement, the more complex and adaptive the Network becomes. It is for this reason that studies such as Blackman’s (1999) trace element analysis of the Hacinebfí Tepe sealing clays (to be dealt with in Chapter 4) are very appealing. It is important to thoroughly describe what this “Network” actually means, however, before we consider the artefactual evidence.

Definition of the Near Eastern Network

**Phase 1:**

The greater Near East (c.8000 – 3100 BC) was a complex adaptive network of interacting agents of different scales operating within an open system of reciprocal inter-site exchanges contributing to autochthonous cultural trajectories.

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\(^1\) The Phases referred to here are defined thoroughly in Chapters 4, 5 and 6. Because the Phases are defined by both chronology and in terms of social changes, a full explanation of their meaning must come before their analysis. In essence, the Phases are as follows: Phase 1 (Before), Phase 2 (During), and Phase 3 (After). These refer to ‘before’, ‘during’ and ‘after’ the social changes approached in this thesis.
The above is an important concept, so for clarity, some further definitions of the terms employed may be offered:

- “greater Near East” – all those areas discussed in the Geographic Scope Section (III) in Chapter 3. This includes at least: Egypt, the Levant and some of the Eastern Mediterranean, Anatolia, Syria, northern and southern Mesopotamia, Iran and the Indus Valley.

- “c.8000 – 3100 BC” – the system in place, although accompanied by increasing socio-economic complexity, was agrarian/pastoralist and finds its roots in the ‘Agricultural Revolution’.

- “complex adaptive network” – a system where, at the same time, no one node is the centre, and every node is an important focus. The Network was a web, where each site, kinship group, family, individual, etc. functioned both through their own situational bias and also co-evolved through increasing-returns on socio-economic and cultural traits with other entities that were interacting freely with other entities etc.

- “interacting agents of different scales” – for this study, individual people make up the smallest scale we shall consider here. Groups of individual humans, therefore, comprised discrete agents who also interacted in the interest of the group. These groups were likely based on mechanical solidarity (Durkheim 1911) (i.e. cohesion based on the collective similarities of the individual constituents), and the interactions of the group “favoured” only those profitable to the “group identity”. The scale of these groups could range from a husband and wife to a whole religion, ethnicity or language group. These interactions can be considered to consist of anything material. Any expression of an idea, such as speech, symbols, behaviour, or even unintended material interactions such as death, climate, geography etc. could have contributed interactions at varying degrees of success (to be discussed further as memetics).

2 “favoured” here is not meant that there was necessarily an active, conscious selection of these interactions. The use of this term is more along the self-referential lines of “natural selection”: that a group based on mechanical solidarity would not exist if those selections leading to its existence had not been selected. These interactions and traits need not be optimal; they simply exist because they were successful at getting selected.
• “open system of reciprocal inter-site exchanges” – because “interacting agents” obviously acted in accordance with their “best interest” (see footnote, below) in mind. What is meant here is very specific and the word “inter-site” is crucial for the meaning. In Phase 1, interactions and increasing complexity were developing without an overarching “state-level” identity. In other words, while families, whole sites and even ethnicities and the like may have interacted with the best interest of their group in mind, there was no cultural bias beyond that. No regional political or economic entity existed that defined groups as such. In this sense, a “colony” could not, theoretically, have existed, as this would beg the question, “who is colonising whom?”. Doubtless, exploitation of resources occurred by those whom we as modern archaeologists would interpret as not being of the same stock as those who “controlled, or “had rights to” the resources. But this may merely be a superimposition of our own predisposition to categorise in terms of distinct political, economical, regional, ethnic, etc. boundaries. In Phase 1 nothing indicates that there was any identity at this level, and we can only assume that interactions at most went to serve groups that were much smaller than state-level, or lacked the socio-political and economic power to unify a large group under one set of rules. It is in this sense that individual sites would have interacted openly and reciprocally, free from any state-level political bias.

• “contributing to autochthonous cultural trajectories” – the cultural power of the individual and the groups of which an individual was a part cannot be underestimated. The concept of identity is without exception one of give and take. Certain adopted attributes can contribute to lines of thought that already exist, suggest new lines of thought, or completelyextinguish others, but the human mind, and even more so with human society, is a complex interaction between memory, imagination and present material reality. Therefore, any model proposing that the wholesale superimposition of one culture over another occurred should be looked at with caution.

The administrative residue dealt with in Chapter 4 should be approached as being part of this Network. The contextual usefulness, and therefore the archaeological
occurrence of these artefacts, varied from site to site and region to region, but every
interacting agent was interacting with and through this Network. It absolutely must
be remembered, however, that whether or not these administrative techniques were
present, all interactions were based upon this established system.

Section II
Materialism

We must first perceive an object before its value can be established. The
implications of this simple and obvious statement are striking: even physical items
that clearly provide us with essential necessities, like food and water, are valued
because we choose to value them. We value life-giving/sustaining materials because
we choose to value life, not because of any value inherent in the materials’ being.

Certainly there is a dialectic interaction between the materials and their
perception. The relationship between material and mental worlds has been presented
in Chapter 1. One cannot have a metaphysical cultural preference without having
physical objects from which to choose. But for our present purposes, the important
concept is simple: all of the constituent material parts of ‘civilisation’ may be
present, but the metaphysical cultural traits may be absent. The opposite is also true:
certain physical attributes may be absent and thus not vital to the formulation of a
certain type of culture, if the metaphysical cultural value choices have been made.
Therefore we can expect to see ‘civilised’ human communities without some
technological or material attributes normally associated with ‘civilisation’. The
materials are merely symptoms of civilisation that we can pick up easily in the
archaeological record, but they may not have been necessary or universally present.
Likewise, even though a community might exhibit material manifestations of what
can be considered ‘civilisation’, without a culture that values a certain socio-
economic system or identity, this community is not necessarily what we would call
‘civilised’.

Returning to materials in archaeology, what this means is that adopting the
concept of ‘civilised’ technologies and using them to develop autochthonous
trajectories was the important step that a culture had to make, not the material manifestation. For example, once the idea of the token was accepted (see Chapter 4), the form would doubtless manifest differently respective to individual circumstances. Even the increase in the complexity of token usage as shown in the use of complex tokens was a quantitative, rather than qualitative change. In regions where complex tokens were not used, physical substitutes for similar cultural conceptions manifested. For example, in many regions stamp seals as an administrative tool served as the physical expression of a similar concept.

On the other side of the argument, Egypt seems to have had production growth with very little bureaucratic control until relatively late. This is indicative of a choice to value social stratification and state-level identity despite the fact that there may have been no economic necessity or powerful precursor in technology.

Without materials and archaeological contexts, we would know absolutely nothing about prehistoric times and very little about history. It should be stressed that materials are crucial to the arguments presented in this thesis, but it must be made clear what materials mean in regard to culture, thought, society, economy, identity and humanity. Memetics can help us clarify all of these. But before we define the memetic approach we will be taking towards materials, we should further define the archaeological context of the 4th millennium.

Dynamic Relations Between More-or-Less Peers

A major hindrance to holistic approaches to cultural modelling is that our archaeological understanding of Early State formation in the Near East has been incremental and biased. Only in recent years have there been adequate survey and excavation in some of the areas long considered to have been peripheral. The more information we extract from these "peripheries", the more it seems that there existed in these areas indigenous and autochthonously developed communities in their own right. "Core" areas such as southern Mesopotamia and Egypt are considered cores simply because they were excavated and analysed first.

For most of this century our models of culture change were based on this slowly incremental and incomplete database. As we obtain more information that
fills in the gaps of our knowledge, we must alter our models to better fit the facts. Now that we are at a point where areas such as the Levant, Anatolia and the Indus Valley have revealed strikingly complex communities that were developing synchronically with the “core” areas, a simple, linear, stimulus-diffusion model no longer seems to fit. The question we must ask ourselves at this point is what kind of model can we create that takes into account multi-nodal development from a network of independent and dynamically interacting units.

The key word here is dynamic. Reciprocal exchanges between what has been thought of as the core and periphery can now be shown to have existed. Algaze’s (1989) Uruk World System model accounts for these relationships in a unilinear, monocausal manner. In this elaboration of World System Theory (Wallerstein 1974, 1980), 4th millennium southern Mesopotamia is seen as the progenitor of civilisation, fully developed urban dwellers with a sense of regional identity, and the colonisers and exploiters of foreign lands. This view simply no longer fits the facts. The moment we see economic, cultural and technological innovation and active participation in the exchange systems in the periphery, then we can confidently say that the ancient Near East at this time was not comprised of one core surrounded by underdeveloped cultural backwaters. Rather, with reciprocal interactions taking place and each transaction suiting the best interest of the respective parties involved, the Near East was composed of a Network of dynamic interacting agents.

Each of these agents, however, was subject to natural and selective conditions. Economic strategies, material cultures, ideologies, and social organisations are ideas that “catch-on” with varying degrees of success. This means neither that particular types of these ideas were deterministically better than others, nor that there was a natural progression where complete dominance occurred. The end result was a cultural fabric where the interacting agents had particular histories and trajectories, but had also chosen to adopt certain characteristics that won out in a cultural monopoly game.

This monopoly game idea was first proposed by Kemp (1991) specifically in regard to proto-dynastic Egyptian cultural development, but it is assumed here that Egypt’s artificial boundaries in no way necessitate a limitation of this model. In
other words, this was the situation in the whole of the greater Near East. The idea put forward by Kemp is worth repeating in full here:

The course which this competition took in a landscape of almost unlimited agricultural potential, of the kind supplied by Ancient Egypt, we can envisage through the analogy of game playing... We can begin simply by imagining a board game of the ‘Monopoly’ kind. At the start we have anumber of players of roughly equal potential. They compete (to some extent unconsciously) by exchanges of different commodities, and later more openly by conflict. The game proceeds by means of a combination of chances (e.g. environmental or locational factors) and personal decisions. The game unfolds slowly at first, in an egalitarian atmosphere and with the element of competition only latent, the advantage swinging first to one player and then to another. But although hypothetically each player’s loss could be exactly balanced by his gains, the essence of gaming, both as personal experience and in theoretical consideration, is that the initial equality amongst the players does not last indefinitely. An advantage which at the time may escape notice upsets the equilibrium enough to distort the whole subsequent progress of the game. It has a ‘knock-on’ effect out of all proportion to its original importance. Thus the game inexorably follows a trajectory towards a critical point where one player has accumulated sufficient assets to outweigh the threats posed by other players and so becomes unstoppable. It becomes only a matter of time before he wins by monopolizing the assets of all, although the inevitability of his win belongs only to a late stage in the game.

(Kemp 1991, p.32)

The underlying concept here is exemplified by a term used in economics: increasing returns. The reason why rigid mathematical economics failed to interpret living systems such as the stock market was because it failed to take into account subjective human preferences and irrationality. Slight advantages caused by things such as being the first technology (but not necessarily the best technology) to market creates a popularity that ensures repeated use. This creates a monopolising effect where a particular commodity does very well in the market (to use a modern analogy).

Furthermore, the unstoppable winner’s inevitability is not realised until very late, and until then the concept of “competition” would remain latent. In the case of the Near Eastern Network, we as archaeologists can clearly see that Uruk Expansion was a precursor to the might of the Sumerian State, but this hindsight was not available to the human populations in context. The late 4th millennium was a time when complex cultures began to “heat up”, and competition (especially in the form of warfare) would have been imminent, but not present. As the “monopolies” began to establish themselves as such, there was not a single overarching winner who controlled the entire network, but multiple winners who wielded power over regionally divided units, organised by politically and mechanically solid, state-level identities.
Previously proposed theoretical models seem to ignore causality. On one hand, a model such as stimulus-diffusion, which seems to call for a single advanced culture transmitting "blueprints for civilisation", complete with all of the symptoms (writing, monumental architecture, social stratification etc.), sounds ludicrous unless the secondary state was already at a comparable level of sophistication. On the other hand, even if synchronicity is accounted for, a model such as peer-polity interaction places too much emphasis on indigenous development, and tends to isolate communities into discrete Nation-state-like entities.

An important element of the model that will be spelled out in this thesis is that the model itself explains the causality (see Chapter 7 for reference to self-organisation). It is the very fact that emerging complexity within an interacting network existed that the transformations associated with the Urban Revolution took place. The restructuring was a consequence of increasing complexity. Simplicity on a grand scale was the result. This simplification on a state level is what scholars have termed "civilisation", as difficult a word as that is. All of the symptoms of this simplification such as would be expected in a complex urban society, were the result of a reorganisation of human interactions to account for a greater complexity. Therefore, by modelling the complex interactions of Phase 1, we explain why the transformations took place in Phases 2 and 3.
Section III

Meme’s the Word

Evaluation of the Evidence

Meme: an information pattern, held in an individual’s memory, which is capable of being copied to another individual’s memory.

Memetics: the theoretical and empirical science that studies the replication, spread and evolution of memes.

A set of mutually-assisting memes which have co-evolved a symbiotic relationship. Religious and political dogmas, social movements, artistic styles, traditions and customs, chain letters, paradigms, languages, etc. are meme-complexes. Also called an m-plex, or scheme (Hofstadter). Types of co-memes commonly found in a scheme are called the: bait; hook; threat; and vaccine. A successful scheme commonly has certain attributes: wide scope (a paradigm that explains much); opportunity for the carriers to participate and contribute; conviction of its self-evident truth (carries Authority); offers order and a sense of place, helping to stave off the dread of meaninglessness. (Wheelis, quoted by Hofstadter.)

*


Using meme theory and dynamic systems theory, we can begin to piece together the social changes that occurred within a systemic context.

Meme theory (memetics) is a tool, a set of vocabulary used rigorously and scientifically to study cultural evolution. Although roughly analogous to biological evolution and genetics, there are some crucial differences. In genetics, generally speaking, genes are fixed and express phenotypic effects unidirectionally:
In meme theory, the meme is the basic unit of cultural “natural selection”, existing as an idea or intent that is in turn expressed and then received by another mind, or replicated. As in biology, this “selection” is merely based on the longevity, fecundity and replication accuracy of the replicator itself that ensures its survival and propagation. But memes are never fixed and the effects expressed act in more than one direction:

\[
\text{meme} \leftrightarrow \text{interactor} \leftrightarrow \text{memeplex}
\]

\[
\text{[e.g. idea, thought process]} \leftrightarrow \text{[e.g. artefact, speech, music, behaviour]} \leftrightarrow \text{[e.g. nation, family, religion]}
\]

It is hoped that through the use of this terminology which breaks culture into constituent parts, greater precision and insight can be obtained when observing culture, culture change and culture transmission.

### Meme Theory

It is worthwhile here to expand the definition of meme theory (an elaboration of gene theory first proposed by Richard Dawkins 1976). There is fundamental difference between biological evolution and cultural evolution. Genotypic influence in biological evolution flows only one way synchronically, alterations in genes occurring only diachronically. In cultural evolution, influences are a two-way street. If one adopts the terminology: REPLICATOR, INTERACTOR, LINEAGE, for gene (meme), organism (artefact), and group/species (social structure/organisation) respectively, there are some important observations and caveats that we can make. As a diagram, we can represent the flow of influences between these units as such:

Biological evolution: REPLICATOR $\Rightarrow$ INTERACTOR $\Rightarrow$ LINEAGE
Cultural evolution: REPLICATOR $\leftrightarrow$ INTERACTOR $\leftrightarrow$ LINEAGE

...or more accurately, Cultural evolution:

\[
\begin{align*}
\text{REPLICATOR} & \downarrow & \downarrow \\
\text{INTERACTOR} & \leftrightarrow & \text{MEMEPLEX (lineage)}
\end{align*}
\]
The fact that biological and cultural evolution are not totally analogous requires a re-evaluation of the processes at work. Genes as replicators cannot normally be altered while within one vehicle, and thus the influence only runs one way synchronically. In other words, we (individual humans) cannot at will alter the genes that were passed on to us. The most we can hope for is to combine with a suitable partner to create a better offspring (diachronic). Memes as replicators, however, are never static, but are rather a continuum responding to influences from interactors and indirectly from lineages. Therefore, memes in cultural evolution have no synchronicity. Interactors and lineages can be synchronous, but not memes. This difference is important because: (basically two sides to the same coin)

1. Culturally derived institutions (memeplexes) between/among interactors and lineages are not based on a single, static common meme.
2. Identical physical manifestations of interactors/lineages are not necessarily expressions of the identical memes.

There are some interesting propositions we can make regarding the Urban Revolution if we assume the last two statements are true. First let us consider another phenomenon closely related to meme-theory: fads. Fads, or caprices, are material culture elements (interactors) that may spread through populations (lineages) or even across populations but are relatively fleeting; what is important to remember is that the interactors are not necessarily all connected to the same memes. For example, a red bandana worn by someone in Samoa may mean something different to someone in the Crenshaw District of Los Angeles. That is, the meme associated with “red bandana” in Samoa has nothing to do with a gang from South Central LA even though the physical interactor is the same.

Now returning to the Urban Revolution while incorporating these memes and fads we can begin to apply a coherent meme-theory model for the cultural evolution leading up to this transformation. The Near Eastern Network was a system of competing and coevolving memeplexes that experienced rises and falls of various popular interactors. We have based periods on these material cultures (Hassuna, Halaf, Ubaid).
Fig. 3 Map showing spread of Ubaid material culture in Southwest Asia. Roaf 1990, p.53) The key in the upper right hand corner is (from top to bottom) Early Ubaid, Late Ubaid and Related material cultures, corresponding to the colours on the map. Notice that Late Ubaid spreads throughout much or greater Mesopotamia.

These material cultures may not have actually been the expansion of people or even ideas but merely the physical manifestation of ideas possibly reinterpreted with each replication. The spread of the Uruk assemblage could thus be interpreted not as colonisation or control, but merely the last epoch in the series of fluctuations in the popularity of interactors. In other words, it was the “last great fad” of the old system (see Oates 1993, for a similar, but parallel point).

When too complicated a fad spreads too far from the meme(s) from whence it came, the system becomes increasingly complex with no grounding in an idea, and a simplifying reorganisation must occur. Interactors are once again brought “back-
home”, and a new “layer” is added to account for the level of complexity that had culturally been reached. In the case of the Urban Revolution, rather than being more complex, the new regime with this added, largely economic and political state-level layer began to experience a similar series of rises and falls of culture, but this time we call them: wars, empires, alliances, etc. Phase 2 was the transitional period between the stage where smaller/less politically or economically powerful (possibly religious or kinship) memeplexes were the largest layer to a period where regional memeplexes were added to the pre-existing identities, which were then restructured in response to this new layer (Figs. 4 and 5 show very schematic representations of these interactions of identities, although they should not be thought of as being necessarily geographical representations).

Fig. 4 Interaction between identities within a non-state-level network

Fig. 5 Interaction between identities within a state-level network
State-level identity (not in the modern sense of "Nationalism") may then be regarded as a memeplex applied on top of pre-existing kinship, ethnic and religious memeplexes in order to account for and simplify this added complexity. This viewpoint makes sense, because neither were the memes that existed before 3100 BC abandoned when a city-state organisation was adopted, nor were the religious, ethnic and kinship institutions discarded. Rather, there was a reorganisation of the already existing memes and memeplexes to fit into a new all-encompassing structure. This further takes into account the fact that pastoralism and nomadism may have played as important a role as the cities did in the rise to urbanism.

Stylistic Analysis

Using these ideas of "memes", we can then begin to evaluate how they help to explain culture change. Stylistic analysis of material objects can provide us with data from which we can base these explanations. As an example of how we might use a symbolically laden material, we can approach a familiar image at the University of Edinburgh to isolate some characteristics:

Fig. 6 The coat of arms of the University of Edinburgh is emblemic of identities.

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1 The level of identity at a national level (i.e. nationalism) is an entirely different field of study and one that does not correspond to any social constructions present at the time period we are dealing with here. The difference, which should be evident although not necessarily precisely indicative of the reality of nationalism, is that the "national" identity supersedes and encompasses all other identities. This is clearly not fully accurate, as religion alone crosses national boundaries. But in a true "nation", the identities within the overarching national identity are essential to the makeup of the nation itself. Likewise, all interactions conducted outwith the nation must be done in accordance with the laws and structures set forth by the controlling nation. Both before and after the Urban Revolution, nationalism is not present (and for that matter neither is Peer Polity Interaction), as the political sphere of influence (Fig. 5) does not completely dominate over every aspect of life. Some degree of power still rests solely with the "smaller" identities such as kinship and religion.
This symbol (Fig. 6) can actually be read, albeit less precisely than through script. We can tell a narrative or a descriptive account of the meaning behind each of the symbols represented. In the university's coat of arms four distinct symbols can be determined, each one representing a different “layer” of identity:

1) **The Blue Cross on White:** The Flag of Scotland, St. Andrew’s Cross; it holds the largest geographic range; it means that the laws and religion of Scotland are in place and power is held by the authorities of Scotland in the land identified by this symbol.

2) **The Thistle:** Arguably represents the Scottish ethne or psyche; while the flag represents power within the land within the borders of the politically controlled region, the thistle represents the people of Scottish descent.

3) **The Castle:** Clearly represents the city of Edinburgh; from anywhere in the city one can see the castle looming above, a symbol itself of both protection and control; also identifies Edinburgh with or promotes/asserts Edinburgh as the seat of the ruling Scottish political body.

4) **The Book:** The University of Edinburgh itself; long intellectual tradition and standards; haven of progressive thought; home of the Scottish Enlightenment.

In an everyday item such as this coat of arms are implicit and explicit meanings behind the symbols. We could go into as much or as little detail in our description of each of these symbols. It can be assumed that it was no different for the peoples of the Near East at the time period we are concerned with here.

- **Emblemic or assertive styles** would be ones that set themselves apart from other styles, and consequently the persons associated with these symbols.
- **Emulative styles** would be ones that attempt to gain some of the prestige or appreciation or power associated with foreign symbols and likewise for the seal owner.
Therefore in the periods before c.3100 BC (Phase 1) we see much more free flow of styles between regions, and the in the periods after c.3100 BC (Phase 2 and especially Phase 3) we see a motion towards concrete regional styles (Emblemic), with concentrated attributes (sometimes foreign, sometimes archaising) being emulated. The lens through which we will be observing this change will be through a detailed study of administrative residues, with particular attention being given to glyptic artefacts.

Dynamic Systems and Culture Change

Our understanding of the way dynamic systems work and interact has been greatly enhanced in the past 50 years. Especially in certain fields (artificial intelligence, meteorology, hydrodynamic physics, chaos theory and complexity studies, and palaeontology to name a few), dynamic systems are a particular concentration. In social realms, there is an aversion to using complex dynamic models to explain culture change, possibly because not many people like to think in terms of determinism. This fear is unfounded, however, as dynamic systems models are just that...models. This is not to say that human beings have no choice in matters. On the contrary, dynamic systems models thrive on the added complexity of things such as “free will” and the phenomenon of “positive returns” (in economics). Simply stated, according to dynamic systems models, when a complex system reaches a certain critical point, crises in the system occur and the system undergoes a “revolution”. This does not necessarily connote progress, rather a new trajectory that will increase in complexity until the next crises occur. In evolutionary biology and palaeontology this is called punctuated equilibrium. In physics this is called a “phase transition”.

What this means for us is that in the several millennia from c.8000 – 3100 BC the Near East was a complex system that was interacting through a combination of endogenous and exogenous changes (that is: autochthonous development and Network diffusion). At the turn of the 3rd millennium, a reorganisation occurred due to human interaction within this complex system. A new system was arranged, where increased organisation and structure was evident, and this new system continued on until the next reorganisation was needed. This new system was
structured by an added layer of identity and the reorganisation of the pre-existing identities within a new paradigm.

Human beings need identity. At a basic, simplistic level we tend to think of ourselves individually. It can be argued that this is essentially our genes that have produced a mechanism that drives us to survive and reproduce. If we are agents acting to ensure the survival of our genes, we will likewise exert some effort to ensure the survival of those individual entities that share some of our genes. This leads to an identification based on shared genes, i.e. someone is of the same “family” or “kin”. Often physical similarities reinforce this identity.

But identity does not stop at such a basic level as this. Take adopted children, for example; or best friends. Human beings are social beings as well as natural animals. When we go beyond the biological genetic realm of “what benefits the genes”, we enter into the social realm of memes. Memes, like genes, survive best if they are expressed as vehicles that help to spread accurate copies of themselves. And these vehicles can often benefit from symbiotic relationships with other vehicles. These are memeplexes such as religions, political bodies, clubs, etc. When a discreet identity comes to embody too many memes, too complicated of a network, too much energy, these memeplexes become overloaded. A human being’s mind can only identify with a limited amount of complexity, and absorption and replication of the memes from the memeplex begins to break down. For the benefit of the replication these memes, a new memeplex of greater scale is then formed which encompasses multiple memeplexes on a much simpler level. Therefore, a “meta-memeplex” is formed which incorporates multiple groupings of memeplexes organised into an overarching identity. In the case of the Urban Revolution, this new identity was on the state-level.
Summary

Chapter 2 has attempted to create a framework in which archaeological materials can be observed. In particular, when we approach the 4th millennium artefacts in Chapter 4, it will be necessary to understand artefacts as carriers of information. In order to understand the workings of the Near Eastern Network in the 4th millennium (as it relates to increasing complexity), information storage and transferral techniques must be grasped on a conceptual level. Meme-terminology and stylistic analysis allows us to apply a rigorous methodology to the observation of the Network in both material and cognitive forms.
Chapter 3
Calibrated Radiocarbon Dating and Comparative Stratigraphy

This thesis is neither attempting to disregard the work done by the compilers of chronological sequences, nor to put forth an alternative. In fact, there are only two chronological concerns that are pertinent to the study at hand: the impact calibration has on prehistoric dates, and the legitimacy of any attempt to establish chronological priority in periods that are relatively synchronous. Otherwise, the standard chronologies will be taken as either statement of fact or as work in progress. They will not be repeated here, except as a cursory overview and as they illustrate the main concerns of the present chapter.

Our first concern (Section I) is to show that when calibrated radiocarbon dates are inserted into established prehistoric chronologies, the length of these sequences is stretched-out considerably. Especially for regions whose 4th millennium sequence was for years considered to be quite short, it is becoming increasingly clear that on the contrary, the 4th millennium was a time of steady development in every region.

Our second concern (Section II) is to attempt to dispel the idea that chronological primacy can be laid down through negation - that is, just because artefacts are not found in one particular region at one stratigraphic level, this does not necessarily equate them with not having been a part of the cultural repertoire. In fact, even if it were possible to answer the question of, “who was the first?”, this question will be shown to be meaningless and distracting of the more interesting questions of why and how. The “Urban Revolution” took place in a circa 200 year period; but an attempt to establish priority of one region over another draws attention away from the fact that by the end of these 200 years, virtually every region had undergone some sort of social transformation.

For the 200 years of the “Urban Revolution”, we will see that radiocarbon dating helps us very little in the precision of sequences. Therefore, as more work is being done through comparative stratigraphy and the objects found therein, we may hope to refine this period further. In the meantime, and as far as this study is concerned, we shall in the following chapters move on from this point and attempt to evaluate the events within the periods as we know them.

There is no reason why a study such as the present one should not use the conventional chronological resources available. The only drawback in using the comparative chronologies from the usual sources is that they are as a rule limited geographically to areas that can be closely tied through artefactual remains. Where the standards such as the three volumes of Ehrich’s Chronologies in Old World Archaeology (1992) and the authoritative SAR conference’s chronological framework leave off, the remaining regions will be filled in accordingly. The areas that will need additional treatment will occur in a third section.
Legitimacy of Chronology

The first task in an interregional study should be to set forth precisely how the societies being examined compare chronologically. In order to fit material remains into some kind of cogent framework it is necessary that the chronological periods be clearly defined so the conclusions drawn from temporal analysis will be accurate. Although the material remains themselves can delineate a relative chronology, and evidence for contact with other regions can, among other things, tie one relative chronology into another, it is, however, helpful when possible to be able to absolutely date a chronology for a region. This provides a check on the dating independent of any relativistic terminology, biases or mistakes. Calibrated radiocarbon dates and the subsequent chronology using these dates have drastically changed the way in which we perceive the 4th millennium BC and the social constructs that were present during the periods therein. In order to define this chronology we must first clearly state the chronological questions we wish to pursue, then we may use the data available to reconfigure the dates and finally we can have a working chronology into which we may then put our material remains and test hypotheses about the societies involved.

Radiocarbon provides us with less of a dating method than a degree of probability (Watkins 1975), and in order to exploit fully the benefits that radiocarbon dating can give to archaeological interpretation, we must ask very clearly what we want from the dates.

There are in effect only three forms of chronological question used by archaeologists. Two of the three forms of question deal with time-relationships between phenomena. An archaeologist may seek to discover whether the phenomenon with which he is concerned is of the same date as another phenomenon or other phenomena, or he may ask a similar question, namely whether one phenomena is earlier (or later) than another. The third form of question is concerned with the duration of phenomena. In summary these three questions may be formulated as:-

1. Was A of the same date as B?
2. Was A earlier [or later] than B?
3. What was the duration of A?
(Watkins 1982, p.74-5)

Although there are many questions that we would like to explain through accurate radiocarbon dating, even the simplest questions can be turned back upon themselves, thus making the question itself moot or too complex and better explainable through other means. Consider this generality:
An archaeologist may wish to establish that culture A was contemporary with neighbouring culture B (a type 1 question), in order to lay down the foundation for building a case that certain goods or certain culture traits may have been passed from one culture to another...the archaeologist would first wish to establish the broad contemporaneity of cultures A and B before trying to demonstrate that one culture was in fact in possession of certain traits before the other culture was in existence; and he may even wish to be able to say approximately how long (a type 3 question) the first culture was in existence before the second came into being. Thus all three forms of chronological question may lie behind such an apparently simple example. (Watkins 1982, p.75)

Thus, we could wish to establish three things through radiocarbon dating, but since "we cannot expect to define the transition from one culture to its successor in terms of a point in time...culture change is a process not an event" (ibid, p.76), our question boils down to merely one of duration. Question “1” is needed to establish, independent from material evidence of contact, contemporaneity between A and B. Question “3” would be used to establish, independent from material remains, the absence of a chronological gap between cultural periods within “A” and to determine the duration of these cultural periods. But (as stated above) these questions can be turned back upon themselves. Contemporaneity between cultures in two different regions can be established by producing internal chronologies of the durations of each culture and comparing one to another. As for substantiating the proposition that a gap did not exist between two successive periods (i.e. material cultures), this would be much more easily approached by establishing continuity through the material remains (although radiocarbon dating and the establishment of duration for a culture can support this assertion). So what we are left with is the question of what the durations of the successive cultures within region A were. Therefore, simply establishing a chronology using calibrated dates for the successive prehistoric periods will take care of most of the questions that we hope to approach.

As an example of how a re-evaluation of chronology through calibrated radiocarbon dating can be important, in southern Levant archaeologists are forced to re-examine the internal social constructs, the formative processes which brought about these constructs, and also how southern Levantine societies interacted with other regions of the Near East. This is due to the fact that, as we will see, not only are the periods leading up to the first period of urbanisation lengthy (thus indicating a gradual autochthonous development rather than a stimulated exogenous change), but
this period of urbanisation can be seen as beginning roughly contemporary with the beginning of Dynastic Egypt. As will be shown, the role that neighbouring regions (Mesopotamia especially) served as a stimulus in regard to incipient urbanisation in the southern Levant has been, for the most part, greatly overemphasised (Ben-Tor 1978).

“Civilisation” did not appear *ex nihilo* as we know it, so we should make it clear that there was a long and gradual rise to urbanism rather than a sudden replacement of culture by transplanted foreign influence or by “large ethnic migrations from the east, warrior aristocracies, and urban developers” (Stager 1990, p.87). Secondly, before radiocarbon dates can be effectively utilised, a good internal relative sequence of cultures must be laid out. Then the $^{14}$C dates can be used to absolutely date the periods to which the material cultures are attributed and this sequence can then be compared to the sequences of neighbouring regions.

As the Neolithic sequence is only indirectly applicable to the topic at hand, we shall not cover this time period (although one should note that a separate study would be useful for linking the cultural evolution back to the first sedentary agricultural practices by the Natufians c.8000 BC). After the Neolithic, however, the Chalcolithic sequence continues or metamorphoses into the typical 4th millennium forms. Next, the long sequence in the 4th millennium will be shown as the period where intensification of complexity accumulated, directly leading into the period of urban transformation. This is not to say that diffusion, migration and breaks in occupation did not occur, but that autochthonous development from indigenous populations deserves more focus than has previously been given.

---

1 Stager’s comments are in response to Kathleen Kenyon’s attribution of the urbanisation in Palestine which occurred in EB II to “a warrior aristocracy, mingling with the women of the previous inhabitants” (Kenyon 1965).
Section I

The Prehistoric Periods

In this section we will consider each region in turn, and on its own terms. Although interregional correlates are inevitable in certain circumstances, and they obviously enhance our understanding of chronological periodisation, it will be shown that taking some regions’ chronologies independently has some relevant benefits. The three broad regional categories taken here will be: Egypt, Palestine, and southern and northern Mesopotamia, Anatolia, and Iran. The Indus Valley chronology will be commented on briefly, but as the 4th millennium phases are newly discovered, the periodisation and dating will be taken directly from the excavator’s account (see also Chapter 6). It must be remembered that naturally there will be huge gaps in the chronology presented here, but the conclusions being drawn in this section are based on generalities in chronology, not specifics. Therefore, each region’s internal chronology will be highlighted, and briefly commented upon. This presentation should be sufficient to show what is possibly the most important aspect of this chapter: the developmental periods leading up to the period of urbanisation at c.3100 BC were of long duration in every region.

Egypt

Fig. 7 Predynastic Chronology of Ancient Egypt

<table>
<thead>
<tr>
<th>Date (B.C.)</th>
<th>Upper Egypt</th>
<th>Lower Egypt</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100</td>
<td>Protodynastic</td>
<td>Protodynastic</td>
</tr>
<tr>
<td>3200</td>
<td>Late Gerzean (Naqada III)</td>
<td>Late Gerzean/Maadian</td>
</tr>
<tr>
<td>3600</td>
<td>Early Gerzean (Naqada II)</td>
<td>Omari B?</td>
</tr>
<tr>
<td>4000</td>
<td>Amratian (Naqada I)</td>
<td>Omari A?</td>
</tr>
<tr>
<td>5000</td>
<td>Badarian</td>
<td>Merimden/Fayum A</td>
</tr>
<tr>
<td>(5500 ?)</td>
<td>(Hoffman 1979, p.16 - with revised dates after Wilkinson 1998)</td>
<td></td>
</tr>
</tbody>
</table>

Creating a chronology for Egypt is difficult considering the lack of relative external correlations in the early periods, and the paucity of reliable radiocarbon dates to date the internal chronology independently. In the past decade or so, however, we have gained a much clearer idea of the duration of the prehistoric periods in Egypt. A re-evaluation and calibration of early radiocarbon dates and a
proliferation of radiocarbon dates from more recent excavations have made the above chronology more-or-less reliable.

The supposition that Egypt’s rise to civilisation was a long cultural evolution proves to be problematic when using only radiocarbon dates to establish the duration of succeeding Predynastic periods. Through thermoluminescence dating of Predynastic pottery, however, it can be established that not only were the Predynastic cultures continuously successive, but also that they were rather lengthy (see Whittle 1975). This dating evidence shows a long indigenous development of the socio-economy in Egypt that would eventually lead to the establishment of a state-level identity at the end of the 4th millennium.

Palestine / Transjordan

Fig. 8 Chronology for Palestine/Transjordan

<table>
<thead>
<tr>
<th>Period</th>
<th>Phase</th>
<th>Timespan (circa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Pottery Neolithic*</td>
<td>PPNA</td>
<td>8500-7300</td>
</tr>
<tr>
<td></td>
<td>PPNB</td>
<td>7300-6300</td>
</tr>
<tr>
<td>Pottery Neolithic</td>
<td>Yarmukian</td>
<td>6300-5200</td>
</tr>
<tr>
<td></td>
<td>Wadi Rabah</td>
<td>5200-4400</td>
</tr>
<tr>
<td>Chalcolithic</td>
<td>Post-Ghassulian</td>
<td>? 3800-3700</td>
</tr>
<tr>
<td>Early Bronze I</td>
<td>EB IA (Early) South \</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;&gt;</td>
<td>3700-3300</td>
</tr>
<tr>
<td></td>
<td>EB IA (Early) North //</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EB IB (Late)</td>
<td>3300-3050</td>
</tr>
<tr>
<td>Early Bronze II</td>
<td>Hor-Aha (Dynasty I)</td>
<td>3050-2680</td>
</tr>
<tr>
<td>Early Bronze III</td>
<td>(Dynasty IV)</td>
<td>2680-2250</td>
</tr>
</tbody>
</table>

*Dates for the Pre-pottery Neolithic are after Stager 1992, p.22

The chronology presented (Fig. 8) demands a little clarification. First of all, only in the historical periods (historical being relative to cultures whose written records survive to us today) are we able to do much more than round to the nearest century. This is due to the fact that in the EB I and earlier, the only means to quantify the duration of periods is through radiocarbon dates, which are, as stated
above, more of a degree of probability rather than an ability to record actual dates. This is especially true when figuring durations of periods. We can only hope that the carbon remains are indicative of the whole of the period, rather than simply concentrating in certain portions of the chronology. The danger which we should be aware of is that, especially in the EB I, we are dealing with a huge length of time, and our evidence is a random sample which is beyond our control. Our lack of control of the data may lead to misinterpretations which stem only from the lack of breadth of the sample and may not in fact be wholly indicative of the chronology.

With this being said, there are still some conclusions that we can draw from the calibrated dates. What we can see is that there is a general continuity from period to period, with the uncertainties in radiocarbon dating overlapping sufficiently in the period of transition. For the 4th millennium:

The calibrated dates for the Late Chalcolithic concentrate around 4000-3800 BC, while the Early Bronze 2 would, on the basis of a contemporaneity with the Egyptian First Dynasty, come somewhere between 3200 and 2900 BC. In between there is a date for Yiftahel at around 3600 BC (Braun, pers. comm.), and several dates for the late Early Bronze 1 around 3400-3200 BC [...] In conservative terms, the four metres below the Early Bronze 2 at Umm Hammad [...] represent about six hundred years, of which perhaps the last 200 years belong to the Early Bronze 1b. (Hanbury-Tenison 1986, p.69)

This 600 years for the EB I push the end of the post-Ghassulian Chalcolithic and the beginning of the EB I back to c.3700 BC. The allowance of one-hundred years for the post-Ghassulian Chalcolithic is little more than a guess, but as the dates for the “proper” Ghassulian Chalcolithic cluster at the turn of the millennium until 3800, it seems likely that Ghassulian terminates at about 3800 BC. At present, the lines between the cultures of the earlier periods are so fuzzy that dating their durations is problematic. For present purposes, precise durations for these periods is not our primary concern; what is important to note, however, is that there is a consistency of cultural continuity throughout all of the periods through EB II-IV and lengthy durations therein. Of particular interest are the dates from EB I which considerably stretch the duration of this period.
The chronology shown above (Fig. 9. from SAR Conference 1998) was, in part, an attempt to reconcile some of the discrepancies and biases that have pervaded archaeological periodisation in the Near East. When work on the present PhD thesis began in 1997, the SAR chronology did not yet exist. Because comparative chronologies available were unsatisfactory for the purposes of this thesis, an independent chronological study was undertaken to fit to the specific concerns. The SAR chronology is now available in fully published form (Rothman 2001), and the conclusions reached therein essentially repeat the conclusions made in the study conducted for this thesis. In order to stay within the parameters of current
scholarship, and to avoid repeating careful work already completed by the SAR group, the radiocarbon and comparative chronological study undertaken in the process writing this thesis has been omitted. Nothing is lost from this omission, however, and the additional chronological concerns are detailed in this chapter.

Mitchell Rothman, one of the contributors to the SAR chronology, had proposed at a conference in Manchester (1998) that even this authoritative chronology be abandoned in favour of referring to periods by their dates alone. While this is indeed something we could benefit from, referring to periods by their material assemblages does have certain advantages, especially as regards the present study. As will be shown in Chapter 4, material evidence has often been used to show the primacy of particular traits in one region; this assertion through negation is inherently flawed. Therefore, at least in the present study, the use of traditional chronological periods will serve the best function. Rothman’s suggestion is noted, however, and certainly the compilers of chronologies should be moving in this direction.

Taking the above SAR chronology then, we can delineate the successive periods in each of the regions using the traditional southern Mesopotamian nomenclature. While it is understood that referring to periods in regions as diverse as Iran, Anatolia and Mesopotamia and only using the terminology of Mesopotamia can and has caused problems of regional bias, this can also have benefits that will be exhibited later. Even though each regional glyptic style is particular, and should be referred to in its own terms, interregional contact and stylistic influence can be more easily tracked if one adopts a standard terminology to refer to the time period in which these styles were found. In particular, we will be dealing largely with the glyptic from the Jemdet Nasr period (Phase 2). It is extremely useful to refer to the seals found in Susa, for example, as Jemdet Nasr period seals, even though it is understood that the glyptic traditions at Susa and Jemdet Nasr are separate and distinct. Furthermore, much work has already been done to tie these regions under one chronological paradigm, even if this has caused a drastic regional bias.

The periods for the four regions taken in this section are as follows:
**Fig. 10 Northern Mesopotamian Chronology**
(Porada, Hansen, Dunham, Babcock 1992 with revisions after Gut 1995)

<table>
<thead>
<tr>
<th>6500</th>
<th>6000</th>
<th>5500</th>
<th>5000</th>
<th>4500</th>
<th>4000</th>
<th>3500</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

← Proto Hassuna →

← Hassuna →

← Samarra →

← Halaf →

.........UBAID.........⇒

<Early Northern> <Late Northern>

Early Gawra

← →

Late Gawra

← →

← North Uruk →

Ninevite 5

**Fig. 11 Southern Mesopotamian Chronology**
(After Porada, Hansen, Dunham, Babcock 1992)

<table>
<thead>
<tr>
<th>5500</th>
<th>5000</th>
<th>4500</th>
<th>4000</th>
<th>3500</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

← Ubaid 1 →

← Ubaid 2 →

← Ubaid 3 →

← Ubaid 4 →

Early Uruk

← →

Middle Uruk

← →

← Late Uruk →

← →

Jemdet Nasr
Iran

In a general sense, Susiana and much of the rest of Iran and Azerbaijan can, for reasons discussed above, use the southern Mesopotamian nomenclature for chronological periods (or analogues in the north Mesopotamian chronology). Some correlations should be made between the comparative stratigraphy, however, so reference to particular periods in Susian and Iranian terminology can be clear. According to the Susian sequence, which can be expanded to encompass much of Southern Iran is for the later periods as follows:

Fig. 13 Susiana Chronology
(After Voigt and Dyson 1992)

<table>
<thead>
<tr>
<th>Susa Sequence</th>
<th>Dates</th>
<th>Southern Mesopotamian Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susa II</td>
<td>3500 – 3100</td>
<td>Late Uruk</td>
</tr>
<tr>
<td>Susa III A-B</td>
<td>3100 – 2900</td>
<td>Jemdet Nasr</td>
</tr>
<tr>
<td>Susa III C →</td>
<td>2900 →</td>
<td>Early Dynastic →</td>
</tr>
</tbody>
</table>

Although an enigmatic hiatus occurs at Susa, sometimes termed Transitional Proto-Elamite, excavations at Tall-i Malyan (sites ABC and TUV) have evidence of
sealings and proto-Elamite tablets (in levels B.L. IV - I) with the corresponding MASCA calibrated dates as follows:

**Fig. 14 Calibrated Dates from Tall-i Malyan**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC B.L. IV</td>
<td>3310 - 3210 ± 80 B.C.</td>
</tr>
<tr>
<td>ABC B.L. IV</td>
<td>3450 - 3390 ± 270 B.C.</td>
</tr>
<tr>
<td>ABC between B.L. II and III</td>
<td>3160 ± 90 B.C.</td>
</tr>
<tr>
<td>TUV B.L. IIIA</td>
<td>2900 - 2800 ± 250 B.C.</td>
</tr>
<tr>
<td>TUV B.L. IIIA</td>
<td>3210 - 3310 ± 60 B.C.</td>
</tr>
<tr>
<td>TUV B.L. IIIA</td>
<td>3380 ± 70 B.C.</td>
</tr>
<tr>
<td>TUV B.L. IIIA</td>
<td>3320 - 3330 ± 70 B.C.</td>
</tr>
<tr>
<td>TUV B.L. IIIA</td>
<td>3180 ± 70 B.C.</td>
</tr>
</tbody>
</table>

(After Nicholas 1989, p.2)

Comparative stratigraphy at Tepe Hissar and Godin Tepe line up well with these dates (c.3300 – 3100 BC for the “Transitional Proto-Elamite”) and the sequences derived from them (see Dyson 1987; Voigt 1987).

As a matter of comparison, radiocarbon dates from Elam can thus be aligned with radiocarbon dates from Uruk itself and Uruk period sites, to show that the proto-literate phases in both regions *exactly* coincide. Because no good radiocarbon dates associated with proto-literate and numerical tablets in southern Mesopotamia have been found, the dating for the southern Mesopotamian examples must be done inferentially through comparison with examples in the North. Because the Jebel Aruda and Tall-i Malyan dates correspond (see Figs. 14 and 15), there is likewise no reason to assume the chronological primacy of the southern Mesopotamian numerical and proto-literate tablets over those from other regions. In other words, there is no observable *sequence* of diffusion, and these periods should therefore be viewed as simultaneous.

---

2 Note that there is no significant difference between the MASCA calibrated dates from Malyan as published in Nicholas 1989, and the OxCal calibrated dates shown in Fig. 15. These late 4th millennium dates from Iran seem to coincide with the best dates we have for the Mesopotamian Uruk period (Jebel Aruda, see Fig. 16).
The Uruk Expansion

Why should we deal with the prehistoric periods in the first place? If the primary focus of the present study is the two-hundred year timespan from c.3100-2900 BC, why should we take the time to consider the rest of the 4th millennium? This question shall be dealt with in greater detail later, when the artefactual evidence and theoretical frameworks are considered. The answer, of course, is because the transformations that took place at the end of the 4th millennium were the result of the emerging complexity in the preceding periods. We shall look at the 4th millennium in detail in Chapter 4; for now, however, it will suffice to comment briefly on the hotly debated phenomenon of the Uruk Expansion (see Algaze 1989).

Since it was first proposed, Algaze’s ‘Uruk World-System’ has undergone close scrutiny from every angle, both theoretically and artefactually. Perhaps the
greatest benefit from Algaze's theoretical approach, however, was the fact that it provided an impetus for more work to be done in the so-called "periphery", and intensive studies have produced insightful new ways of looking at data. With this proliferation of data in the past decade or so, it is becoming increasingly clear that the "peripheries" of Algaze, were, on the contrary, cultures of long and rich tradition, indigenous complex social structures, and were not, as had been proposed, economically and politically controlled "colonies" of the massive urban centres of southern Mesopotamia. Before we deal with the chronology of the period of cultural transformation, it is important to stress some things about the "Uruk Expansion".

When the "Uruk Expansion" ended, indigenous populations were never supplanted by foreign cultures. As much as some evidence may be interpreted as remains of "foreign inhabitants" residing in the "peripheries", the local assemblages continued from earlier times (extending from the Neolithic) into the complex urban societies of the 3rd millennium. It has been argued that the Uruk Expansion receded leaving whole sites abandoned and the local population in a Dark Age. This Dark Age was succeeded by a flowering of urban communities at the beginning of the 3rd millennium, stimulated by former contact with the "core". This, as will be shown in the next section and in the remainder of this thesis, is only one way of looking at the facts. Another way would be to see the Uruk Expansion as not the first taste of "civilisation" by the simple peripheral folk, but rather the last great movement of the "old system".

It will be shown that the artefactual evidence supports the notion that the really important and long-lasting changes occurred at the very end of the 4th millennium, not in the Uruk periods. The achievement of the Uruk period was relatively fragile: sites all along the great bend of the Euphrates (Habuba Kabira, Jebel Aruda, Tell Sheikh Hassan) experienced abandonment with the withdrawal of the Uruk influences. It was the period of reshuffling from about 3100 BC that gave rise to the structures that would continue throughout the 3rd millennium and after.

In the next section, the overall time-frame in which these changes occurred will be spelled out. It will also be shown that any attempt to establish that developmental primacy occurred in any one place is futile and misleading. Even for the prehistoric periods, the long-standing idea that cylinder seals were "invented" in
southern Mesopotamia is being challenged (Pittman 1999). Especially for the regions that were long considered to be “secondary states”, the idea will be advanced in later chapters that no real primacy can, or should be acknowledged. The transformations that occurred during the Urban Revolution were the result of the simultaneous, complex and dynamic interactions from the whole of the Near East. The first step in an analysis of these interactions is to establish their contemporaneity, and that is the subject of Section II.

Section II

Two Centuries of Cultural Transformations

As we shall see in Chapter 4, the cultural system that was set into motion at the beginning of the 3rd millennium was the result of the complex interactions of “more-or-less peers”. This interaction resulted in the redefining of local identities, and the formation of new identities on the “state-level”. Relative dating helps us to establish that these interactions were not the product of stimulus/time-lagged diffusion, but rather “simultaneous” co-evolution. The word “simultaneous” is being used here in a particular sense. It is not being supposed that new ideas, technological advancements or cultural structures occurred separately and in every place at once. What is being advanced by using the word simultaneous is twofold:

1) Relative and absolute chronology, when coupled with the unreliability of asserting through negative archaeological remains provides us with a roughly two-hundred year timespan (Phase 2) in which all of these changes must have occurred – everywhere.

2) “Ultra-diffusion” was an essential part of the prehistoric periods (Phase 1, which for this thesis focuses on the 4th millennium), and the time it would take a concept, technology, or ideology to spread from one region/people to another would have been extremely fast. There is one qualifier, however; every region that adopted this transformed system must have been at more-or-less the same level of complexity. But even for those
that were not, they necessarily had to interact and respond to the changes from the newly formed “states”.

The presentation of the period of cultural transformation here will be to first display how the time-periods of each region being considered line-up. Second, it will be shown that Phase 2 represents a break from the old system, and the establishment of a new one in Phase 3. This is not to say that new populations came in to set up the new social structure. In fact, continuity of local traditions is evident. Rather, this is to say that the system set up at the end of the 4th, beginning of the 3rd millennium was to set the tone for the next several thousand years, and the artefactual and cultural continuities support this. The “Dark Age” in the periphery that occurred after the recession of the Uruk Expansion is supposed to be the result of a social, economical and political stagnation in these regions stemming from the inability of the local peoples to effectively govern themselves at the level that the “Uruk Colonists” had shown them. Once again, if looked at another way, within two hundred years of the Uruk recession, an entirely new system (infrastructure, identity, socio-economic strategy, settlement distribution, etc.) was established. This newly established system would be the predecessor to some of the mightiest empires the world has ever known. Hence, the other way of looking at it would be that the “Dark Age” was nothing of the sort, but was rather the reformulation and reshuffling of economy, society and identity into an entirely new order and way of interacting with other regions.
<table>
<thead>
<tr>
<th>Region</th>
<th>Period</th>
<th>Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palestine</td>
<td>Predynastic</td>
<td>Early Dynastic I</td>
</tr>
<tr>
<td>Egypt</td>
<td>Naqada IIIb/c</td>
<td>Early Dynastic I</td>
</tr>
<tr>
<td></td>
<td>Umm el-Qaab</td>
<td>Tell Brak &quot;Eye Temple&quot;</td>
</tr>
<tr>
<td>Northern Mesopotamia</td>
<td>Uruk IV</td>
<td>Jemdet Nasr</td>
</tr>
<tr>
<td></td>
<td>Ninevite 4</td>
<td>Early Dynastic I</td>
</tr>
<tr>
<td></td>
<td>Ninevite 5</td>
<td>Carchemish</td>
</tr>
<tr>
<td>Southern Mesopotamia</td>
<td>Jemdet Nasr</td>
<td>Early Dynastic I</td>
</tr>
<tr>
<td>Anatolia</td>
<td>Early Bronze IA</td>
<td>Early Bronze IB</td>
</tr>
<tr>
<td></td>
<td>Arslantepe VI A</td>
<td>Arslantepe VI B</td>
</tr>
<tr>
<td>Iran</td>
<td>Susa II</td>
<td>Susa III A-B</td>
</tr>
<tr>
<td></td>
<td>Susa III A-B</td>
<td>Proto-Elamite</td>
</tr>
<tr>
<td>Syria</td>
<td>Late Uruk</td>
<td>Jemdet Nasr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early Dynastic II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hama K 8 – 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amuq G</td>
</tr>
<tr>
<td>North Coastal Levant</td>
<td>Ras Shamra IIIB</td>
<td>Ras Shamra III A1</td>
</tr>
<tr>
<td></td>
<td>Byblos Eneolithique</td>
<td>Byblos &quot;First urban installation&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aegean / Cilicia</td>
<td>Troy I</td>
<td>Troy II</td>
</tr>
<tr>
<td></td>
<td>Tarsus Early EB I</td>
<td></td>
</tr>
<tr>
<td>Crete</td>
<td>Early Minoan I</td>
<td>Early Minoan II</td>
</tr>
</tbody>
</table>

**Fig. 17 Comparative Chronologies**
Palestine / Transjordan

Although we do begin see a proliferation of settlements throughout the Early Bronze I period, and the developments during this period led to the urban concentration that was to spring up in EB II (see Esse 1991), this is not to say that the settlement patterns, site size and density or subsistence strategies were the same in EB I as they would become in the period of urbanisation, EB II. On the contrary, the Late EB I (B) marks the end of the socio-political evolution that had emerged from the beginning of sedentary life in the Neolithic. The change in subsistence strategies, settlement patterns (Esse 1991), and social organisation will be dealt with more completely in later chapters.

As there are increased foreign relations in Palestine at this time (especially along the north Sinai coastal route - Stager 1992), there are multiple intrusions of pottery styles from Egypt which cause some disparity and as such generalisations are difficult to make for the Late EB I ceramics in Palestine as a whole. It is important to note, however, that because of these Egyptian intrusions alongside local Palestinian wares, it is possible to correlate the first Egyptian Dynasties with the termination of EB I and the beginning of EB II. For the most part, this happened rather quickly and was, “marked by the development of the classic forms and decoration, so well described by G. Ernest Wright and others” (Joffe 1993, p.40), from which the EB II repertoire directly evolves. From these ceramic correlations, along with objects such as the Narmer serekh found at Arad, it is possible to create a synchronism between the sequence at the beginning of Dynastic Egypt with the sequence in Palestine at the dawn of Palestinian urbanisation (see Chapter 4 Fig. 26).
Proto-dynastic Egypt and the Archaic Periods

Certainly, we know much more about the historical periods due to the fact that we have written documentation, even if not all the aspects of life were written about. In spite of this, “The archaic period covered by the first two dynasties is largely unknown to us” (Aldred 1965, p.53). The plundered tombs at Abydos and Saqqara leave us much to be desired and the dates and even the order of the kings of the first dynasty are still debated. “Nevertheless from a comparison of what precedes and what follows, we can see that the economic and cultural leaven introduced by unification continues unabated” (ibid. 1965, p.53). The foundation of the new capital at Memphis, “the point of balance between Upper and Lower Egypt” (ibid. 1965, p.53) was important to maintain the control over the Two Lands. Taxation, writing (for religious, but also economic purposes), organised agriculture, the arts and sciences (i.e. mathematics, astronomy, the Egyptian artistic canon, etc.) and monumental architecture (mastabas [large bench-like tombs] and eventually the pyramids during the first four dynasties) all saw either their inventions during this time or their epitome.

The chart shown in Chapter 4 (Fig. 26) listing the successive kings from Dynasty 0 through Dynasty II, place Narmer as being the first king of unified (?) Egypt, and likewise the founder of Dynasty I. Although this view is debatable, as is the placement of Narmer before Aha, until a resolution to the problems of the early Pharaonic sequence is determined, this order seems sufficient for the present purposes. Revised estimates of the calibrated radiocarbon dates for the reign of Aha (Hassan 1980) now point to a date of 3023±102 Cal BC. Thus, a reasonable estimate for the (end of?) the reign of Aha would be c.3050-2950. If we attribute Narmer\(^3\) to the beginning of Dynasty I, and thus before Aha, the date for the beginning of Narmer’s reign would fall somewhere closer to c.3100 BC. As such, the date of 3100 BC has been adopted for the beginning of the First Dynasty.

Whether one agrees with the attribution of Narmer as the first Dynastic ruler is beside the point here, as foreign correlations point to changes having taken place in Egypt even before (but especially during) Narmer’s reign. Chronological

\(^{3}\) For an alternative order of the earliest Pharaohs (i.e. Aha as the first ruler of Dynasty I), see Kaiser 1964.
correlations highlight the fact that similarly profound transformations were taking place throughout the Near East at roughly the same time (Hassan 1980); areas feeling the impact of these changes being as far afield as Egypt, Palestine, Syria, Mesopotamia and Iran. This is not to say that Egypt was subject to invasion, coercion, subjugation or even unidirectional exchanges. On the contrary, a gradual development which had been taking place since the Neolithic throughout the Near East culminated in each respective region into what has been termed the “urban revolution”, (Childe 1934), or rather, in other terms the “urban evolution” (Adams 1966). What resulted in Egypt was a sophisticated complex urban society that retained its own indigenous Egyptian character.

Independent of any material correlation between Egypt and neighbouring regions are calibrated radiocarbon dates that clearly show that the major transformations that occurred in Egypt, i.e. unification of complex urban societies under a single monarchy, correspond to similar transformations in other regions.

The following is after Hassan 1980, p.125:

<table>
<thead>
<tr>
<th>Region</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Aha</td>
<td>3023±102 Cal BC</td>
</tr>
<tr>
<td>Uadji</td>
<td>3006±85 Cal BC</td>
</tr>
<tr>
<td>EBIC, Ai</td>
<td>2997±82 Cal BC</td>
</tr>
<tr>
<td>Jemdet Nasr/EDI</td>
<td>2960±167 Cal BC</td>
</tr>
<tr>
<td>Terminal A-Group</td>
<td>2948±95 Cal BC</td>
</tr>
</tbody>
</table>

This is not to say that the exact same things happened in other areas of the Near East at this time; rather, complex urban societies also rose up in other regions through autochthonous development, thus retaining their individual local flavour. This indigenous evolution, however, was not without inter-regional exchanges, and the material record shows that by the Gerzean period at the latest, Egypt became fully integrated into the complex web of exchange-relations that comprised the Near East from at least the Neolithic and well into the historical periods.

**North and South Mesopotamia, Iran and Anatolia**

We will see in Chapter 4 that the glyptic styles evinced in the Jemdet Nasr period (Phase 2) repertoire are some of the first indications that the regions of North and South Mesopotamia, Iran and Anatolia were experiencing fundamental changes. While the terminology “Early Dynastic” connotes that this was the beginning of a
succession of dynasties, it was actually in the Jemdet Nasr period (Phase 2) that we can observe the laying down of the foundation for this new system. This new system displays a decisive break with the very “outward-looking” actions taken by the Uruk period peoples, and saw the formulation of a self-referential “Kengir League” (Jacobsen 1943) (in the case of the southern alluvium - see Chapter 6) and equal but rival states in the North. The polities of Anatolia, the Khabur, northern Iran / Tigris and northern and coastal Syria were no exceptions to these transformations. Carchemish, Mari, and Ebla were founded and each one grew to be its own regional centre. Ras Shamra and Byblos flourished and began to realise their importance as major ports. At Arslantepe too, we find a shift in local administration practices and expressions of identity at this time. Hacinebi Tepe, after a period of abandonment, resumes occupation around this time. Ninevite 5 (Gut 1995) and Aššur G-H, the hallmarks of achievement in this region, take shape. Proto-Elamite Susa and southwestern Iran, along with increases in interregional exchanges, reveal new economic controlling devices such as fully developed writing. These regions experience most of these changes from c.3100 BC onwards, and by c.2900 BC the trajectories were established and discernible to archaeologists.

The 200 Years - Phase 2

If the date of c.3100 BC is accepted as roughly when the changes being discussed here began to appear, it may not be so obvious why the date of c.2900 BC has been chosen for the end of this transformational period. There are three reasons for choosing this terminal date:

1) Conveniently, this date corresponds to a fairly well accepted date for the end of the Jemdet Nasr period / beginning of the Early Dynastic I period using south Mesopotamian terminology. In Chapter 5 this will become important stylistically.

2) Calibrated radiocarbon dating for the two centuries after 3000 BC has problems. This is an instance where a fairly large “wiggle” occurs in the calibration curve at 2900 – 2800 BC, thus decreasing the resolution we can expect from even high-precision $^{14}$C dating.
3) Culturally speaking, by 2900 BC every region with which we will be dealing shows signs of having adopted the trajectory that would take them culturally through the next c.1000 years.

This diagram (Fig. 18) shows what is meant by this calibration curve wiggle (see #2 above:

![Calibration curve wiggle at 2900-2800 BC](image)

**Fig. 18 Calibration curve wiggle at 2900-2800 BC**
(Pearson, Pilcher, Baillie, Corbett, Qua 1986)

Although 3100 BC may seem reasonable as a starting date for these transformations, 2900 BC seems like an arbitrary date unless one takes into account that the difficulty of providing accurate dates between 2900 – 2800 BC is
remarkable. So, within the time period where we encounter this “wiggle”, it is reasonable to assume that a fully developed Early Dynastic I style has emerged. Calibration techniques clearly show the unique problems faced with dating this specific time period (*i.e.* the 29th century BC).

Precision $^{14}$C analyses have been performed on samples comprising 1 to 4 annual rings from the south-central European dendrochronological sequence of sub-fossil oak wood covering the period 1930 to 3100 BC. Apart from a major deviation in the 29th century BC, the $^{14}$C fluctuations have amplitudes of ca $10^\%$ and a possible periodicity of 90 years. (Vogel *et al.* 1986)

The third reason (see above) for choosing 2900 BC as an end-date is unconvincing only if a certain misinterpretation in meaning is applied. It could be argued (Schwartz 1994) that many sites are not even inhabited until later in the 3rd millennium and 2900 BC is an unsatisfactory ending date of the transitional period. It is not, however, being put forth here that development ceased and socio-cultural evolution was concrete at 2900 BC. On the contrary, new developments are one of the crucial elements of the “new system”, and we should not be surprised then to see complex urban settlements springing up throughout the 3rd millennium. These new sites became a part of the new subsistence strategies, new settlement distribution / rank-size patterns, and new cultural identities and social structures. It is by 2900 BC that we can discern these patterns throughout the new system.

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4 Although the lines drawn between Jemdet Nasr and ED I style glyptics are becoming increasingly fuzzy, this actually goes to support the suppositions made in this thesis as it shows indigenous development through locally used styles.
Section III

Geographic Scope

In this final section we will address one of the methodological concerns of this thesis. Archaeology must be able to reconcile theory with the available material remains, and as such this thesis will be using glyptic artefacts as the means by which hypotheses will be tested. The advantages of this are manifold, but there are also some limiting factors. Not every region used seals and sealings from such an early date as c.3000 BC, and some never used them in the same capacity as will be supposed here. This does not mean that the cultural transformations that took place in the two hundred years c.3100 – 2900 BC were limited to only the regions that used glyptics at this time. Rather, what can be demonstrated is that this is merely a limitation of the lens through which these cultures are being viewed. This lens is glyptic artefacts. The boundaries of the dynamic system of interactors should theoretically not be drawn where glyptic usage ends (see Appendix 1 with map showing regions where glyptic remains are found, with corresponding key for individual sites and numbers of artefacts). But as a matter of methodology, this is where we will draw the line. Below will be discussed some regions that fall outside of the traditional geographical borders of the “Near East” (which is largely an arbitrary classification anyway). Some of these regions will not be dealt with in this thesis, but it must be remembered that the only reason for this is that they fall outside of the scope of this methodological approach – not necessarily because they were less culturally developed or not part of the same system.

The key thing to point out is that the methodology used here is one of large-scale perspective. Macro-evolutionary trends are being observed here, and as a material to view these trends, glyptic artefacts provide a large enough range but enough resolution to produce accurate observations.
More-or-less Peers: Crete, Indus Valley, the Aegean, and the Arabian Peninsula

Crete

Crete deserves special attention due to the fact that by the time of the mid-3rd millennium BC, a rich repertoire of characteristically Cretan-style glyptics seems to have emerged, fully-grown. There are a couple of early seals from Crete that show parallels to c.3000 BC seals from the Near East (Kenna 1960), giving a glimpse into the “prehistory” of the later distinctive Cretan glyptic. It seems reasonable to consider that Crete could have interacted as seafarers of the Mediterranean. Concurrent developments in Palestine, Syro-Cilicia, and Egypt support this supposition.

Indus Valley

The Indus Valley is a particular case that could warrant an entirely separate study to integrate it into the dynamic system of the Near East. It has often been supposed that Ur traders “brought” complex civilisation to the Indus Valley who in turn exploited this relationship to put themselves on their own trajectory of cultural development. While this is a gross oversimplification of the complex trade-models that have been proposed to explain these interactions, the primacy of Ur has always been very clear. This is, however, becoming less clear.

Recent excavations at Harappa have revealed a newly defined Ravi Phase, whose proto-literate phase is c.3300 – 2800 BC. The Ravi Phase comes complete with proto-Indus Valley scripts (Kenoyer 1999) leading directly through indigenous development into the classic, literate Harappan “civilisation” that flourished between 2600 – 1900 BC.

(Kenoyer 2000, http://www.he.net/~archaeol/9909/newsbriefs/indus.html)
Fig. 19 This inscription (c. 3300 BC) appears to be three plant symbols arranged to appear almost anthropomorphic. The trident looking projections on these symbols seem to set the foundation for later symbols (Kenoyer 2000).

The sheer size and the sophistication of the Indus Valley civilisation gives reason for including it in the system that was in existence in the Near East, although it could very well have been developing along a different and independent trajectory. But the fact that the developments that set this trajectory in motion now seem to cluster around the same dates for the cultural transformations in the Near East means that some thought might be given to the proposition that the Indus Valley too may have been part of the large-scale picture.

Some seals and sealings from the Indus Valley will be considered in this study, as it is becoming increasingly clear that an autochthonously developed Early Harappan glyptic is not only evident at Harappa (Kot Dijian Phase c.2800), but also in the sealing strata at Ur. The fact that the sealing strata at Ur show some fully developed Indus Valley sealings, and that their genesis (showing continuity from the early part of the Ravi Phase c.3500) came from Harappa itself, is strong evidence of long-distance exchanges, exogenous and endogenous development, and reciprocal cultural influence.
The Aegean

Troy and the Aegean cultures, deserve a chronological re-evaluation taking into account calibrated radiocarbon dates. Considering that the Palestinian Ghassulian Chalcolithic must now be placed at the end of the 5th, beginning of the 4th millennium, the Palestinian glyptic connections with Lerna, Troy, the Argolid, the Cyclades and Syro-Cilicia must be re-interpreted. The glyptic artefacts and cross-cultural connections will be examined in Chapter 5. Regarding chronology and geographic scope, it should be noted that Lerna, Troy and other Early Helladic II sites associated with the Aegean exchange network find their origins in the periods leading up to 3000 BC, but it is not until later in the 3rd millennium that their development begins to rapidly escalate. As was stated before (see this chapter, Section II The 200 Years - Phase 2), the fact that development happened throughout the 3rd millennium does not contradict the assertions made in this thesis.
The Arabian Peninsula

Exchange relations between Mesopotamia and India via Dilmun are attested towards the end of the 3rd millennium. Recent excavations in Kuwait, however, necessitate further consideration regarding the "prehistory" of this overseas trade route. Ubaid (e.g. Ubaid site H3) assemblages found in coastal sites on the Arabian Peninsula (Crawford 1998) may provide clues as to how the often underrepresented societies of the Persian Gulf rose to be complex societies closely linked to southern Mesopotamia. While the glyptic material (including the "Persian Gulf" style seals as well as typical Indian style seals) found in places such as Bahrain predominantly date to later periods (possibly Akkadian period at the earliest), further excavations at Dilmun and other sites may provide us with a clearer picture of how this region's function as maritime waystation came to be.

Less Than Peers or Different Socio-economic Role?

Cyprus

In much later times than we are concerned with here, Cyprus was to become a major player in the network of interacting agents in both the Mediterranean and in the Near East. At the beginning of the 3rd millennium, however, not much large-scale activity was taking place in Cyprus. The reasons why Cyprus was slow to catch on are undoubtedly multifaceted, and definitely not within the scope of this thesis. Perhaps it had something to do with the fact that the island's copper resources were not fully recognised, or that interested parties had easier access to copper from Sinai or from Azerbaijan (C.A. Key in Bar-Adon 1980). Whatever the circumstances in Cyprus, this gives us an opportunity to go over an important and final point for this chapter: why some groups did not undergo the same sort of changes as the groups that have been discussed so far.

The idea of progress is problematic, if not unsalvageably teleological. So far, careful steps have been made to refer to social changes as "developments", or "trajectories", etc., rather than "progress". Why Cyprus did not experience these changes at the same time as the rest of the interacting agents was probably partly due
to environmental factors (including demands on raw materials - and perhaps because it is an island). But even more important may have been that the cultures in Cyprus at this time were probably developing in a way that it was not possible to meaningfully absorb the energy that was being channeled into social development at this time. In other words, Cyprus may not have been a "peer" interactor in the system in the same way as other regions were (or perhaps a different kind of peer), and as such was unable or unwilling to appreciate the fruits of "civilisation": there may have been simply no need or use. For instance, of what use would seals and sealings be to a culture that has no infrastructure to make a practical application of this new technology? Caution must be stressed, however, as this is true of economic and bureaucratic technologies, but some (visually appealing, especially) prestige goods could be appreciated even by less complex cultures. Furthermore, at least two stamp seals have been found on Cyprus dating to around 3000 BC (Lemba-Lakkous - Peltenburg et al. 1985; Kissonerga-Mosphilia - Peltenburg et al. 1998), and the use of seals on this island may be more extensive than we know at present.

Moving away from Cyprus specifically, more general comments can be made about all of those who appear as "less-than-peers" through observation from the glyptic corpus. These groups were actually a part of the development of the urban societies, because they were also economically and socially interacting in the complex Near Eastern Network. While some of these groups can be geographically isolated as in the case of Cyprus, this particular facet of social co-evolution does not have to be constrained by geography. What is essentially being referred to here is identity at different levels. The "peers" that have been the focus of this chapter are referring to those communities that (at c.3100 BC onwards) adopted a new identity which can be identified on a macro-scale. This does not mean that the identities that encompassed less territory were abandoned or even less important. Kinship groups, religions, social classes, families, individuals, etc., are all forms of identification that were in place at this time. A new "state-level" identity was added in some instances (and that is the topic of this thesis), and in other instances (as in Cyprus) this layer of identity does not appear to be added until it was able to be built upon the established identities. It is also possible that in Cyprus the apparent non-involvement in the Near Eastern Network was actually a real assertion of their own identity.
This phenomenon cannot be merely bordered by political boundaries, as is often the case in modern nations. Geography and environment had something to do with the way that people saw the world, and in turn this fed the creation of identities, but geography alone does not place limits on who identifies with what.
Summary

Through calibration of radiocarbon dates it can be shown that the prehistoric periods leading up to the social transformations occurring at the turn of the 3rd millennium BC were of great length in every region. Within each of these regions, therefore, a gradual autochthonous development coupled with reciprocal exchanges within the network of interacting regions that made up the Near East can be shown to have taken place. At c.3100 BC major socio-economic transformations begin to occur and by c.2900 BC similar changes can be demonstrated in nearly every region. These transformations set the stage for the development that will occur throughout the next millennium. Attempting to establish developmental primacy in a period of such rapid growth is both difficult and counterproductive, and the term synchronous co-evolution is indeed valid. The regions or cultural units that did not undergo these transformations were not at a comparable level of social complexity and as such were not able to appreciate the full impact of these changes. The methodology being used to track these changes (i.e. glyptics) will be further clarified in Chapter 5, but it must be remembered that while this methodology is wide-ranging, the macro-evolutionary changes that occurred may very well be much larger than are observed here.
Chapter 4

Phase 1: Signs, Seals and Tokens in the Near Eastern Network

Our concern in this chapter is to determine how cultural traits were being transferred alongside economic transactions in Phase 1. Having established a chronology and a geographical spread for this study in Chapter 3, we may now go about inserting the artefactual evidence into this framework. The artefacts will be limited to what has been termed "administrative residue" and material remains that show the way the Network functioned. In this chapter, the prehistoric periods leading up to the period of transition at c.3100 BC will be the focus (Phase 1). The primary concern of the thesis is not, however, Phase 1, only inasmuch as continuity and discontinuity into the period of transition (Phase 2, the period of focus for this thesis) can be shown. With this in mind, it should be made clear that the trends observed herein will be necessarily general, especially before considering the corpus of data which will be presented in Chapter 5.

For the purposes of this thesis, three things are important about Phase 1. Firstly, the evolution of administrative controlling devices was a long developmental process. Secondly, from the very earliest instances, the forms and functions of administrative technology were widespread and inherently linked with the Near Eastern Network, even if they were not directly related to inter-regional exchanges. Only in the final stages of Phase 1 was there increased differentiation in the types and styles of administrative technology. Finally, there were many different options for administrative controlling, writing being merely a particularly versatile one, but not qualitatively different in its earliest stages.

Section I will deal with the artefactual remains of the first "administrative residues" we will deal with: prehistoric tokens. Tokens will be shown to be a type of object that reflects the unitary nature of the entire Near Eastern "Network". In other words, the form and function of tokens used throughout the greater Near East is remarkably consistent. Through time, however, tokens began to develop local styles that reflected the circumstances particular to each region and each locality.

In Section II, stamp seals, likewise, were used in similar ways to tokens throughout a huge geographical spread; but they also allowed for a great degree of expression of local and individual identity, observed here through stylistic analysis. As a form of art, seals allowed for creativity and expression of identity. As a bureaucratic device, seals drove technology to formulate new and more complex forms of administrative control, especially associated with tokens, bullae and tags.

Another form of individual differentiation was in the use of proto-scripts as an administrative device. This administrative option allowed for ease and flexibility while being able to maintain compliance with existing socio-economic structures. In Section III, it will be shown that writing emerged from within the well-established system of tokens, bullae, tags and early numeracy. That some regions seem to have adopted a two dimensional form of administrative control that would eventually
(although much later) come to purposefully represent spoken language is not indicative of a qualitative difference. For the whole of the Near East in Phase 1 it will be demonstrated that the same kind of affiliation with the Network was in place in many locations. (scripts will be dealt with in Section V)

In Section III, the nature of phenomena such as the “Uruk Expansion” in the 4th millennium will be dealt with. Here the idea of “fads” will be considered, and the Uruk period will be shown not to be the period of reorganisation and simplification through imperial domination, but rather the most complex phase of the Network before its reorganisation. The breadth of the “Uruk Expansion” will be shown to be the last and most powerful expression of a series of socio-cultural “fads” beginning at the “Agricultural Revolution”. The 4th millennium is the Near Eastern Network at its most complex.

In Section IV, an attempt will be made to create a broad outline of the material cultures throughout the greater Near East. The cultures will be shown to be interacting within the Network system as described in Chapter 2. It will be shown that the 4th millennium was the culmination of a long social development from within this Network in every region. This resulted in an emergent complexity that reached a super-critical level at the end of the 4th millennium, when the system underwent a revolution. This revolution established something that had not existed in Period 1: state-level identity.

Finally in Section V, the earliest form of what have been termed ‘proto-scripts’ will be treated alongside other forms of administrative residue. It is argued that these early forms of scripts developed in multiple regions in the Near Eastern Network simultaneously and can be considered one among many possible forms of external symbolic storage and accounting devices. Writing as reflective of state-level identity does not develop until Phases 2 and 3, and therefore writing as an expression of this social phenomenon will be approached again in Chapter 6, when we deal with Phase 3 specifically.
Section I

Administrative Residue

The organisation of this first section favours analysis of Phase 1 artefacts that would have been used in bureaucracy. Although tokens and glyptics will be a focus, a fundamental concept must be understood: administrative technology took many forms and became increasingly differentiated as social and economic complexity increased. Contrary to some earlier definitions of “writing” (Gelb 1963), 2-dimensional scripts were merely one form of administrative technology among many available. In retrospect, 2-dimensional writing was such a flexible medium that it eventually came to represent spoken language and enabled growth and development of culture and identity. But in its earliest forms, writing was merely a 2-dimensional form of a technology used in a system that had been in place for thousands of years and used by many different communities in different ways. Until Phase 2, writing can only be considered an administrative residue, as it did not purposefully represent speech, nor did it necessarily hold any more cultural meaning than did other forms of bureaucratic technology (e.g. glyptics). Therefore, those communities whom we know to have used writing in this early form should not be viewed as especially advanced or qualitatively different than those who did not. With hindsight, those communities who developed scripts profited enormously from this cultural technological preference, but this would have been far from evident at the time. In fact, culturally speaking, those communities who stuck with their traditional forms of administration may well have had very strong identities and cultural hegemony.

Prehistoric Tokens

The nature of tokens as prehistoric reckoning devices has been examined in Denise Schmandt-Besserat’s (1992) Before Writing, Vols. I-II. For the most part, the present study will hope to move forward into interpretation using Schmandt-Besserat’s theory as a starting point and guide.

Perhaps some of the items Schmandt-Besserat identified as being tokens were in fact gaming pieces as originally identified. In a very simplistic way, these objects
are in their earliest forms very simple shapes and some of the easiest and most intuitive manipulations of clay. Perhaps in some instances, the makers of these “balls of clay” were just playing in the mud.

With this being said, it certainly seems as though the theory of tokens existing as reckoning and accounting devices is plausible and likely. The occurrence of forms of tokens in caches and in association with bullae and envelopes make a strong case for a confirmation of this theory. There have been some fairly strong critiques of Schmandt-Besserat’s theories (see especially Zimansky 1993), and on one level, some serious lacunae in her evidence casts serious doubt on her conclusions. At the same time, the idea of tokens being reckoning devices is not limited to her own exposition, but has been previously suggested and embraced by many scholars (see Amiet 1966, and Lambert 1966). Therefore, while the details of her reports on tokens may be legitimately scrutinised, the concepts she explores can at least be considered a working hypothesis.

Fig. 21 Examples of tokens and envelopes from Uruk (Schmandt-Besserat 2002).

Schmandt-Besserat’s interpretation of their economic function may be a bit too constricting. An example of how her theory may have been an understatement is shown in her interpretation of tokens as being only used for intra-site/intra-regional
exchanges. Contrarily, tokens would appear to have been an enabling device especially for inter-regional and inter-linguistic exchanges. Because tokens represent material commodities, their meaning, once established, crossed linguistic boundaries.

It is important to note that we do not need to wholeheartedly embrace Schmandt-Besserat’s ideas for an examination of tokens to be important. If nothing more, her artefactual survey can be taken as, at very least, a good representation of a form of ceramic development throughout the Near East. Furthermore, speculation as to their function as a precursor to writing will be approached at least as a working hypothesis. Tokens, cylinder seals, numerical tablets, proto-scripts and other forms of signification were all probably precursors to 3rd millennium writing. Seals will be approached as a particularly enlightening form of signification in this thesis, but still one of many. It is not necessary, therefore, to regard early scripts as having been developed directly out of token usage, an idea which is contentious at best (Zimansky 1993). We need not accept Schmandt-Besserat’s claims that writing sprang from a token antecedent, but surely tokens can be considered to be some form of understood signification (Amiet 1966; Lambert 1966). For our purposes here, a rough outline of the evolution of these tokens and their proposed function as a socio-economic device will suffice.

Although tokens were used over a huge geographical area, one peculiar aspect of complex tokens is the limitations to their geographical spread. This regional bias can, however, be explained by (as stated in Chapter 3) the fact that symbols would spread only into areas where their function was very clear and prominent, or in areas that had close economic and cultural ties with the areas where these symbols were used. This would predict that both areas of production and exchange would develop a need for increased bureaucratic control. Understandably, then, southern Mesopotamia (Uruk, Ur, etc.), Uruk-related sites in northern Mesopotamia (Habuba Kabira, Jebel Aruda, etc.), and Susian sites all developed.

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1 It should be noted that Schmandt-Besserat’s theory suggests that complex tokens evolved into the forms of proto-cuneiform found at places such as Uruk. It is interesting that the largest assemblage of complex tokens that have been recovered are from Susa, a site which saw the development of its own form of cuneiform script which, evidently, did not evolve from these tokens. At least it can be said that Schmandt-Besserat has not explored the relationship between the tokens found at Susa (or elsewhere) and the proto-Elamite script. It is also interesting for this thesis because the fact that Susa exhibits the use of tokens associated (according to Schmandt-Besserat) with Mesopotamian proto-cuneiform and also exhibits an autochthonous development of its own script would suggest that even
complex tokens. Nonetheless, each of these regions, and every site where tokens are found, had derivations and preferences in the symbolic repertoire relating to cultural and economic ties. This indicates both an advanced degree of internal bureaucratic autonomy and a well-established exchange partnership with socio-economies of other regions.

This aspect of the functionality of tokens, *i.e.* that of being used in inter-regional exchanges, can be argued in opposition to the Schmandt-Besserat’s view. Schmandt-Besserat maintains “it is important to emphasize the consistent lack of archaeological data linking reckoning technology and trade because, erroneously, tokens, envelopes, and impressed tablets are often associated with commerce” (Schmandt-Besserat 1992, 167). On the contrary, recent analyses from Hacinebi Tepe in the Northern Euphrates region in modern Turkey (Blackman 1999) show that the clay sealings (associated with envelopes and tokens) found on site may have been made both intra- and extra-regionally. That groupings of different clay-types can be identified from within a single assemblage show clearly that sealed objects were being used in commerce, even if over short distances. The postulated identification of some of the Hacinebi sealings’ clay-type with Susian clays suggest long-distance trade involving the use of accounting devices often accompanying tokens themselves. Furthermore, from a theoretical standpoint, tokens seem to be the perfect object with which to conduct inter-regional exchanges: once an agreed-upon meaning was ascribed to a particular token, exchanges were possible across linguistic, cultural and political divides. If we think of the Near East as being comprised of an exchange Network, tokens would have served as an incredibly powerful facilitator for increasing complexity. This would have been done through sustained inter-regional contacts and exchanges and intra-regionally through increasing differentiation of wealth, social status and social function.

As Blackman’s (1999) analysis shows, certain groupings of clay types indicate that the clays came from different sources. This alone suggests that these sealed objects were used for at least some inter-site exchanges. Further analyses conducted (for example, Mahalanobis distance) in Blackman’s study, however,
shows that a great distance could be sought in an attempt to fingerprint the clay source. In this instance, a very promising similarity is found in the trace-element composition of the clays at Susa, thousands of kilometres away (Blackman 1999).

We can, however, circumvent the issue of whether early administrative and reckoning devices dealt with inter-regional in addition to intra-regional exchanges (while being an important and interesting discussion) by saying that it does not matter in the present circumstance. If tokens, seals and other administrative bureaucratic devices were being used at all, the concept of these devices must also have been understood. That a consistency of form and function occurs over such a vast geographical and cultural spread indicates a transmission of the idea of the technology and its form/style, irrespective of whether the material itself ever moved. This alone gives credence to the idea that a complex Network existed.

It must be conceded, however, that there is a lack of support for models of administration that suggest inter-regional material transmission of sealed objects or tokens. This is not the primary focus of this thesis, and it is not necessary to propose an alternative theory to the widely accepted model of an intra-site/regional redistributive economic system. Doubtless, as urbanism began to expand, the internal economic system would have responded with an elaboration of the internal administrative framework. At Susa, the functional aspects of sealing practices indeed display a trend towards increased regulation of internally distributed goods (Charváť 1988). With this being said, it is not out of the question to comment that even in a predominantly internal redistributive system, there is not necessarily an exclusion of interaction or exchanges inter-regionally. Therefore, administrative devices may have also served to internally redistribute items obtained inter-regionally.

Development of Tokens as Symbolic Devices

The origins of token usage can be traced back to the time of the first sedentary agriculturalists, although tokens are not always associated with sedentary agriculturalist or pastoralist communities (Schmandt-Besserat 1992, p.40). Two of the earliest instances of token usage, at Ganj Dareh level E and at Tepe Asiah, are purported to have relied on hunting and gathering for subsistence, although other sites exhibited sedentary agriculturalism by this time (Schmandt-Besserat 1992, p.40).
as such, came about as part of an emerging agrarian-pastoralist system, and they may have enabled development and an increase in social complexity. What is more, they are found in their earliest stages at places as far afield as Iran, Mesopotamia, Anatolia and Palestine (ibid., p.36-37). This indicates that even if we do not find agriculturalist/pastoralist strategies in certain regions, we can still be certain that interaction was occurring at a very early stage. For our purposes, this is the beginning of the Near Eastern Network at c.8000 BC.

Certainly reckoning devices were nothing new even when tokens were “invented”. But the cognitive and social changes that occurred at the Agricultural (or Neolithic) Revolution were to set the tone and provide the material remains for the next 5000 years. External symbolic storage co-developed as part of human cognition, and major changes in the forms of external symbolic storage devices can often denote shifts in human cognition.

Neolithic symbolic representation

As an example of how the use of external symbolic storage (Donald 1993) changed in the Neolithic, we may consider the unusual abstract and zooform petroglyphs at Jerf el-Ahmar. This particular site is enlightening because we can see both an architectural change to the expected Neolithic format as well as a continuity in representation and symbolism into much later times.

The site dates to the 8th millennium BC (Stordeur and Jammous 1995) and there is a very clear development from the earlier circular and elliptical architecture to the later rectangular architecture, roughly corresponding to a change in subsistence strategy to sedentary agricultural/pastoralism (Stordeur, Helmer and Wilcox 1997, p.282; Stordeur, pers. comm.). Found within a large central building of uncertain but non-domestic and definitely ritual3 significance were fragments of chlorite plaques, grooved on the reverse and incised with petroglyphs on the obverse. Remarkable is the stylisation and repetition of the zooforms alongside repetition of sophisticated

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3 In another large central building, similar to the one discussed here was found a decapitated supine human body lying in the very middle of the floor. Disembodied skulls have been found in ritual contexts (in front of hearths) elsewhere on site. (Stordeur, Helmer and Wilcox 1997, Stordeur pers. comm.) This corresponds with other ritual contexts at other sites such as Tell Mureybet.
abstract symbols. Equally remarkable are the type of animals represented: raptor bird, snakes, ass (?), etc.; all of these are presumably non-food species.

The types of animals represented in these petroglyphs correspond to osteological statistics from other PPNA sites such as Qermez Dere (Watkins, Baird and Betts 1989; Watkins pers. comm.). For instance, high proportion of raptor bird bones found in concentration may indicate ritual sacrifice or other ritual function for the birds themselves (i.e. use of feathers, falconry, etc.). What is important here is that the use of imagery of presumably non-food species implies certain sophistication in symbolism, which may have corresponded to sophistication in culture or a particular cultural institution. Symbolism exists to be interpreted, therefore these depictions at Jerf el-Ahmar would likely have represented an understood (by whom is uncertain) cultural concept. Recent excavations at Göbekli Tepe in southeastern Turkey have revealed monumental structures with similar depictions, suggesting that the representations on the Jerf el-Ahmar plaques might be reflective of a symbolic system common to a fairly large area (Hans Schmidt pers. comm.).

It is unlikely that these petroglyphs are “writing” but they may very well have been a rudimentary way to express ideas in a narrative sense (see Chapter 2 discussion on stygic analysis - e.g. a university coat-of-arms). In this sense it is possible that they could have been “read” by individuals who were well versed in the complex cultural context associated with these symbols. This form of representation, however, requires in-depth knowledge of the culture. To relate a narrative to a group of representational forms is external symbolic storage, but only to the extent that it provides a mnemonic stimulus for an already well-known cultural repertoire. This is probably not independent one-to-one correlation between form and idea, or between symbolic representation and material reality. When we encounter tokens, we see a new form of constructing external symbolic storage. The reason why these early forms of external symbolic storage are brought up here is simply to illustrate that the forms of complex representation that come about in the 4th - 3rd millennia had a long developmental history.

Plain tokens, the earlier of the two forms identified by Schmandt-Besserat (complex tokens being the other), represent a greater sophistication in symbolism in the sense that the form of the token represented the kind of real material on a one-to-
one basis. If we are to believe that there is a dialectic involved between how we perceive our world and the world that we perceive, then the dialectic involved in the first tokens usage may very likely have been between changing human cognition and changing subsistence strategies (as expressed in a new technology).

At Tell Sabi Abyad, it has been suggested (Akkermans and Duistermaat 1997) that the interaction (of whatever sort) between nomadic or semi-nomadic pastoralists and agricultural communities or centres may be linked to the storage and accounting procedures evinced at the site. This is an interesting proposal as it allows for some mobility of at least a portion of those people using tokens and associated glyptic. This is a welcome idea as it shows that although greater numbers of people were settling into sedentary lifestyles between c.8000 – 3100 BC, it cannot be assumed that all peoples were using the same subsistence strategies, or for that matter were all sedentary.

**Plain Tokens**

For much of the first four millennia (c.8000 – 4400 BC) the repertory of tokens can be consistently referred to as “plain tokens” (Schmandt-Besserat 1992, pp.17, 35). The plain tokens consisted of geometric and naturalistic shapes, modelled by hand in clay (ibid., p.17). Despite a remarkable consistency and continuity in the usage and forms of plain tokens, there are some important developments upon which we can base interpretations of the Near Eastern Network. These developments are: increase in geographical spread of token usage, new depositional contexts (such as funerary), and increasingly complex and diverse objects found in association with tokens indicating a more important and differentiated bureaucracy (ibid.).

Most importantly, however, these developments in tokens seem to have happened synchronically over a vast geographic range. Synchronous development and co-evolution will be important concepts in Chapters 5 and 6 and in the overall synthetic argument of this thesis. That this co-evolution is being observed in tokens

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4The change in cognition would be the ability to control, through a new technology, stored commodities with greater precision and in greater quantity than memory alone allows (Schmandt-Besserat 1992, 161). Furthermore, the ability to associate an abstract symbol with a determined real object opened a new line of thinking about and quantifying the world through ideas and forms.
provides an important precursor to the changes that will be observed in the 4th – 3rd millennia glyptic (ibid., p.48).

From the earliest periods (c.8000 – 6500 BC) in which we find tokens, a large geographical spread is evident: in Iran, Ganj Dareh Tepe and Tepe Asiab, and the Belt cave near the Caspian Sea; in Syria, Tell Mureybet, Tell Sheikh Hassan and Tell Aswad; in Iraq, Maghzaliyah; in Anatolia, Beldibi (ibid., pp.40-41). After c.6500 BC, however, the area in which we find tokens increases even further. In nearly every region discussed in the previous chapter, with the exception of central Anatolia and the Aegean, tokens have been at least tentatively identified: Dharan in Saudi Arabia, Mehrgahr in the Indus Valley, Buto in Egypt (Wilkinson 1998; von der Way 1997), Khartoum in Sudan (Arkell 1959), Tepe Hissar, Anau and Jeitun in the North (Schmandt-Besserat 1992). These are in addition to a proliferation of tokens found at sites within the area expected to be more “central”, including Ali Kosh, Tepe Abdul Hosein, M’lefaat, Jarmo, Tell Ramad, Ghoraife, Ain Ghazal, Munhata, Can Hassan, Suberde, Gritille and Çayönü Tepesi, representing Iran, Iraq, Syria, Palestine and Turkey respectively (ibid. 1992, p.45).

Fig. 22 A map showing the geographic spread of tokens (Schmandt-Besserat 1992)
The use of these plain tokens seems to indicate fairly consistently that they were reckoning devices and may have accompanied economic transactions. On a one-to-one correlation, they would have been used as abstract symbols of real commodities, probably to enable accurate recording or tallying of exchanges. While it seems that some of the forms of tokens identified by Schmandt-Besserat may not have served this purpose (e.g. some of the barrel forms may just as easily have been clay spacer beads), the in situ finds of caches of tokens indicate that they may very well have been deposited together in a pouch or discarded in a group after their corresponding transaction was complete.

The vast geographical spread of these tokens insists upon neither a central place nor extensive, direct, long-distance trade. The exchange system was truly a network, crossing ethnic, linguistic and social boundaries as varied as the geographic contexts. While there seems archaeologically to have been a concentration of tokens in and around the “Fertile Crescent” in Southwest Asia, this by no means indicates the cultural or political primacy of this region. On the contrary, that tokens were so widely used clearly demonstrates the “international” nature of this medium.

What is even more important, however, is that exchanges very easily could have taken place with or without the use of these objects. And as such, it is safe to assume that accompanying the economic transactions between one person, community or group and another, an idea was also being transmitted. For the idea of the token as an administrative object and symbolic representation of a commodity to catch-on, each of the participants in the exchange must have been in a position to find this system useful. Therefore, this Network was made up of more-or-less equal participants. In other words, the system of token usage would not have been used by those who did not find it useful, and therefore, those that did use tokens were on a qualitatively equal level.

Furthermore, tokens are not strictly stylistic objects that are indicative of a particular time-period or culture. They served an economic function, but essentially they indicated a new way of thinking. While tally-devices are evinced from much earlier times, the token system used clearly defined abstract 3-dimensional symbols to represent valued commodities or services. Any group who used tokens in this way
would have been a party to this new way of thinking and therefore also a part of the system through which the Network worked.

Fig. 23 Examples of plain tokens (Schmandt-Besserat 1992)

These tokens would have accompanied economic transactions or bureaucracy as tallying devices. Each individual token is believed to have represented a single commodity on a one-to-one basis (Schmandt-Besserat 1992). For example, one 'ovoid' token might have represented a single jar of oil (Pollock 1999, p.155). The tokens would have been used as reckoning devices for corresponding commodities; this was a way to expand cognitive abilities through use of an external symbolic storage device.

Plain tokens have fairly static forms (see Fig. 23), understandably consisting of basic geometric shapes: discs, cones, pyramids, etc. With this being said, each region tended to vary slightly, sometimes creating regional repertoires. The causes for this were probably multivariate, but likely indicate a lack of an overall, central, "core" style. This would have allowed for various styles to emerge based on local needs and the extent to which inter-regional contacts were important.

Eventually (by c.6500 BC) we begin to see these plain tokens changing in form (at Tepe Sarab, Zagheh and Jeitun especially), and being found in new contexts, namely funerary (Schmandt-Besserat 1992). As discussed above, regional variants are not surprising if one adopts the theoretical standpoint that there was no true "core". And by this time, their symbolic function seems to have been accepted enough that their symbolic association with certain objects may easily have extended beyond the economic realm (if in fact they were ever truly limited to economics).

These two peculiarities of the evolution of tokens (i.e. regional variations and new depositional contexts) can be thus explained within the "Network" hypothesis. Perhaps the most important evolutionary aspect of plain tokens, however, has not to do directly with the tokens themselves, but rather with the items that began to
accompany them: seals, sealings, bullae and envelopes. These objects deserve consideration in-and-of-themselves, and stamp seals will receive special treatment in Section II. But before this, complex tokens, a hallmark of the 4th millennium Susan and southern Mesopotamian administrative technology must be considered.

Complex Tokens

Our understanding of plain tokens, if we are to believe Schmandt-Besserat’s idea (but see critiques and alternatives by, Lieberman 1980, Nissen 1986, and Zimansky 1993), is that they originally existed as direct one-to-one correlates to physical commodities or services. By the 4th millennium at the latest, however, their purpose seems to have been dual. The very common shapes such as cones had been used so frequently for so long that it appears that they began to represent abstract numbers for any sort of material. In fact, in early Mesopotamian writing, the numbers which would have been written alongside the proto-cuneiform would have indeed been impressions of certain types of tokens themselves. The 2-dimensional symbols that would eventually develop into full-fledged cuneiform were derived from a well-established system of complex tokens that had been in use in parts of the Near East for more than a thousand years.

As the number of different types of objects represented by tokens began to grow, the corresponding symbols in token forms would have also expanded. This is likely to be the reason why complex tokens began to emerge, as a greater number of distinguishable types was possible through notches, incisions, painted markings, punctations, etc.

Fig. 24 Examples of complex tokens (Schmandt-Besserat 1992)
The concept behind complex tokens is, presumably, the same as plain tokens (one-to-one correspondence), only complex tokens allow for a more diverse range of forms through the various types of markings and an increased use of naturalistic forms.

It would be a mistake, however, to assume that complex tokens were the only way of accounting or exerting bureaucratic control. For example, ‘proto-scripts’ and seals began to be used alongside token usage. It seems clear that on nearly all of the earliest southern Mesopotamian proto-cuneiform tablets, sealings were applied prior to the inscription indicating the transaction that had occurred (Matthews 1993). This makes sense only if we think of the seals as a type of letterhead, indicating at a glance the type of transaction recorded. If this is true in southern Mesopotamia, it seems reasonable to suppose that it may have been true for the sealing practices of other regions as well. For example, the practice common in northern Syria (Frankfort 1939, p.3) of sealing the shoulders of jars may have been to indicate the contents therein.

The most obvious application of this concept of alternatives to both complex tokens and writing is the usage of bullae, tags and clay envelopes. If we broaden our definition of “administration residue” to include all of these signs of shared complexity, by the 4th millennium we can see that there is a wide range of methods that can be used for bureaucratic control. Plain and complex tokens were one form, tags with proto-hieroglyphic inscriptions were another (Umm el-Qaab; Dreyer 1999), sealed tags and bullae another, and numerical tablets were yet another. It may very well be that we are only aware of the ‘tip of the iceberg’ that is the range of symbolic economic devices. What we do know indicates that each region was developing particularly identifiable forms that were part of stylistically autochthonous development for interaction with the Near Eastern Network.

That influences regarding techniques of bureaucratic control were being transmitted through this network of exchanges can be seen from similarities and borrowed traits manifesting in the artefactual repertoire from different sites and regions. For example, that the forms of administration in Susa were distinctly Susan, and not Uruk, is clear. It remains, however, that the two systems were so remarkably similar that they have often been equated. This obviously indicates strong economic
and cultural ties between sites in the two regions of southern Mesopotamia and Susiana. Moreover, the fact that elements of style and function in this system were freely crossing, recombining and co-evolving indicates that in Phase 1 there was no cultural opposition to the transferral of style. This alone tells us that rigid, state-level identities were not yet in place in Phase 1.

**Section II**

**Stamp Seals as Administrative Tools**

The finds at Level 6 at Tell Sabi Abyad (6500 – 5800 cal. BC; Akkermans and Duistermaat 1996) have necessitated a re-evaluation of the nature of the development of social complexity in the so-called periphery. It now appears that the technique of impressing clay sealings for the closure of storage and transport items experienced multiple beginnings in more than one region and for various purposes. While the type of sealing practices at Tell Sabi Abyad, at Degirmentepe c.1000 years later, or Arslantepe even later still are certainly not strictly analogous or sequential, there are striking similarities (see Chapter 5, section on Anatolia - Figs. 65 and 66) suggesting an overall continuity of local tradition that adapted to changing socio-economic conditions (Kielt 1997). Furthermore, the fact that a very early example of “peripheral” sealing practices that shows continuity and development means that the idea that there was an absence of socio-cultural complexity in this “periphery” can no longer be accepted.

This is not a reversal of the “core-periphery” system, however. Northern Mesopotamia or Anatolia should not be looked at as the sole progenitor of social complexity any more than should southern Mesopotamia⁵. Each group in the network, varying in size, was vying for the most valued resources as chosen through the socio-economic system in place. These groups were interacting as a network of more-or-less peers; each group was protective of identity, but even more interested in

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⁵ Incidentally, southern Mesopotamia, lacking the evidence for sealing practices as early as those found in the North, would appear to be even slightly behind the North. Once again, however, as discussed in Chapter 3, technological primacy based on negative evidence should raise caution. On another note, discussions regarding whether cylinder seals were first used in the North or South avoid the more interesting observation that they were both using them, regardless of their origin.
exploiting the most valued resources. This cultural disposition continued to advance in complexity and intensity.

We can use administrative residue to see this emerging complexity and intensity in two ways: 1) administrative residue as expression of bureaucracy (to be dealt with presently), 2) administrative residue as expression of culture and identity (to be dealt with in Chapter 5 as a corpus of stamp and cylinder seals). Here in Chapter 4, we will only deal with general trends relating to the above two attributes, and a detailed analysis based on stylistic qualities will be approached as an evaluation of Phases 1, 2 and 3 in Chapter 5.

**Administrative Residue as Expression of Bureaucracy**

There is some debate as to whether seals were in all circumstances used as bureaucratic tools. This debate is valid, and there should be some credence given to the idea that what appear as seals to us may be simply ornamental or some other functional item such as a button. Even so, whatever their function, as with tokens, inter-regional consistency in form and style is indicative of interaction over great distances from within a Network. This interaction was increasingly occurring throughout the Neolithic and Chalcolithic and into the Early Bronze Age. It had once been thought that the earliest known stamp seals, which date to Pre-Pottery Neolithic B (PPNB), were simply the earliest expression of the form that would only much later function as an administrative device. It has become clear now, from what we know from Tell Sabi Abyad⁶, that their use as bureaucratic controlling devices extends into the later Neolithic. And even if we cannot positively attribute all artefacts that look like seals to actually having been used as seals, we now know from as far back as we see the form of seals, the function also existed in at least some places and probably would have been understood, if not used, by many within the Network.

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⁶ At Tell Sabi Abyad in Level 6 were found nearly 300 seal impressions on clay. The context dates to c.6000 BC (calibrated), a transitional period from Late Neolithic to Early Halaf. The seal impressions show evidence of having been used to seal baskets, mats, ceramic vessels, stone bowls, and leather bags. This differs from the usage at Arslantepe more than 2000 years later only in the fact that at Arslantepe there is the addition of door seals to this list (Akkermans and Duistermaat 1997; Kielt 1997; Frangipane and Palmieri 1983).
Stamp Seals as Expressions of Culture

Here we will expand on regional seal styles in the prehistoric periods, and the fact that designs from earlier stamp seals carried over into the designs on cylinder seals. Especially, the geometric designs were already well-established on stamp seals long before they were adopted for use on cylinders. This makes a legitimate case for reciprocal exchanges of styles, especially from “periphery” to “core”.

More elaboration will be undertaken in Chapter 5 when corpus of glyptic artefacts is presented. General comments on how materials were used to express culture have already been given in Chapter 2. Here it will be shown how stamp seals as material culture respond to overall changes in society. Also, it will be shown in this section that changes in the characteristics of seals correspond to major culture shifts.

Chapter 5’s presentation of the Corpus will deal with Phases 1, 2 and 3, in order to establish that a Phase 2 actually existed. Even though Chapter 5 is mainly to be about Phase 2 (transitional period), the task will largely be to explain how Phase 1 was becoming Phase 3. Therefore, detailed analysis of the Phase 1 (as well as Phases 2 and 3) glyptics will be included in Chapter 5, and the only thing needed here is to show how glyptics fit into the Phase 1 Near Eastern Network.

Survey of Stamp Seals: Neolithic through Early Bronze Age

Observations from research on the typology of stamp seals show characteristics that mirror the general trends that are being emphasised for Phase 1. When we first have evidence for stamp seals, or even for ornamentation that resemble seals, there is initially an overall lack of homogeneity, even within single assemblages. The trend, however, from the Neolithic through the Uruk period, is toward an increasing homogeneity or standard within the global glyptic repertoire. von Wickede alludes towards this trend as almost koine, or common style (von Wickede 1990, p.2).
While this is a gross oversimplification, two general trends can be picked out among the details of the stamp glyptic from the first occurrence in the archaeological record from Ubaid 3 period until the end of the Late Uruk period (von Wickede, 1990, p.239) (at least until we see widespread use of cylinder seals):

1) Designs in stamp seal assemblages can only be accurately grouped by individual sites, although affinities between assemblages can be observed.
2) By the late Ubaid period, there is a general uniformity across all regions in the forms that stamp seals take.

In regard to the second point above, von Wickede observes that, “in der späten 'Obed-Zeit zeigt sich eine Gleichförmigkeit, so daß man fast von einer koine in der Glyptic sprechen möchte” (von Wickede 1990, p.239).

No straightforward answers regarding the uses, styles and socio-economic importance can be ascertained from von Wickede’s detailed but at times cryptic account (von Wickede 1990). Homès-Fredericq (1970) unfortunately gives even less of a statement regarding a general impression of prehistoric sealing practices.

According to von Wickede, there are two general chronological groups, although typologically they are separated by a gradual and continuous development. These two groups are the Early Prehistoric (Neolithic through the Halaf period) and the Late Prehistoric/Early Historic (late Chalcolithic to the Early Bronze I period). The Late Prehistoric/Early Historic stamp glyptic will be dealt with in more detail in Chapter 5 as they pertain specifically to regional styles.

The three major typological groups of the Early Prehistoric stamp glyptic are the “konisch-pyramidale”, “Amuletteiegel” and “Stempelsiegel mit Ösenhenkel” (von Wickede 1990, p.254). Only in the regions from Palestine to Southwest Anatolia do the conical pyramidal stamp seals continue with any consistency.7 Also, Southwest Anatolia in the Early Bronze Age undergoes a “Renaissance” in the pyramidal seals where by the ED III period, the occurrence of these types of seals in

7 For example, at Byblos, Teleilat Ghassul and Tell Cudeyde (also this form of seal can be loosely compared to those in Strata VIII-VII from Tepe Gawra).
southern Mesopotamia can be generally understood as influence coming from Anatolia (von Wickede 1990, p.255).

The preference some regions had for stamp over cylinder seals will be explored more fully in the next chapter. For now it is simply important to note two general observations. Firstly, stamp seals and the practice of sealing with stamps occurs quite early in the Near East (as can be seen at Tell Sabi Abyad). This would suggest that continued use of stamp seals by a people would not be indicative of a poverty of their culture, but would rather be indicative of a strong sense of identity and continuity. Secondly, while there are instances where stamp glyptic styles spread, they generally correspond to the overall picture of material culture trends, such as the Hassuna, Halaf, Ubaid, Uruk, etc. This would suggest that stamp seals in Phase 1, if indicative of identity, did not necessarily represent a regional identity, but that these styles were rather part of a “package” that came along with a large material culture group. This idea has been discussed as “fads” and memeplexes.

Section III

The Uruk Phenomenon

Social Ideology in the 4th Millennium

In a recent synthesis by Paul Collins (Collins 2000), the archaeological problem of explaining the huge spread of the Uruk material culture is put into a modern, cogent and multifaceted analysis. It will not be attempted here to replicate this work, but rather it will be acknowledged that if one were to look for a treatment of southern Mesopotamian 4th millennium archaeology from a socio-ideological perspective, Collins’ work would be a key reference. The current thesis does not concentrate specifically on this time period, only inasmuch as it represents the last part of Phase 1 in to contrast our Phases 2 and 3. Also, it is argued that human expression of culture after 3100 BC relates to a change in cognition. This cognitive change was the result of a spread of culture within a Network that reached a supercritical level at the end of the 4th millennium. It is argued here that the Uruk
Phenomenon was truly marked by great achievements, but also that the ideology of the 4th millennium differs from that of the third. Collins does allow for this argument, and it is here in his argument that we shall pick up.

Fig. 25 Map of Bevel Rimmed Bowl distribution in Southwest Asia, showing the spread of Uruk-influenced material culture in the 4th millennium (Roaf 1990, p.64-5).

One of the most conspicuous facts of the 4th millennium in the Near East is the pervasiveness of the Uruk material culture (Fig. 25). This fact alone helps to substantiate the idea that the end of Phase 1 is a time of wide-reaching inter-regional exchanges. The fact that there was a Network of interacting agents can hardly be disputed from the archaeological evidence. What must now be established is that this ideology, while pervasive and important for the 4th millennium, was not representative of a-reciprocal influence between one governing body over other underdeveloped regions.

What is particularly interesting about Collins' synthesis is that he makes it quite plain that the "Uruk Phenomenon" is not simply based on a homogenous southern Mesopotamian ideology. The idea of North and South in the 4th millennium is not as clear-cut as it seems to be in the historical periods (the idea that group-identity formed at the end of the 4th millennium is argued elsewhere by Nissen 1987).
In the 4th millennium, the "Uruk-ideology" reaches its peak. What is lacking, however, is an evaluation of how this ideology became replaced by another: an ideology of regionally defined state-level identity.

Material Cultures and Sequential Background of Phase 1

Archaeological Context

While the major analyses in this thesis are largely artefactual, it would serve a valuable purpose to better clarify and ground these artefacts through an overview of the archaeological contexts in our Phases 1, 2 and 3. Because the questions being posed in this thesis relate to the "Urban Revolution", it would be useful to offer some description of how "Urban-ness" was beginning to take shape. It should be made clear that this thesis is not intended to be a definitive archaeological or architectural [inter-] regional analysis, and therefore detailed GIS, rank-size analysis, comparative stratigraphy, cross-cultural comparisons (among other methodologies) will not be attempted here. In fact, the descriptions that are to follow have merit not in the fact that they are based on new information, but rather that they are inherited from previous scholarship, and these general views will not be challenged to any great extent. These general summaries are enough to give substance to answer the large-scale questions being posed regarding the developments that took place in the 4th–3rd millennia.

In the following sections, each region considered in this thesis will be taken in turn and described according to its archaeological and architectural contexts. This will be accomplished through a summary of secondary analyses, and through a more-in-depth look into a few key sites. It is hoped that this will give a general impression of our current understanding of the general overviews on the 4th–3rd millennia in these regions.

South Mesopotamia

Sites Considered Part of the Greater ‘Uruk Culture’

The idea that ‘Uruk-type’ culture originated in the southern alluvium, only later to be spread through colonisation, is rooted in several long-standing
assumptions. The chronological and cultural primacy of the largest known site of its kind, Uruk itself, has often been assumed, despite the fact that no satisfactory absolute dates survive nor is the internal stratigraphy sufficient to make this supposition (Nissen 1998). Relative size may also be a factor that has lead many to assume Uruk’s temporal and cultural primacy. And surely, the fact that such splendid artefactual remains have been recovered from Uruk make this idea appealing.

As we have seen in Chapter 3, absolute dates do not unequivocally support Uruk’s primacy in terms of evidence for social development. Of course, there is an indication of ‘Pre-Contact’, ‘Contact’ and ‘Post-Contact’ phases when referring especially to North Mesopotamia in the 4th millennium. Granted, these contact phases refer to a specific artefactual phenomenon, but in a more real sense, any doubt that “contact” in the Near East had been established well before the 4th millennium can be dashed by simply looking at the pervasiveness of the preceding Ubaid material culture (see Fig. 3 in Chapter 2).

Indeed, McGuire Gibson (based on recent excavations at Tell Hamoukar; Gibson 2000) would like to attribute the achievements of the 4th millennium to developments that find their roots in the Ubaid period (5th millennium). It is not necessary to get into a discussion of this here, and it is the present author’s belief that the Ubaid period experienced social transformations that were separate to those under examination in this thesis. In this chapter, only a focus on the 4th millennium leading into the 3rd millennium is necessary.

The word “contact”, when used to explain the 4th millennium Uruk-culture, refers to evidence of contact in certain archaeological features. But that actual contact was occurring consistently throughout Near Eastern history should be of little doubt. What we should be examining is why major archaeological manifestations of contact occur at this time period, not whether contact was actually occurring. It should be clear that a major point within this thesis is that it must be assumed that there were many more human exchanges than can ever be recovered through archaeology. With this in mind, the question is not “contact” versus “no-contact”, but rather why did contact result in artefactual and archaeological manifestations.
This point is a theoretical one that has been explored in Chapter 2. In this Chapter, the 4th millennium data will be presented in an even-handed manner. Firstly, the 4th millennium sites related to the Uruk-type culture will be presented, according to region: South Mesopotamia, Middle Euphrates, Upper Euphrates, the Khabur Valley and Iran. Secondly, Anatolia will be shown to be developing along a trajectory independent from that of southern Mesopotamia. Susa and Iran will likewise be shown to exhibit independent traits despite the apparently close ties with southern Mesopotamia. Archaeological data from Egypt will be shown, establishing a sequence that stems from Neolithic and continues through the 4th millennium. Furthermore, Palestine/Transjordan will be considered due to the fact that this region has often been considered as one of the most marginal and ‘peripheral’. This will be shown not to be the case according to the archaeological remains. These regional archaeological profiles will be only presented in this chapter up to the end of our Phase 1. In Chapter 6, these profiles will be completed, showing the archaeological evidence for the social transformations that took place in Phase 2, followed by the definition of these new state-level identities through Phase 3.

The Mesopotamian, Anatolian and Iranian sites in Chapter 6 will be shown in their 3rd millennium contexts, namely Jemedet Nasr through the Early Dynastic in Mesopotamia, and proto-Elamite in Iran. Egypt in the 3rd millennium enters into a sophisticated pharaonic system. Palestine in the EB II period ushers in an urban phase and a closely hegemonous regional unit in its own right.

For now, let us return our attention to the 4th millennium.

Sites in the Southern Mesopotamian Plain

Uruk

Much of what we know about the 4th millennium of the type-site of Uruk comes from two exposures within the 250ha. city. These excavated areas, referred to

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8 For descriptions of Uruk, Tell Abu Salabikh, Eridu, Tell Uqair, Ur, Habuba Kabira, Tell Qannas, Jebel Aruda, Tell Sheikh Hassan, Haçebeti Tepe, Hassek Höyük, Arslantepe, Tell Brak, Susa, Choga Mish and Godin Tepe, a great deal is owed to the general outline provided in Collins 2000, pp.31-9. Much of what is here has been paraphrased from his work, because it was felt that a new synthesis was unnecessary. Where useful, references to the primary sources are given.
by the ancient names relating to their religious contexts, are the Anu Ziggurat and the Eanna Precinct. There is very complex stratigraphy involved, and it is unfortunate that 4th millennium material from elsewhere is often associated with the name ‘Uruk’, because relative and absolute chronology for Uruk itself is complicated and fragmentary. With that being said, the city of Uruk was undoubtedly an important one for the time period, and from it a very rich artefactual and architectural record remains. Therefore, in order to understand the ‘Uruk-type’ sites other than Uruk itself, an analysis of the actual archaeological remains from Uruk is useful.

Anu Ziggurat

A buttressed platform with phases dating as far back as the Ubaid period (Heinrich 1982, Abb. 81-95) makes up the foundation upon which was built a series of buildings of similar size and layout (although not directly superimposed upon one another). The well-known White Temple is among these buildings, built upon Level B of the platform. Dating of the White Temple has proven problematic, but may be contemporary with Eanna Level IVb [see below], which is Late Uruk in date.

The layout of the White Temple is similar to, and may represent a more complete plan of the monumental building at Tell Uqair (Collins 2000, p.33) consisting of a central hall with four doorways along the two long walls, which open into a series of rooms. There may also have been access to the roof. A niched façade and open-mouthed jars along a ramp leading to the platform would have decorated the temple complex.

Additionally, as well as at Tell Uqair [see below], red paint decorated the platform surface outlining the temple and what may have been a temporary construction identified by post-holes.

To the east of the raised platform and White Temple, on ground level is what is known as the Steingebäude. It is probably contemporary with the White Temple. Sunk into a pit, the Steingebäude’s plan consisted of three concentric rectangular rooms, each with entrances on differing sides. The central room was constructed of a base of gypsum plaster bricks, surmounted by limestone. The other outer rooms were constructed of limestone, and the entire building was built upon a carefully
built limestone pavement. The stonework was then covered with gypsum plaster and sealed with bitumen (Collins 2000, p.33).

The function of the Steingebäude is unknown, although there has been much speculation; but it is known that it was deliberately infilled with stone and mud while the plaster was not yet dry. In the centre of the Steingebäude is a podium with evidence of burning, although temporary roofing for the building has been suggested.

Eanna Precinct

Known by its Ur III attribution as the ‘House of Heaven’, i.e. Eanna, this area which lies about 50 metres east from the White Temple has also been the concentration of much study and excavation. The 4th millennium buildings in the Eanna complex are monumental and stratified over a long and more defined sequence that that of the White Temple. It is the Eanna sequence that has often been superimposed upon other sites, and it is largely from this sequence that much of the 4th millennium chronology is derived (or refers to!), fragmentary as it is.

The earliest ‘Uruk-period’ level is Level VI, which has only fragmentary remains, possibly of the Steinstifttempel. Above this level is Level V, which consists of the Kalksteintempel and the Steinstifttempel nearby, which is stratigraphically linked to the Grosser Hof (Collins 2000, p.34).

The Kalksteintempel was originally founded upon irregular limestone blocks with bitumen mortar, but was later reconstructed on a mudbrick foundation with some of the original blocks being used for constructions elsewhere (Heinrich in Nöldeke 1934, p.7). The Steinstifttempel, within a bitumen covered courtyard and atop asphalt, had a foundation of limestone blocks with mud mortar and stones set in bitumen used as the first courses of the walls. Above this foundation, the walls were constructed of gypsum plaster/crushed mud moulded bricks. These may have been made in wooden moulds similarly to mudbricks (Moorey 1994, p.338), although much larger than usual in this case. The Steinstifttempel’s sequence is greatly obscured by disturbed contexts from later robbing, mainly of foundation stones, and other intrusions. The Grosser Hof is connected stratigraphically to the Steinstifttempel via a 5m long trench. Both buildings were sealed watertight with
bitumen; the Grosser Hof used bitumen-covered mudbricks, while the Steinstifttempel was sealed with inlaid stone cones.

Level IVb saw this area rebuilt with a series of platformed buildings. There were three platforms: A, B and another large one with eight pillars and a staircase leading to a sunken court, referred to as the Rundpfeilerhalle. The façade of the latter platform was decorated with cone mosaics (Nöldeke 1932, p.12; Moortgat 1969). The freestanding columns and buttressed and niched walls were especially decorated as such (Finkbeiner 1986, pp.126-7).

Platforms A and B and the platform with the Rundpfeilerhalle were subsequently covered by a large platform with buildings D and C which were probably parts of a multi-part T-shaped building, each part (three in all) with 2 hearths. This platform and its subsequent building phases make up Level IVa. Other constructions in this level include a multi-room square building with a large courtyard decorated with buttresses and a continuation of the Pfeilerhalle.

These buildings would have been at least partially enclosed and gated. It is possible that the Riemchengebäude, which cuts into the Steinstifttempel, dates to Level IVa. This Riemchengebäude was built on a limestone block foundation, the stones of which were robbed from the earlier Steinstifttempel. The Riemchengebäude was filled with burnt artefacts and the doors to the building were blocked; this may represent some sort of ritual burial. Traces of figural wall paintings have also been found in this building (Nunn 1985).

Also dating to Level IVa is Tempel E (Heinrich 1982, pp.77-8) which had limestone foundations for at least one of its rooms (Lenzen 1968). Furthermore, the Alte Terrasse in this precinct was also paved with limestone blocks. The buildings of Level IVa of the Eanna precinct would have been enclosed within a decorated wall and approached through a monumental gateway (Collins 2000, p.34). In the final stage of Level IVa, the entire precinct was destroyed and the next phase of architecture featured a new layout and different construction techniques. An outstanding feature of the ‘Uruk-period’ (4th millennium) architecture at Uruk is the use of stone foundations. While there is some stone use in Level III (a problematic level), in general, stone use in architecture falls out of practice in Uruk itself, as well as in other Uruk-type sites.
Tell Abu Salabikh

On the northeast of the Uruk-period mound there have been found impressions in bitumen of reeds, matting, wood and other materials suggesting construction using materials other than mudbrick (Pollock et al. 1991, p.66). This bitumen layer likely dates to the Middle Uruk period. A city wall surrounded much of this southern Mesopotamian city in the 4th millennium. The pottery from the foundation layer of this wall has been assigned to the Late Uruk period [see 4th millennium chronology on SAR chart in Chapter 3 - Fig. 20] (Pollock et al. 1991).

In the mortar from the ED II walls on the Main Mound at Abu Salabikh have been recovered “clay wall-cones of the familiar Uruk-type” (Postgate 1984, p.108). Postgate speculates that the Early Dynastic II building used, in part, the destroyed earlier buildings’ walls to form mortar for the large-scale 3rd millennium constructions.

Eridu

A large tripartite building possibly dating to the Early Uruk period, found in square H5, contained a large platform with an enormous two-storey kiln. The kiln was bitumen-lined and surrounded with ceramics including Bevel Rim Bowls. The proximity of Bevel Rim Bowls might suggest that this kiln was used for the processing of bitumen, as Bevel Rim Bowls have been known to be used for transportation and/or storage of bitumen at other Uruk period sites, such as at Hacinebi Tepe (Collins 2000, p.32). A ‘Portico’ building to the north-east side of the ziggurat (the ziggurat is post-Uruk IV-III) is divided into 3 interconnected chambers. This building dates to the Early Uruk period but possibly later than the H5 building (Safar et al. 1981, p.84).

In accordance with what has been perceived as a typical trait of Late Uruk-style architecture, Eridu exhibits a marked disposition for large-scale stone-built construction, and use of gypsum. “The whole mound had been surmounted by a retaining wall of undressed white limestone in gypsum mortar, to make emplacement for a new sacred temenos. Above this, the temple-platform rose at a sharp angle, its
face constructed of pale pink limestone in small stepped courses in gypsum plaster. At a point some 15m. above the surrounding plain, this stepped face gave way to a vertical facade" (Lloyd 1954, p.464). According to Hall and Woolley, “the city walls and bastions are partly built of rough masses of gypsum which is found not far off in the desert” (Hall and Woolley 1927, p.66 n.1). Also, a “wall two-an-a-half metres thick, standing to an average height of a little under a metre and built entirely of small bricks of white gypsum” has been uncovered (Safar et al. 1981, p.81).

Furthermore, gypsum Riemchen bricks were used for the Late Uruk (Uruk IV-III) structures found in the layer below the ziggurat. Columns with mosaic cones have been found (some with copper plating) have been found on Level I of the platform of these structures. Additionally, painted murals dating to the Uruk period and possibly post-Uruk period have been found (Safar et al. 1981, p.35).

**Tell Uqair**

A monumental building and a series of large mudbrick platforms dating to the Uruk period have been recovered (Lloyd and Safar 1943). The second stage of the platform consisted of a pair of terraces built to support the monumental building. Two heavily plastered mudbrick staircases approached one of the terraces. Along both of the staircases was a drain that had been lined with bitumen. The second, upper terrace was approached by another staircase that led to the monumental building. A cone mosaic lined the outsides of the buttresses to the terraces. The temple (monumental building) platform was coated in the NE corner with a red paint on the pavement [see Uruk’s White Temple, above, in the Anu Ziggurat area] (Collins 2000, p.33).

The monumental building (temple) is incomplete but believed to have been originally four small chambers adjoining a central hall. The facade of the temple seems to have been first coated in plaster, then painted with gypsum. Although the temple was built directly upon the bitumen coating on top of the platform, a coat of white gypsum would have finished the pavement.

The temple interior was finished with plaster or coloured washes, and the interior walls would have been painted with human and animal scenes above a geometric ornamentation, although these paintings did not survive to a satisfactory
height (Lloyd and Safar 1943, p.143). The geometric designs may have been intended to replicate the look of cone mosaic decoration.

Possibly an early altar stood in the centre of the main central hall, although only the outline remains (Lloyd and Safar 1943). An ‘altar’ does survive in the north-east end of the central hall but may have been a later construction than the earliest use of the temple. A flight of steps ascends flush to the right side of the altar. The altar itself is of solid mudbrick with a 3.6m projection.

Subsequently, the monumental building was infilled with rectangular bricks (not Riemchen), and the platform itself was extended possibly into an oval shape (Lloyd and Safar 1943, p.139; Collins 2000, p.33) Above this layer, Layer V saw a further infilling using ‘gypsum or cement bricks’. After this, the temple fell out of use (Collins 2000, p.33).

**Ur**

Very little is known about the Uruk period at Ur, but a limestone rubble-covered retaining wall on the west corner of the Ur III ziggurat may be attributed to the Late Uruk period (Woolley 1939, p.8). Atop the platform of the retaining wall was a mudbrick surface covered with clay cones (Woolley 1939, p.5-6).

**Middle Euphrates Sites**

**Habuba Kabira**

Much of what we know about the “Uruk culture” in North Mesopotamia comes from Habuba Kabira, a site located on the Euphrates that was occupied in three Late Uruk period stages. It is particularly important for the fact that this was founded upon virgin soil and was not reoccupied after its Late Uruk period abandonment.

The first stage of settlement was short-lived and smaller in size than the later phases. The second phase saw a pre-planned construction of an urban settlement, complete with drainage and street systems (Ludwig 1979). There were three large roads that were carefully constructed using stone and gravel and a network of drainpipes for runoff (Collins 2000, p.34).
Houses, constructed with Riemchen bricks typical of the Uruk-type architecture, covered much of the site and were largely constructed in some variation of the Mittelsaal style. The residential area was likely laid out according to some pre-planned system (Vallet 1996, p.57). Some of the buildings along the main street (parallel to the river) were decorated with external buttresses.

At a later stage, a wall enclosed the site. Bricks were used to construct this wall, although Riemchen bricks were used for the external face and for the construction of bastions and gateways. Protruding bastions (accessible from the city interior), two gateway accesses and external niches decorated the city wall. This entire complex was further surrounded by an outer wall, although the river side of the city appears to have been unwalled and “undefended” (if, indeed the wall was for protection). Although the inner city was approximately 8ha, the full and largest extent of the site may have been up to approximately 18ha (Strommenger 1980, p.33).

**Tell Qannas**

Tell Qannas is a portion of Habuba Kabira Süd in the south of the settlement where a series of monumental buildings can be shown to develop in a way related to the increasing size of the settlement as a whole through time (Finet 1975; 1979; Vallet 1998b, p.66). These monumental buildings would have been visible not just from within the walled settlement but extramurally as well (Lupton 1996, p.62), as the monumental building complex is situated on a natural elevation (Collins 2000, p.35).

A terrace constructed of Riemchen bricks forms the initial foundation for the building complex, the first phase of building construction referred to as the ‘central complex’ (Vallet 1998b). This central complex consisted of a large central room bordered by two rooms to the North and three rooms to the South. Clay cones were revealed amid the rubble of this complex. In the north of this complex was the East Temple, which was tripartite and contained a room with a staircase. This plan is very similar to room arrangements within Habuba Kabira Süd itself, although the East Temple is much larger than the buildings in the settlement.
The ‘North Temple’, situated at a different angle to the rest of the complex, but similar in plan to the East Temple, complete with a staircase room. The North Temple is slightly larger than the East Temple and decorated with niches (Finet 1979, p.88). Although the alignment is different from other buildings in the complex, it follows the same orientation as the building upon which it sits (Finet 1979, p.90). An entire entrance on the western side was bricked up after a fire and replaced by a doorway to the south.

A final phase saw construction of the ‘South Temple’ which is a single room, the interior of which is decorated with niches and fluted buttresses.

**Jebel Aruda**

Located on an impressive natural ridge 60m above the Euphrates River, this site covers approximately 2 hectares, but possibly may have had an association with another complex higher up on the ridge (Van Driel 1998). Jebel Aruda was founded on virgin soil and was abandoned after three building phases, all corresponding to the Uruk period (Van Driel and Van Driel-Murray 1983). An initial terracing was followed by the construction of the monumental ‘Red Temple’, organised in association with which two settlements were constructed.

The ‘Red Temple’ was built upon a platform encompassed by a niched, 2.3m high wall. The corresponding settlement was well built in Mittelsaal plan with Riemchen bricks organised according to standard units of land (Vallet 1998a, p.83). The ‘Red Temple’, the more southerly of the two monumental buildings, built of red subsoil mudbricks, may have been tripartite in plan with a central hall and parallel rooms. The exterior walls were niched. A high solid altar stood against the north wall in the interior in room 4. The altar was accessed by steps on either side; a threshold in the door in the northeast of this wall was present as well. The altar and steps were not primary features of the construction.

The second phase saw the construction of the ‘Grey Temple’ alongside the aforementioned ‘Red Temple’ on an extended platform (Collins 2000). While not completely recovered due to erosion, it was made of grey mudbricks using mud from the river valley below (Van Driel and Van Driel-Murray 1979). The plan which remains to us consists of two entrance rooms leading to a central hall containing a
small altar against the south wall. A small room to the west of this central hall leads to a long room that runs the entire length of the building. The exterior was niched similarly to the ‘Red Temple’.

The platform upon which these monumental buildings rest has an outer rim of mudbricks which were probably added to the platform after construction of the buildings. The monumental buildings and platform were in a courtyard surrounded by the aforementioned 2.3m niched wall. Riemchen bricks were used in construction of the temples, the courtyard and the enclosure wall. Two courtyard entrance gatehouses have been uncovered, one associated with a series of rooms accessible from the courtyard.

In the third and final phase of construction, the entire complex was infilled and an oval-shaped platform built on top (Collins 2000). It can be imagined that another phase of monumental building construction was intended, but many houses in this period are abandoned during this phase. Finally, a very destructive fire took place on the platform, after which the site was abandoned.

**Tell Sheikh Hassan**

A 3m wide wall dating to the Middle Uruk period was excavated on the west side of the large settlement area of this site. This wall was buttressed and niched. An abutting wall leading south may be indicative of a tower or a gate (Collins 2000, p.36). A pair of extramural stone walls, which may have been an avant-mur or possibly related to a glacis, run parallel to the southern façade of the city wall (Boese 1989).

Within the city wall at levels 7 to 6 three monumental buildings have been uncovered. No wastewater removal system (drains or channels) has been revealed in these buildings. In the intramural south corner of the city wall a mudbrick structure consisting of nine chambers was discovered. There were no doors in any of the nine plastered chambers, and no artefacts were recovered. This structure existed in three chronological phases, each phase filled with bricks and soil, sealed-up and then rebuilt (Collins 2000, p.36).

Two mudbrick walls with stone rubble foundations abutting the city wall make up the structure of a room which in turn abuts a building identified as a temple.
It was tripartite in plan and with a central hearth emplacement similar to those found at Jebel Aruda, Habuba Kabira and Uruk itself. Although its plan is similar architecturally to domestic structures, its size is much larger (7.5m niched central hall).

A rectilinear mudbrick building was also uncovered, which exhibits traits similar to Tepe Gawra (0.5m walls with internal buttresses and a brick podium) and the Jebel Aruda Red Temple (podium was filled with snail shells; Collins 2000, p.36). Under this building was a rough stone structure.

What was probably a terrace constructed of large mudbricks was uncovered in the western portion of the site. Another terrace built of Riemchen-like bricks of greenish and yellowish mud was also found in the northern portion of the site. The façade of this terrace was clay-plastered and was buttressed. These two terraces may represent different parts of a single large structure.

Dating to the Late Uruk period, another tripartite building was revealed which shows relations to domestic structures from Jebel Aruda and Habuba Kabira. Although originally not using Reimchen bricks, in level 5, Riemchen-like bricks were used in the construction of a wall for this building.

**Hacinebi Tepe**

Three stair step-like platforms on the northeast side of the site were constructed, each platform corresponding to a different construction phase with the lowest being the earliest and the highest the latest (Collins 2000, p.36). The buildings on the uppermost platform were destroyed by later building, but the middle platform shows evidence for 6 successive building phases. The earlier buildings in this sequence were monumental and successively became smaller and more domestic structures.

The material culture from this area is particularly important as it contains a concentration of Uruk-style ceramics and other objects (e.g. wall cones). Although there was a mixture of “local”-style and Uruk-style material culture, most of the rest of the site contained almost nothing but “local” ceramics and objects.

Another monumental feature uncovered was a stone wall built of cobbles and angular limestone blocks which was niched and buttressed. Although this wall was 3
metres wide and displays over 3 metres preserved height, its orientation suggests that it was not used for defensive purposes. Rather, it may have served to enclose partially some courtyard or equivalent (Collins 2000, p.37). Interestingly, no Uruk-style ceramics are found in the phase associated with this wall’s construction, evincing only “pre-contact” Local Late Chalcolithic ceramics on the street level upon which the wall was built. This wall relates to a large mudbrick platform associated with the putative open courtyard, which also dates to the “pre-contact” Early Uruk phase. This wall and platform were abandoned simultaneous to an insurge of Uruk ceramic types and a reorganisation of the architecture on the site.

This major reorganisation was not present all over the site, but corresponding to the area where most of the Uruk wares were found, in the northeast of the mound (Collins 2000, p.37). The architectural features associated with this reorganisation were a massive stone terrace with a mudbrick enclosure wall, and 9 successive building phases on top of the platform. Rubbish tips associated with the platform yield both Uruk-style and Local Late Chalcolithic style ceramics, although the platform itself has a concentration of the Uruk-style material culture. The starkest contrast between the Uruk and Local Late Chalcolithic material cultures occurs on either side of a wall (45 - in operation 6) where the east side consisted of nearly exclusively Uruk ceramics, and the western side consistently Local Late Chalcolithic ceramics. This has led the excavator to believe that there existed an intrusive “enclave” of Uruk settlers within an otherwise homogenous Local Late Chalcolithic community (Stein and Misir 1994).

Upper Euphrates Sites

Hassek Höyük

This small walled, oval-shaped site with a gated entrance was founded on natural soil in the Uruk period. A monumental building, thought to be a temple tripartite in plan has been revealed on the south side of the site. The central hall is about 18m in length. A Mittelsaal type house has also been discovered, but a fireplace uncovered inside this house is of a familiar Anatolian type rather than those
found in the Uruk repertory. Associated with the destruction level were wall cones and plaque-stamps for sealing the wall cones (Collins 2000, p.37).

**Arslantepe**

Structures dating the “Middle Uruk” (Arslantepe level VII) period were discovered on the southwestern portion of the site, but were obscured by later building. The structures, although unclear archaeologically, suggest that a monumental building dating to the “Late Uruk” (Arslantepe level VIA) period had its precursors in the so-called pre-contact period. This monumental building was decorated with wall paintings featuring red and black geometric designs on white plaster, 1.2m thick walls, a number of rooms and ovens that relate more closely to examples from Tell Brak (see below) than with those found at Habuba Kabira Süd, Jebel Aruda or Uruk.

Also in level VIA was discovered a number of other features, including a succession of public buildings in four building phases, a monumental gateway and a monumental storage facility. In the central room of the storage complex was revealed a wall painting depicting a human figure seated upon a rectangular seat (Palmieri and Frangipane 1990; Collins 2000, p.38). Another room, designated a temple, was built between a pair of niches alongside a long room and was flanked by a bench (Collins 2000, p.38). In the long room that the temple was built against was revealed a mudbrick offering table.

A second temple in this public complex is bipartite in plan with a 12m cella and 1m thick walls (Collins 2000, p.38). It may have stood approximately 5-6m in height and was decorated with two simple niches. In this temple were two platforms, one slightly concave with an adjacent bench and is interpreted as an altar. The other platform was large and not as tall as the other platform. This platform was situated along one of the long walls near the windows. It was built with a hole that had contained wood. This temple also contained two central podiums and a sunken rectangular hearth.
Level VIA contained some southern ceramic styles, but the overwhelming majority was of Local Late Chalcolithic style. Additionally, no southern style glyptics or tablets remain from this period, and Arslantepe as such can be regarded as “clearly on the periphery of the Uruk world” (Collins 2000, p.38).

Khabur Valley

Tell Brak

Although little is known of the earliest periods of this site, clearly there are substantial contacts with the southern Mesopotamian cultures from as early as the Ubaid period (Oates and Oates 1994, p.170). Ubaid and Uruk occupation occurs up to 12m above the surrounding plain, although heavy overburden from later occupation means that these periods are limited in their exposure. Uruk-style ceramics first occur in the Middle Uruk period and by the Late Uruk period most of the site has turned up a combination of Uruk-style ceramics and Local Late Chalcolithic ceramics. The site itself, including surrounding settlements that were probably part of a lower town or at least dependent settlements, covered 110 ha (45 of these hectares were taken up by the surrounding settlements; Collins 2000, p.38). The Uruk deposits extend approximately 2 stratigraphic meters, and although Riemchen-like bricks are found all over the site in Uruk and post-Uruk contexts, in one area (TW) there have been found no Local Late Chalcolithic materials found — only Uruk-style. This has led to a suggestion of a occupation localised by those using Uruk-style material culture (Lupton 1996, p.59).

Of the monumental buildings at Tell Brak, the Eye Temple is the most well-known (Mallowan 1947). Built in a series of construction phases, the Eye Temple existed probably from the Late Uruk period and into the 3rd millennium. The ancillary rooms that possibly date to the Late Uruk period may be the earliest known examples of ritual storage that have been recovered (Oates and Oates 1994, p.170). These storage rooms are not typical of the Uruk tradition, however, and may represent an expression of the Local Late Chalcolithic culture (as seen at Arslantepe;
Collins 2000, p.38). In the Eye Temple was also found a cone mosaic in the early levels (Mallowan 1947, p.97).

In a highly disturbed terraced and rebuilt area to the east of the Eye Temple, dating possibly to the Middle Uruk period, were discovered a numerical tablet and a bulla with a cylinder seal impression that may be indicative of this Middle Uruk date. In another area (TW), a large building using mudbricks similar to Riemchen bricks in its construction revealed flint and obsidian debris and 17 complete pots that are similar to ones found at Habuba Kabira Süd (Oates and Oates 1993, p.171; Collins 2000, p.38). This building did not, however contain the typical frying pan hearths as seen at Habuba Kabira, Jebel Aruda and Uruk (Collins 2000, p.38).

**Iranian Sites**

**Susa**

The upper town covered about 9 ha by the Middle Uruk period, built upon the preceding Susa I buildings. The lower settlement, which may itself have contained monumental buildings, covered an additional 25+ ha. The upper town, however, has some very good evidence for large buildings and complex administrative activities. The lower town may not have been occupied during the Late Uruk period, although the evidence is incomplete.

On the Susa Acropolis, clay cones of Tonstifte and Grubenkopfnagel types were found. This form of decoration may find its origin in a (Susa A) local, non-Uruk platform from a preceding period. The platform was decorated with “ceramic cylinders with flared, pierced heads ‘clous’” (Collins 2000, p.39; Pollock 1989, p.284).

**Choga Mish**

After a hiatus from its early 5th millennium settlement, the site was reoccupied during the Middle Uruk period. During the Middle Uruk period, the site occupied about 1 ha, and covered little more than the 5th millennium citadel. In the Late Uruk period, the site and its lower town grew exponentially to cover about 17 ha (Collins 2000, p.39). On the southwest of the High Mound was uncovered a 2.4 x
4.6m room with over 3m thick walls. These may have been the foundations for a building. In the West Area was revealed a very large platform (350+m²) in the shape of an irregular polygon. On the eastern side of this platform are the remains of what may have been buttresses or towers (Delougaz and Kantor 1996, p.33; Collins 2000, p.39). No structures that may have been on the platform survive.

In the Late Uruk period, a great number of clay cones have been recovered, including some with red and black paint on their heads, some light buff or dark grey (Collins 2000, p.39) of large size and with a hollow centre for inlay. None have been retrieved in situ.

**Godin Tepe**

A small walled oval Uruk-style settlement exists within this otherwise local Chalcolithic site. The wall, however, measured approximately 1.5m thick and was not made in the Uruk style (Weiss and Young 1975, p.3). The oval was constructed on a portion of the site that had been abandoned, although there was a structure from earlier in the same period that preceded it. Of the buildings within the walled oval were 4 rectilinear buildings (each with only one room) decorated internally with tokhches style niches (they do not reach the floor and end in a shelf; Weiss and Young 1975).

**Synthesis**

An important thing to note from the overviews of some of the major Uruk settlements is their apparent diversity. There are surely similarities between the material cultures that allow one to make the generalisation that objects or architecture is “Uruk-style”. But there is a great deal of variation within this repertory as well. The consistency of the Uruk style has been picked up in previous syntheses in models that assume that a “core” in southern Mesopotamia branched out into the “peripheral” areas through colonisation and exploitation (Algaze 1989; Algaze 2001). A critique of this idea will be expanded more fully in the next sections.
For now it is worth mentioning that while there is variability in the Uruk-style architecture and artefacts within the "core", the "periphery" seems to adopt certain attributes of the Uruk-style as are seen fit. These Uruk attributes do not supplant the indigenous cultural attributes in all circumstances, but rather are often blended or co-exist with the Local Late Chalcolithic repertory. This evokes the same sort of information transferral and acculturation that has been discussed in the context of style and memes in Chapter 2. In Phase 1, the Uruk-style attributes spread so effectively throughout the Near Eastern Network exactly because there was no state-level identity to oppose this spread. Emulation and mixing was occurring to a greater extent than it ever had before.

In regard to southern Mesopotamia explicitly, one question is never fully explained in models that expound a "core" as the progenitor of the Uruk "civilisation": what is a "core"? Algaze, in a recent synthesis (2001) has expanded his earlier idea of a world systems theory to explain the Uruk expansion (Algaze 1989). In Algaze's more recent synthesis, he attempts to more adequately deal with the question of what his core area actually is. As we shall see, there are still major problems.

Algaze presents us with an environmental addition to his 1989 economic model for the Uruk world system, emphasising the role that the variant climatic conditions had in shaping early state formation. He makes his case for a southern Mesopotamian core based on the claim that the southern alluvium was a series of intermeshed waterways that gave an initial environmental advantage to the inhabitants in the South over those in the North. Firstly, this ignores other river delta areas (such as the Nile delta) that did not advance in the same way as southern Mesopotamia. Secondly, his "monsoonal" swampy marshland would have produced miserable conditions for the inhabitants, not the paradise that he insists would have typified the lowlands in the 4th millennium. Furthermore, as Brentjes (2001, p.215-16) comments, this monsoon may have missed southern Mesopotamia altogether.

More importantly, however, there is never a case made for the chronological primacy for the settlements in the southern alluvium. As we have seen in Chapter 3, the 4th millennium was a time of long evolutionary processes throughout the greater Near East, which means that the "periphery" was not the cultural backwater that
Algaze makes it out to be. If the chronological primacy of the South is called into question, then the whole idea of where the core is comes into question. If we find settlements in the North from Middle Uruk period onwards, then we must ask ourselves, where the “Uruk” culture comes from.

In fact, the Uruk culture is another “fad” (cf. Chapter 2) in a series of waxing and waning phases of the popularity of the spread of certain types of material culture in the Near Eastern Network. The Uruk culture was the last great fad of the old system, before the entire system was restructured. As Lamberg-Karlovsky points out, “complexity is more than an evolutionary stage of the ‘initial’, it is a moving target that requires a more detailed understanding of the ‘social’” (Lamberg-Karlovsky 2001, p.221).

The “core” of the Uruk culture should not be looked at as having come from a small southern alluvium. The “core” is not some circular entity with neat boundaries that we can draw on a map. Rather, the core area of the Uruk-type material culture existed in an amorphous expanse possibly with vast areas separating one part of the “core” area from another. Were the nomadic pastoralists in the southern alluvium part of the Uruk core? Or were they part of their own culture exhibiting distinct material culture traits? Is Habuba Kabira a colony, or is it part of the core, extending along a finger following the Euphrates?

Perhaps one of the reasons why a “core” is sought in the 4th millennium is because in the 3rd millennium the material culture that had been so popular over such a vast distance seems to recede to southern Mesopotamia. This interpretation is not only teleological, imposing what we know about the 3rd millennium onto the preceding 4th millennium, but it also is not supported by our understanding of the chronological sequence as seen through calibrated radiocarbon dates (see Chapter 3).

Algaze’s environmental and synergistic explanation for the emergence of a complex core in southern Mesopotamia is inadequate. “There is both teleology and tautology in this argument: environmental benefits bring about social complexity, while in turn, social complexity is able to take increasing advantage of its environment” (Lamberg-Karlovsky 2001, p.220). Contrary to Algaze’s argument, “environments are filtered, transformed and given their material reality by the beliefs and practices of a society” (ibid.).
Additionally, Susa and the other Iranian sites have been lumped into the southern Mesopotamian “Uruk-core” area by Algaze. This creates problems for two severe reasons. In order to maintain sustained contact between southern Mesopotamia and Susiana, the overland route would have had to have gone a considerable distance to the North, given the geographic constraints separating the two. This would mean that a fundamental exchange route within the “core” would have to pass through “peripheral” areas, coming very close to Godin Tepe and Tepe Gawra, for example. Contact with these and other sites would have made East/West North Mesopotamian trade routes easily accessible. Therefore, to include Susiana in the Uruk “core” essentially means that Godin Tepe, Tepe Gawra, the Diyala region and the East/West trade routes were also part of the Uruk “core”. Why then is Jebel Aruda, Habuba Kabira and Tell Sheikh Hassan not part of the “core”? Could it be that rather than an archaic form of imperialism, the Uruk “world system” was an intense spread of a popular material culture within an already dynamic Network of interacting agents?

Northern Syria

The core-periphery model is accurate only in sense that southern Mesopotamian culture eventually came to be overtly expressed through certain key “cultural-indicators”. But this influence in the North (and other regions) was diffused, or perhaps more accurately “acculturated”, into an already existing and thriving system rivalling that in the South. These cultural-indicators in the North, in which we can see evidence for both reciprocal influence between the South and North and long-standing indigenous traditions and innovations, are building techniques, architectural plans, uses of space, ceramic parallels, administrative technology (Lupton, 1996; p.2), materials technology (namely metallurgical) (Watkins 1983) and agricultural subsistence strategies (Adams 1965; Adams and Nissen 1981; Wilkinson and Tucker 1995). Through analysis of this evidence, it has been posited that there are three periods in the North (pre-contact, contact and post-contact) that act simultaneous to and in conjunction with the more conventionally known southern Mesopotamian terminology (i.e. the Uruk phasing; Lupton 1996).
In a comparison between North and South Mesopotamia, it is important that we understand exactly what type of land and climate was characteristic to each. In the South, settlements occurred upon riverine courses due to the fact that precipitation is scarce and dictates that human agricultural habitation was limited to areas exploitable by irrigation technology. The alluvium in the South is rich enough that with cultivation it is able to sustain great population agglomeration, but it is also clear that small-scale farming methods are not the ideal method for land use. This is not to say, however, that there were large-scale irrigation projects that were under the control of a monopolising hydraulic despot, that directly lead to the formation of a centralised state (Wittfogel 1957). In order to explain why the great urban centres of the 4th millennium came to be, it is essential that we divorce ourselves from a monocausal theory. We should adopt a viewpoint that more easily accounts for socio-political factors and also acknowledges that the South did not exist in a vacuum.

The speculation regarding land-use strategies in the South of Mesopotamia is largely based on survey studies and distribution patterns, including rank-size distributions and gravity interaction models (statistical techniques which, although having shortcomings, bring certain nuances of numerical data to light). Simultaneous to the settlement pattern analyses, work was taken up gathering information about the ancient landscape, climate and watercourses (Adams 1981). It appears that no major climatic changes have occurred between the time in which we see the formation of walled cities and the present day that are significant enough to warrant a rethinking of how subsistence agriculture was practised (Brentjes 2001).

The population that inhabited the steppe lands were highly adaptable and fluid, thus able to deal with the inconsistencies of the environment. The cities, being rigid and unable to cope with the unpredictable nature of the environment, were reliant upon the hinterland to provide for those who did not work the land. Group holdings of land (mainly through the temple but later equally by the palace) increased the control over agriculture and in doing so increased the stability for the fully sedentary city-dwellers. As the cities increased in their size and power there was likewise an increase in attempts to control the land; the agriculturists in the hinterland, however, remained persistent in existing as “defensive formations of
semisedentary, tribalized peasantry” (Adams 1981, p.250), and it was through the interaction of these two interdependent groups that the rise of the city came about. In addition to this interaction between the agricultural/pastoralists and the urbanites, the people who dwelled in the cities were unlikely to have been culturally homogenous; with this in mind we must assume that there was some sort of societal transformation which allowed heterogeneous groups to coexist in such close proximity (this will be explored later in regard to linguistic groups in Chapter 6). This is made evident in the complexity of societal stratification, as observed through dwelling size, the evidence for craft specialization and the emergence of the temple and the palace (Adams 1981, p.244).

In the North, there is much more diversity in the eco-zones and terrain, whereas the South tends to be fairly uniform. In fact, the North cannot be understood as only one ecological entity. There are four major divisions based upon a variety of environmental factors into which the north is grouped: Keban, situated in east-central Turkey on the Altınova plain; to the south-west of Keban is Karababa, located in Turkey as an extension of the Syrian Jazira, on the hills of the Urfa-Gaziantep plateau; to the south of Karababa is Tabqa, on the mid-Euphrates valley on the western edge of the Syrian Jezira and to the east of Tabqa is the North Jezira which is essentially a large plain. Although the climatic conditions of each area are considerably different from the next, the ways in which they are similar sharply contrast the uniformity of the South. One way in which these regions are similar is that they are all able to sustain agricultural endeavours with a rainfall strategy. Another similarity is that, except in the case of the North Jezira, the river courses tend to cut into the landscape, leaving large basins wherein most settlement concentrations can be found. In the case of the North Jezira, although it is topographically similar to the South, its dissimilarity stems from the fact that it has a relatively high groundwater table and considerable rainfall, making it highly suitable for dry-farming techniques (Lupton 1996).

The obvious differences in the means of production between the South and the North may certainly have necessitated different interactions between the settlements. Even so, from the evidence that exists, the physical outcome of what
must have been quite different urban formative processes, the end result is surprisingly similar (see Chapter 6). The cities that were formed in the North were similar in size, morphology and numbers to those in the South. The system that came about in the North was different because it consisted of many settlement-interaction spheres that co-operated on the small-scale regional level and co-existed in relation to other spheres in the larger region. This actually goes to show that the North was even less dissimilar to the South in complexity. But where the South began to amalgamate with neighbouring polities (if only on an ideological level: i.e. a sense of oneness with the peoples of the Land of Sumer), the North continued to act as a region of related but independent spheres of interaction, with major cities as the centres. In the Contact Period we see some of the characteristics of the South beginning to emerge in the North as well, but this does not in any way diminish the North’s indigenous character. This emulation further supports the supposition that in Phase 1 there was no cultural opposition to the emulation and blending of cultural styles. In other words, there was no state-level identity in Phase 1.

The North, although emerging in a unique way, was not the cultural backwater to the South as had once been thought. Ceramic innovations, styles and prestige-wares found in the North were produced locally (Lupton 1996, p. 38). Metal-working was also a craft in which the northern products were not only not “derivative or simply produced in tandem with those of Sumer, but [...] they show evidence of originality and equal participation in the process of innovation and development” (Watkins 1988, p. 18).

The exact reason why the contact with the South increased during the Middle and Late Uruk Contact Periods is unknown, but there is no lack of theories about this matter. Perhaps there were actual immigrants fleeing from political struggles in the South; perhaps there were indeed trading outposts for access to northern routes; even deliberate colonisation is a possibility. It is most likely that the evidence for increased contact was due to synergy of a number of factors, but a case for

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9 Algaze (2001) discounts the northern sites as being incomparable to the southern sites because in the North only 2-tiered settlement hierarchy is displayed (p.210). It is argued here that the settlement patterns are naturally different for a multiplicity of reasons, not least of which being that the subsistence strategies and exploitation of resources were different in the two regions, not because of asymmetrical social complexity.
as a reason for the increase in the archaeological manifestations of Uruk-type culture must also be given some consideration. In any case, it is during this period that the South exerts the most cultural influence in the North.

In the Post-contact Period (equal to the Jemdet Nasr and ED I periods (Phases 2 and 3) in the South; Lupton 1996) there is considerably less contact with the South, the North consisting of three areas in relation to southern influence: “a southern dominated zone, a middle zone with small southern sites and/or presence at the local regional centers, and a more northerly zone with southern materials, but no southern presence” (Lupton 1996, p.99). Although the South still had a great deal of contact with the North, the North itself was increasingly dealing with contacts from other regions, Anatolia being the greatest.

In Algaze’s world-systems view, the core-periphery model dictates that one of the two interacting groups be at an inferior level than the other. As the evidence shows, this is simply not the case. With all of these factors in mind, we can see that Algaze’s world-system theory does not fit the data in an appropriate manner. We can think of these two regions developing urban-oriented culture at roughly the same time, but in very different ways and with different socio-political structures.

Section IV

The Greater Near East

Anatolia

For Anatolia, it will be sufficient to speak briefly about the site of Arslantepe alone, as this site itself both refutes the idea of the inherent primacy of a southern Mesopotamian “core”, and also asserts the idea that sophisticated “peripheral” cultures were participating in complex interactions with Near Eastern Network. Arslantepe is an Anatolian site, certainly a regional centre in antiquity, which consisted of a large citadel; but the size of the surrounding occupational area or adjacent settlements is largely unknown due to heavy modern cultivation. (T.
Watkins, pers. comm.) Arslantepe can be thought of as a “real counterpart” (Frangipane 2001) of Uruk-type sites. At Arslantepe one can see a parallel development of social hierarchy, standardised production and increasing urbanism and social complexity, although it is different to similar manifestations in southern Mesopotamia because of different circumstances.

While Arslantepe certainly shows evidence for a strong sense of Anatolian stylistic continuity and tradition (see Chapter 5 – Tell Sabi Abyad and Degirmentepe), in the 4th millennium, influence from Syria, southern Mesopotamia and especially from Azerbaijan and the Transcaucasus region to the North can be seen in the artefactual and archaeological assemblage. For instance, while conical bowls (a southern Mesopotamian [Uruk] ceramic form) are attested at Arslantepe, Bevel Rimmed Bowls are not (another Uruk-style ceramic form). If one adopts the view that Bevel Rimmed Bowls were in some way associated with certain religious practices or beliefs, or used for votive or presentational purposes (Beale 1978), it seems clear that the inhabitants of Arslantepe did not share these practices with southern Mesopotamians. On the contrary, only local ceramic forms were used for worship: high stemmed bowls with cut-out stems (Frangipane 2001). Perhaps the conical bowls had some redistributive or other economic function (Frangipane 2001)?

Likewise, although some seal impressions and wall paintings show motifs that connote southern Mesopotamian influence, their manifestation takes on a local Anatolian flavour. In particular, depictions of sledges carrying people (both attested in seal impression and wall painting), a motif of southern Mesopotamian character, is presented in a style peculiar to Arslantepe (Frangipane 2001). Furthermore, these sledge images are mixed with zig-zags and lozenges (especially on the wall paintings found in temples), motifs that have particular affinity to the North, including Syria-Anatolia.

Recently, a second temple, Temple B, has been uncovered with a clay sealing-dump indicating temple control of economic transactions. Temple A has also revealed a similar sealing-dump which was essentially at the end of a hallway, indicating controlled access. Both temples are bipartite with a large cella for worship. They were built at slightly different times (both in the mid-4th millennium
- Arslantepe Period VIA), but in a style that indicates an Arslantepe canon for temple design (Frangipane 2001).

Before these Period VIA temples, there are the remains of a platformed building with niches and some other affinities to southern Mesopotamian architectural styles. This building may have had a more public function than the VIA temples had. It is also possible that this niched, platformed building had a second story from which a cache of seal impressions has fallen. This cache contained seal impressions in Arslantepe style (Frangipane 2001). This building shows a blending of southern Mesopotamian and local styles prior to VIA, or in other words, before the mid-4th millennium “Contact Period” (Frangipane 2001). Because these traits show up before the contact phase, we can assume that Arslantepe was actively pursuing the integration of various styles of material culture from the Network, rather than passively being controlled by a foreign colonising force from southern Mesopotamia.

Influence was not just coming from the South, however. On the contrary, northern influences from the Transcaucasus region shows an early manifestation (a silver inlaid sword handle with a pattern and material showing direct influence and importation from Azerbaijan) and later a concentration. The expressions of social complexity and the transformation process at Arslantepe in Phases 2 and 3 will be dealt with in Chapter 6.

Proto-Elam

When we speak of proto-Elamite culture, we must be sure that we are carefully using the terminology (if indeed we choose to use this term). Similar to the “Sumerian question”, proto-Elamite culture refers to the material culture in a region that would later be known as Elam. Therefore, we shall limit the use of this term to describe only the immediate precursors to the true ‘Elamite’ culture that is evinced in the 3rd millennium. Unfortunately, however, Elam in the 3rd millennium covered an enormous area, one that was not entirely homogenous in the prehistoric periods. Dating from near the end of the Ubaid period (of which there is some degree of evidence in Iran) and continuing throughout the 4th millennium, we can speak of a
pair of regions that should be considered separately, but as part of the interacting whole that would eventually become true ‘Elam’. These regions are: the Lowlands (e.g. Susa), and the Highlands (e.g. Tall-i Malyan, Tall-i Bakun; Potts 1999).

Near the end of the Ubaid period, the site of Susa was founded (Susa I). From about 3800-3100 BC, the Susa II period shows a great deal of contact with southern Mesopotamia, leading many to believe that at Susa there was at least a portion of people who could be identified as of Mesopotamian origin (Amiet 1979; Potts 1999). Towards the end of this period, although there is “no full-scale colonization” (Potts 1999, p.84), there is an increase in various aspects of social complexity, not least of which being at least a limited use of proto-scripts, comparable to those found in southern Mesopotamia.

In the Highlands, however, there is less evidence for the strong contact with southern Mesopotamia that can be found at Susa. This is important because when state-level identity for proto-Elam begins to form in Phase 2, the ‘traditional’ and well-established ‘indigenous’ culture will be embraced and the Mesopotamian manifestations of culture will be to some degree rejected. Tall-i Malyan, a highland site, was undoubtedly the most prominent site in the highland region in Phase 1, perhaps founded as early as 5500-4800 BC (Potts 1999, p.79-80). “By the Middle Banesh phase Tal-i Malyan appears to have comprised no less than 45 ha. of settled area (Sumner 1986, p.202). Occupation is well-represented in areas ABC and TUV by an ‘elaborate building (ABC 3), a large warehouse (ABC 2), and buildings with evidence of both craft production and domestic activities (ABC 4, TUV 2 and 3)” (Sumner 1986, p.206)”  (Potts 1999, p.81). “Cylinder seals and sealings in the so-called ‘piedmont Jamdat Nasr’ and ‘Proto-Elamite’ styles were also present in both the ABC and TUV areas” (Potts 1999, p.81).

The Late Banesh phase Tall-i Malyan, “contemporary with Susa III: 14a-b (Dyson 1987, p.650), is attested in the form of a mudbrick city wall, investigated in Operation By8, enclosing an area of c.200 ha” (Potts 1999, p.81). It is clear that by this time Highland Iran had every bit as complex of a society as one might find in southern Mesopotamia, despite the fact that there were local, indigenous expressions of this complexity. A good illustration of this point (already been mentioned in Chapter 3, regarding the relative dating of proto-Elam and Uruk) is in the fact that
numerical tablets complete with proto-Elamite script are found contemporary with contemporary tablets found in southern Mesopotamia or in the so-called “periphery”. Sealed numerical and scripted tablets (in identifiable proto-Elamite, not southern Mesopotamian cuneiform) have been found in area 363, Building Level (B.L.) IIIA. “B.L. III was the lowest and best preserved of the identified Banesh building levels at TUV” (Nicholas 1989, p.22). As we have seen in Chapter 3, this phase (B.L. IIIA), complete with evidence for the proto-scripts, dates to around 3300-3200 BC.

From this evidence we can see that what would eventually become Elam exhibits very strong indications of being involved in the Near Eastern Network and developing equally to southern Mesopotamia in social complexity. At the same time, because the Highlands and the Lowlands were showing such different preferences in cultural affiliation, it is also clear that the state-level identity of “Elam” had not yet been established. Susa shows affinity to southern Mesopotamia and may even have had a mixed population, while Tall-i Malyan was developing as a regional centre quite different from Susa, while at the same time sharing many characteristics. The cultural situation in Phase 1 in proto-Elam is one where there is no strong sense of a regional state-level identity. The material expressions of identity show an increase in complexity, but it is not until the end of the 4th millennium that we see signs of an emerging state-level identity.

Egypt

Visitors in the Delta? The Maadi of Lower Egypt

An important phase in the northern Egyptian chronology, the Maadi phase seems to hold exceptions to Lower Egyptian cultural development rather than the rule, but nonetheless shows a dichotomy between the relatively simple agricultural/pastoralists and, as we will see, mercantilists (although we must not think of them as being necessarily equated with the modern definition of mercantile capitalists). Unlike the Omari culture (according to Hoffman 1979, the subphase which he terms ‘Omari C’ is roughly contemporary with the height of the Maadi culture), the Maadi people were prosperous, outward-looking and technologically
advanced. In addition to evidence for large-scale trading of, among other things, foodstuffs - as evinced through large, partially buried *pithoi* containing grain, and lug-handled jars for transport on donkeys (also attested at Maadi) - there also appears to be some evidence for a copper-smelting industry here. Although many of the same problems produced by the archaeologists at El Omari also occur at Maadi, some basic assumptions about incipient metallurgy at Maadi have been proposed by Elise Baumgartel and later defended by others:

Although no prehistoric copper mines have yet been found in the region of the later Dynastic mines at the Gebel Ataqa in Sinai, there are several bits of indirect evidence that support Baumgartel’s claim (that “a budding copper industry caused by the first exploitation of the Sinai mines could well have been the reason for Maadi’s existence” (cited in Hayes 1965, p.122)), including pre-processed copper bars (ingots?), bits of unprocessed copper, the miscast head of an ax, and a possible smelting area (a feature originally identified by the excavators as a pottery kiln). If Baumgartel’s interpretation is correct, then it goes a long way to answering the question of why Maadi was able to maintain long-term relationships with foreign areas and how it developed an important surplus by acting as a processor of ore received from the desert which it could resell as finished products to many of the very people who mined it - a system reminiscent of British industrial mercantile imperialism of the last century. (Hoffman 1979, p.207)

Indeed some copper has been found in other locations in Egypt, and even much earlier, but it is likely that the materials made in these other loci were products of the working of naturally occurring copper (along the same lines as the working of stone tools) rather than the conscious smelting of copper from mined ore. (*ibid.*)

Seeing as how the dichotomy between the simple Omari lifestyle and the more complex Maadi culture was an essential Northern Egyptian component of what immediately predated Proto- and Dynastic Egypt, an understanding of the impact that metallurgy had is necessary. Hoffman succinctly says:

...true metallurgy developed around the production of cast copper tools refined from a nonmetallic ore and involved a kind of social transformation that was intimately related to the rise of early states like Dynastic Egypt. At first, the implications of true metallurgy took some time to be realized, much like farming and herding two millennia before. Although true metallurgy was not a necessary precondition to the emergence of civilization, it did contribute to the establishment of foreign relations that brought in to Egypt during the second half of the fourth millennium B.C. a host of new ideas that ultimately contributed to the growth of wealth, military expansion, and the final centralization of political power under southern rulers like the legendary Menes who built the new national capital only 10 kilometers north of Maadi at Memphis. (Hoffman 1979, p.208)
Even though the people of Maadi did not have the same large-scale mortuary practices centred around prestige as in the South (such as the ‘Painted Tomb’ at Hierakonpolis), there was some hierarchy in the amount of prestige grave goods buried with the dead. One material notably absent from the inventory of grave goods was copper, perhaps indicating a preoccupation with the earthly usefulness and value of this important substance. In the end though, it seems as if the prosperity of the Maadi may have eventually lead to their downfall: “some archaeologists believe that the Maadi met a violent end as witnessed by widespread ash and human bone scattered over the settlement” (Hoffman 1979, p.213-4). “Unluckily, their way of life had little place in the monopolistic state economy established around 3100 BC by conquering kings from Upper Egypt” (ibid., p.213). Perhaps the threat which Maadi posed was even more blatant than simply not fitting neatly into a Dynastic scheme: “At El Omari, near Maadi, one grave revealed a skeleton holding a staff, perhaps the primitive regalia of a chieftain” (Rice 1990, p.29). Although most of the houses of Maadi were distinctly North Egyptian in character, there were a considerable number of truly subterranean houses that pose a striking resemblance with domiciles from the Levant, leading some (Hoffman 1979) to believe that there were, in fact Levantine settlers living in Maadi. Maybe an indigenous local chieftainship at Omari, coupled with the growing prosperity and foreign influence of neighbouring Maadi produced a real threat to the increasingly homogenous South, and perhaps the southern aggression was eventually epitomised in the destruction of Maadi, the subjugation of the northern “ruler” and the expulsion of the eastern (Levantine) influences upon the Nile Valley.

The Maadi culture had a widespread distribution throughout Northern Egypt (Maadi vessels found as far north as es-Saff and as far south as Merimde; Kantor 1992) and shows that although there may have been Palestinian “trading posts”, the indigenous inhabitants retained their autochthonous evolutionary pattern handed-down to them from earlier cultures. Even if there were “visitors in the Delta”, it was not an “invasion” as such, but rather the result of the openness of the Near Eastern Network toward inter-regional trading.

The pottery of the Maadi consisted of brown-fabrics, and light-faced wares of local production, the latter sometimes occurring with painted decoration (Kantor
The ceramic forms differ from earlier types through certain traits such as "well-formed necks, rims, and ring bases" (Kantor 1992, p.6). Although it has been suggested that the Maadi was a northern derivation of the "more advanced" southern culture, recent excavations at Tell el-Fara'in (Buto: see von der Way 1997) in the central Delta have shown that Lower Egypt may not have been the cultural backwater as had been suggested from previous information, and that a degree of social complexity may have emerged in the North just as early or earlier than in the South.

**Naqada I / Amratian**

When we speak of the Naqadan culture, we are actually referring to two very distinct phases: Naqada I and Naqada II (Amratian and Gerzean, respectively and using the nomenclature 'Late Gerzean' for the Protodynastic). The Amratian, roughly contemporary with the Omari A period in Lower Egypt (c. 4000 - 3500 BC) shows no signs of there being any "break in the history of the early Predynastic settlement in Upper Egypt between the end of the Badarian period and the beginning of the Naqada culture, and some authorities have suggested that there may have been an overlap between the two" (Spencer 1993, p.27). Most of the Naqada I sites that have been excavated are cemeteries that were used and reused, but the early funerary practices of the Amratian culture were little different from those of their predecessors, the Badarian culture: only being noted through a gradual expanse of the same practices.

The material culture of the Amratians was similarly linked to the preceding Badarian phase. The black-topped ware of the Naqada I period was similar to that of the Badarian, but was simply of a higher quality. Use of hard stones (basalt) for vases, more of an emphasis of anthropomorphic and zoomorphic imagery in artistic depiction, and the increasing use of imported and high-valued goods points to higher technology and the gradual increase in sophistication of the already existing indigenous inhabitants. It is not until we reach the Naqada II phase that we see a stark contrast between the chronological phases.

The pottery of the Amratian is generally a continuation from wares dominant in the previous Badarian culture, although there are certain differentiating
characteristics, mainly exhibited in decoration. Some of the Polished-red wares, seen before in the Badarian, have painted decoration in the Amratian; geometric or representational (animals and hunters) being common. (Kantor 1992) The tradition of decorating ceramics continues into the Gerzean (although as we will see, the subjects of the motifs are quite different) as do the forms and styles. The Amratian does not enjoy as wide of distribution as will the Gerzean. It obvious, however, that the Amratian evolves from the indigenous Badarian culture and makes way for the great changes which occur during the following Gerzean periods.

**Southern Levant**

The impact that calibrated radiocarbon dates have had on the chronology of the Southern Levant is great; archaeologists are forced to re-examine the internal social constructs, the formative processes which brought about these constructs, also how the Southern Levantine societies interacted with other regions of the Near East. This is due to the fact, that not only are the periods leading up to the first period of urbanisation lengthy, but this period of urbanisation can be seen as beginning roughly contemporary with the beginning of Dynastic Egypt. Because of this, the role which neighbouring regions (Mesopotamia especially) played in regard to incipient urbanisation in the Southern Levant has been, for the most part, greatly overemphasised (Ben-Tor 1978).

If we are to show that internal complexity in Palestine/Transjordan evolved from indigenous systems and is evinced through signs of shared complexity, we must establish a few points chronologically. First of all, “civilisation” did not appear *ex nihilo* as we know it, so we should make it clear that there was a long and gradual rise (the “ramp” model of R. McC. Adams, 1965) to the urban complexity of the Early Bronze II period [we will establish later that EB II was indeed a period of urbanisation - in Chapter 6] rather than a sudden replacement of culture by transplanted foreign influence or by “large ethnic migrations from the east, warrior aristocracies, and urban developers” (Stager 1990, p.87). \(^{10}\) \(^{14}\)C can be used to

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\(^{10}\) Stager’s comments are in response to Kathleen Kenyon’s attribution of the urbanisation that occurred in EB II to “a warrior aristocracy, mingling with the women of the previous inhabitants” (Kenyon 1965).
absolutely date the periods to which the material cultures are attributed and this sequence can then be compared to the sequences of neighbouring regions (especially, but by no means limited to, Egypt). Thankfully, in the case of the Southern Levant, the pottery sequence is well documented and more or less reliable with few major lacunae.

The Early Bronze Age

In the Early Bronze Age we see a break from the earlier Chalcolithic through various aspects of the archaeological record, thus warranting a completely new nomenclature for the new period. After the disappearance of the Ghassul-Beersheva culture, G.E Wright had designated his “Esdrælon Culture”, now not considered to be separate entity, as marking the EB IA. In recent years, the transition between the Chalcolithic and EB I has proven to be not quite as clear cut as Wright had once thought, i.e. the end of the Ghassul-Beersheva ushering in the “Esdrælon Culture”. And although at the end of the post-Ghassulian Chalcolithic we see new ceramic cultures, new settlement patterns (these settlement shifts occurred numerously through multiple periods, however) and a shift in the evolutionary pattern (although scarce in EB I, the establishment of the first walled settlement is attested), an observer is, “less impressed with the disjunctive elements, important as they are for the separation of periods, and more impressed by the fundamental continuities” (Wright 1958, p.40*). We must keep these continuities in mind when we, “employ the term ‘Early Bronze I’ for the whole post-Ghassulian [except the post-Ghassulian Chalcolithic, of course] phase of Palestinian culture before the First Dynasty” (ibid, p.40*). It is important to note this dichotomy of indigenous continuity and change when we get to the Early Bronze II period and the emergence of the first urban centres in this region (see Chapter 6). After a lengthy development during the EB IA-B, in the EB II we see a distinct change in subsistence strategies, settlement patterns, socio-political complexity, and inter-regional exchange relations. This change was a change of kind similar to the changes that occurred in other parts of the Near East at this time, the degree and particularities of this change being distinct to Palestine/Transjordan. This transformation into an urban society occurred alongside a ceramic sequence derived from the same ceramic repertoires which can be seen
developing since the Pottery Neolithic, rather than brought in from other “more advanced” regions. On the contrary, at this time (EB I - IV) we see Palestine/Transjordan as a relatively homogenous unit extending influence through reciprocal exchange with various parts of the Near East, including Syria, N. Mesopotamia, Cilicia and Egypt (at least - there exists possibility that this influence extended into Anatolia, the Argolid and Cyprus as well; Ben-Tor 1978).

Early Bronze IA

Although the Early Bronze Age has been in the past (Kenyon 1960) referred to as having three sub-phases, A, B and C, it is now generally accepted that the third phase, C, was not really a distinct phase (Esse 1984), leaving only EB IA (Early; Stager 1992) and EB IB (Late; ibid) for the entire Early Bronze Age. It is in the EB IA that we begin to see the full maturity of the Early Bronze styles of pottery emerging, such as the ledge handles (we see the first rudiments of this feature in the Neolithic and continued through the Chalcolithic, see above). The general types of ledge handle which we see in the Early Bronze Age are:

1. Plain
2. Thumb-indented
   • Fine
   • Course
3. Pushed-up
4. Folded
5. Vestigial
   (Amiran 1970, p.37)

Of course, as always in Palestine, there are many regional variations of the ledge handle, and although they exist in the North in different manifestations, they are more frequent and more consistent in the South. The northernmost extent to which one sees the ledge handle is probably Upper Galilee, as they are completely absent from Hama (K strata) and Amuq (E-G assemblages; ibid, p.40).

Southern and northern assemblages have been found in the same context, but there is a distinction between what is typically “southern” and what is “northern”. Most of the types are indeed found in both regions making a case against stark regionalism, but there are different concentrations of certain ceramics. Thus, all of the ceramics will be included in the following list and designations for northern v.
southern concentrations will be indicated by an “S”, or an “N”, or “Both” indicating a more or less equality in distribution:

Red Burnished Wares (N)
1. Bowls
2. Teapots
3. Amphoriskoi
4. Jars
5. Jugs and Juglets

Grey Burnished Wares (N)11 (Wright’s Esdraelon Culture)
• Bowls occur in three styles, which may possibly be chronologically significant
  1. There are, “two varieties of a wide bowl with sloping, softly carinated sides, with a sinuous ridge or a series of broad knobs...placed on a line of carination.” (ibid., p.47)
  2. Deep, “bowl, no carination, and has a twisted clay rope applied to the upper part of the bowl wall.” (ibid., p.47) Sometimes these bowls have the fenestrated pedestal, being, as stated above, linked to the earlier Chalcolithic tradition.
  3. Wheel-made, less striking in appearance, no carination, no moulded decoration, and of slip and burnish is poorer quality. (ibid.)

Impressed-Slashed Wares (Mainly S and central)
• There wares are characterised by, “relief decoration on large jars produced by finger indentations on the rims in ‘pie-crust’ style and on raised bands and by diagonal slashes on rims, necks, and raised bands.” (Stager 1992, p.29) This decoration usually occurs on these forms:
  1. Pithoi
  2. Holemouth jars
  3. “Groove-rimmed bowls with thickened rim interior” (ibid., p.29)
  4. “Short-necked, wide-mouthed jars with everted rims” (ibid., p.29)

• This decoration is usually found in association with the following traits:
  1. “Corrugated ear handles” (ibid., p.29)
  2. “Grooved loop handles, sometimes corrugated” (ibid., p.29)
  3. “Spaced conoid projections, often upright, on the shoulders of large jars” (ibid., p.29)

11 This particular ware is important for the establishment of continuity, but also because it is perhaps the most pervasive and diagnostic ware for the EB I period. As we will see for the EB III period, “There is certain resemblance between this ware and the Khirbet Kerak ware, both in quality of the burnish and in some details of manufacture, such as the way the rims are fashioned” (Amiran 1970, p.47). If there is indeed continuity from the grey burnished wares from the EB I, then a case can be made against the wholesale importation of the Khirbet Kerak style from other regions; once again, a middle ground between indigenous and borrowed development, especially in EB III. It should be kept in mind, however, that there are some (Stager 1992) who believe that this grey-burnished ware comes directly from Anatolia (and, likewise, along with settlers from Anatolia) continuing the Dark faced burnished ware tradition, but now in Palestine. It is the present author’s belief, however, that there are significant enough continuities to warrant the “pots ≠ people” argument.
In addition to these general categories of wares, there are also forms which to varying degrees show continuity and change and regional variation within the ceramic repertoire:

1. Hemispherical Bowls (S)
2. Platters (Both)
3. Teapots (Both - red burnished slip only in N)
4. Amphoriskoi (Both - more variety in S)
5. Jugs, jars, and juglets (Both - culmination of two evolutionary elements - “form and decoration” from S - “form and finish” from N)
6. Cooking-pots
   • Holesmouth - also holemouth storage jars
     (Amiran 1970)

We have already discussed the ledge handle, a typical feature of EB I, but it is important to note that loop handles also occur as continuation from earlier styles throughout the Early Bronze. As we will see in Chapter 6, certain styles from the EB II period typically have loop handles, so it is not necessary to think that the loop handle came *ex nihilo* into the EB II. (e.g. 'Abydos' Ware)

**Early Bronze IB**

"The development and intermingling of southern and northern elements make up the picture of EB I pottery" (*ibid.*, p.54). This set the stage for the cohesiveness and hegemony that would emerge in the period of urbanisation, EB II. This Late Early Bronze I period shows that the peoples of the southern Levant were well under way in the development towards urban complexity. This is, perhaps, nowhere more clear in this period than in the case of foreign relations with Egypt, long regarded to have been the “core” to which Palestine/Transjordan was “peripheral”. For this Maadi “colony”, we have already seen the Egyptian point of view, and this will be sufficient, as well as serving to lessen the degree to which Palestinian exchange-relations appears “mercantile”.

**Egyptian/Palestinian Contact in the Late EB I (B)**

We have already discussed the Maadi culture in the section on Egypt in this Chapter. In the Late EB I, however, exchanges were not only taking place in one
direction. At Areini (V), we may see evidence for an Egyptian “colony” intrusive in Palestine. If we are to believe that this is true (Brandl 1989) of Areini, then “this settlement, perhaps extending over 20 ha, must have stood in sharp contrast to the much less developed cave and hut dwellings at neighboring Lachish and Arad” (Stager 1992, p.32; see also Amiran 1978).

**Late EB I (B) in Palestine/Transjordan**

The ceramics of the Late EB I (B) show the culmination of millennia of evolution into a cohesive unit with less regional variations than in previous periods. As we have already seen, this internal hegemony has provided Palestine with the means to expand its interests into surrounding regions (especially Egypt), and (as we will see later in Chapter 5) this is evinced through a particular glyptic style whose influence reached as far afield as Egypt, Syria, Anatolia, Cilicia and the Argolid in later periods (EB I - IV; Ben-Tor 1978). Although we do begin see the proliferation of settlements throughout the EB I period, and the evolution which occurred herein did bring about the urban concentration that is to spring up in EB II, this is not to say that the settlement patterns, site size and density or subsistence strategies were the same in the EB I as they would become in the period of urbanisation, EB II. On the contrary, the Late EB I (B) marks the end of the socio-political evolution that had emerged from the beginning of sedentary life in the Neolithic: namely, this development is one of sedentary agriculture and pastoralism becoming complex urban centres in the EB II. This change in subsistence strategies and settlement patterns will be dealt with more completely later (see Esse 1991 and Chapter 6). For now, the pottery sequence for the Late EB I will suffice.
The local pottery in Palestine for the Late EB I (B) is...

...characterized by Grain Wash or Band-Ware (Engberg and Shipton 1934: 28; Glueck 1946), the northern analog to the Line Painted Group. This multiple brush technique decoration is primarily found on larger forms such as holemouth jars, storejars and pithoi. True Grey Burnished Ware and its Red Burnished variant appear to end, but the tradition is continued by Crackled Ware, so-called for its burnished and crazed surface (Esse 1989). These are sinuous-sided bowls with conoid projections, and simplified fenestrated stands. In the Coastal Plain and the foothills of the Shephelah this phase is marked by a great increase in the presence of Egyptian pottery (Brandl 1989; Gophna 1990). The phase is also characterized by the Line Painted Group, the classic decoration seen in the Jericho tombs, Bab edh-Dhra’ and elsewhere (Schaub 1982; Stager 1990). This decorative technique is found on a wide variety of hemispherical bowls, trumpet-spouted bowls, amphoriskoi, twin vessels, and store-jars with ledge handles. (Joffe 1993, p.40)

These forms and styles are, of course, continuations from the earlier EB I which lead directly into the EB II repertoire, to be at that time, accompanied by increased relations with Egypt, through both trade and intermingling within Palestinian sites themselves, although in the EB II-III period, Palestine/Transjordan relates to Egypt as a more-or-less peer with its own internal identity.
Section V

Early Writing and Numeracy

In 1993 Joan Oates argued that a trade system set up in the Ubaid period, involving relationships between communities in North and South Mesopotamia, Susiana, northern Syria and Anatolia (at least), was in place. In her opinion, this system lasted until the end of the Late Uruk period, at which time a profound restructuring took place. What will be challenged here, however, is her idea that "asymmetrical cross-cultural trade was one important factor in the growth of the Sumerian state" (Oates, 1993, p.417). Just how asymmetrical were these exchanges? Could it be possible that *reciprocal* exchanges, albeit possibly somewhat asymmetrical (i.e. more-or-less peers), was more likely?

The strongest case for asymmetrical exchanges between south Mesopotamia and the rest of the Near East is the idea that scripts were chronologically primary in southern Mesopotamia. In the following discussion, the primacy of South Mesopotamia will be challenged both chronologically and culturally. This will be done by looking at evidence for early scripts and equivalents in regions previously thought to be peripheral to the "core" of southern Mesopotamia.

Numeracy and Writing

Just as tokens served as an "international" medium through which to conduct complex economic interactions, two-dimensional numerical tablets exhibited an extension of this idea. Numerical tablets were, by their nature, isomorphic (referentially ambiguous; Paulette 2001, p.41), and as such could be used to represent quantities in a completely abstract sense, thus irrespective of which culture they were being developed in. Therefore, that we see numerical tablets in places as far afield as Uruk, Susa and Jebel Aruda can be explained by fact that abstract numeracy worked within the Near Eastern Network as a versatile "international" medium. This medium was expressed as the result of *cross-cultural* interaction in the Network,
rather than through initial establishment in southern Mesopotamia followed by Uruk
cultural dominance in the “periphery”.

The importance of numeracy and scripts, and the difference between the 4\textsuperscript{th}
and 3\textsuperscript{rd} millennia will be approached artefactually in this chapter (below) and later on
in Chapter 6. Numeracy and scripts approached from a theoretical standpoint will be
revisited in Chapters 6 and 7.

\section*{Early Scripts}

Before any discussion on early writing is undertaken, some caveats must be
clearly spelled out. Firstly, this thesis is not an attempt to delve into the complex and
broad discipline of linguistics. Too technical a linguistic discussion would be out of
the academic field within which the questions of this thesis are being asked.
Secondly, no new information will be presented regarding scripts and the languages
they did or did not represent. In fact, the necessity to include scripts at all in the
discussion here may not at first be entirely clear. But there are legitimate and
unavoidable reasons.

This thesis deals with a time period that is generally thought to be the
transition between Prehistory and History. These two periods are defined by writing
(History) or the lack thereof (Prehistory); therefore any discussion of the Urban
Revolution must inevitably involve some discussion of this one trait which has
attracted so much concentration in scholarship. Indeed, some explanation of how
writing came about is not only interesting, but also crucial to understanding of this
time period. One very important difference between many previous studies on
writing (with some conspicuous exceptions (see Nissen, Damerow and Englund
1993), is that early scripts will be approached here as a purely \textit{archaeological} and
\textit{artefactual} element. This is done, among other reasons, to remove the teleological
bent that has plagued many explanations of the origin of writing – that is, rather than
looking backwards into time to see how such a wonderful invention occurred, it will
be placed into the correct chronological order as a material artefact among an entire
assemblage of material artefacts through which we can study past society.
As with other artefacts, studying documents and other forms of writing will have to be also explained in terms of function, meaning and use in the society and within the larger material assemblage. This, of course, will lead to the necessity of some linguistic discussion. This discussion is not intended to alter viewpoints or to conclude anything about linguistics, which has its own ongoing discussions. But it will be shown here that general trends in writing as an artefactual material within a material culture reflects, and in fact typifies, the major theses of this dissertation. Far from being derivative, “writing” as a cultural material is at the very heart of the Urban Revolution.

“Writing” is put in inverted commas here to emphasise the fact that this is an ambiguous term. It must be defined in terms of what is hoped to be accomplished in this section. The division between what constitutes “writing” or not, has too often been simply left to intuition: we simply “know” when something is a script. For example, even the configuration or repeat of symbols can have some influence on whether something is perceived as writing. The fact that the Jerf al-Ahmar glyphs (see Section I in this chapter) are arranged in rows profoundly surprises many people, largely due to the fact that they are arranged in rows, rather than spread out in a more “artistic” manner (David Wengrow, pers. comm.). Also, these glyphs repeat certain symbols which (although perhaps not incorrectly) lead modern literate people to “instinctively” think of a formal and understood system of writing.

In some ways, even formal abstract writing in the 3rd millennium is no different from the much earlier glyphs from Jerf al-Ahmar in the sense that both artefacts probably conveyed some meaning to those who had the social training to understand and extract the meaning. The fact that the intended meaning in symbols (whether from a formal system or not) cannot be extracted without understanding the social context of which it was a part cannot be underestimated. Therefore, writing will not serve as any “proof” of anything in the following discussion, because it must have fit into the social context of which it was a part (and also contributed to). Writing will therefore be shown to be one material within an entire assemblage used by a society; but it was the society itself that changed, and therefore the meaning attributed to the symbols likewise changed.
Key to the understanding of the social changes that occurred during the Urban Revolution is the sense of scale. It is being proposed that an identity of greater scale than had been previously formed (that is, state-level identity), began to take shape during Phase 2. Various languages would have been used at this time and there can be little doubt that languages had profound impact on the formation of identity. Unfortunately, our linguistic information that we have for this time period is imperfect and limited; there are biases in the regions, in the amount and in the subject matter of the documents that survive. So in many cases, actual linguistic comparisons will not be able to be made. But in the sense that these materials are being taken as artefacts and as they are being taken in context, comparisons can be generally commented upon.

In particular, it will be emphasised that in the earliest stages (i.e. Phase 1), writing was only one form out of many equivalent forms to externally record and tally economic transactions. It wasn’t until after the transitional period (Phase 2) that writing’s full potential was realised (in Phase 3). Until Phase 3, the presence of proto-scripts should not be looked at as qualitatively different than other forms of reckoning/external symbolic storage (see Donald 1993). Besides, (as emphasised in Chapter 3) conclusions should not be based on negative evidence, so even if proto-scripts have not been found in certain regions, it doesn’t mean that they didn’t exist.

The format for dealing with the earliest scripts will be similar to the format for approaching the writing of the 3rd millennium (in Chapter 6). This correlation in style of explanation is to illustrate the continuous cultural development between the 4th and the 3rd millennia. But at the same time, the fact that there is a distinction being made between the scripts of Phases 1 and 2, and those from Phase 3 is of the utmost importance.

The scripts of the 4th millennium are put into the Chapter 4 which deals with signs, seals and tokens, because in Phase 1 and through Phase 2, the proto-scripts that survive to us are very simply alternative forms among many economic controlling devices. It is absolutely crucial to understand that the “specialness” of writing as we know it today was not apparent in its earliest forms in Phases 1 and 2. It was not until Phase 3 that writing began to take on the form similar to how it exists today, and before then it was not an expression of identity in the way it became after Phase
1. Nissen (1987) makes similar comments on the arbitrary break between 'history' and 'prehistory'. He says that if we are to make this distinction at all, it should be when the full potential of writing is realised, not when we see the first glimpses of the technology. In Chapter 6, we will examine how, starting from near the beginning of our Phase 3, writing comes to explicitly represent spoken language, and it is not until this innovation that the utility of writing began to expand. Before Phase 3 writing did not necessarily represent a specific type of language and it did not contain many recognisable grammatical traits. In its earliest stages, 2-dimensional writing was only one technique among very many (such as tokens and seals) that enabled people to control material commodities.

Writing in the 4th millennium will be examined according to region, corresponding to sections in Chapter 6 regarding 3rd millennium scripts. It must be remembered that in Phases 1 and 2, regions were not necessarily divided up as such. These early forms of writing will be shown not to have been inherently tied to regional identity. Rather they were a reflection of the fact that a regional identity did not exist at this stage. Of course, we need to be thinking in terms of continuums, for there is certainly an evolution of the script forms. But it was not until each respective region developed a sense of itself, its own cultural makeup and the cultural makeup of the "other" that writing became an expression of regional identity. As we shall see in Chapter 6, this identity was strictly dictated by the highest level of society and was not open to democratic consensus, whether it reflected a real or "imaginary" self.

These expressions of identity did not happen until our Phase 2 was established; the more we discover about the 3rd millennium, the more we realise that many more cultures had writing systems of their own. But these writing systems all came about within the same Phase 3 system that had transformed in Phase 2. Traditionally, it was thought that if one could find the "first" traces of writing, it would be clear that those people who used it immediately recognised its potential and the way it would have impacted all of human society thereafter. This is not only arrogant archaeological positivism, it is also projecting knowledge from our own experiences into the minds of past peoples! Even if we do find the absolute first traces of writing (which is even theoretically impossible to prove), the fact that it is
the very first means that they do not recognise its potential. No one can see into the future, and the future importance of this technological innovation could never have been fully understood at the time of its first creation.

As it turns out, however, things are becoming easier for us to envision because we now can plainly say that writing was not the result of a single invention which spread out – it was the result of a dynamic system of interacting agents that simultaneously created various forms of technology to deal with the system itself. The question of who the "Thomas Edison" of writing was is pointless. There was no single inventor, and even if there were, writing would have served no purpose outside of the system for which it was created, which necessarily involved multiple participants.

One point that could be made is that while writing, even in its earlier forms, was surely for communication, it very well could have been for internal (i.e. intra-site redistribution) rather than for external (i.e. inter-site exchange) communication. This is indeed true, but the versatility of all of the signs, seals and tokens presented in this chapter show that internal and external communication and economies are not by any means mutually exclusive. The close relationship that writing has to token, tag and seal usage suggests that exchanges made using seals and tokens would also have been similar to the types of exchanges made using 2-dimensional forms of administration. Therefore, the analyses of the glyptic corpus in Chapter 5 can be seen as indicative of the framework into which writing would have also fit. Writing was one form of external symbolic storage among many in the Near Eastern Network.

In fact, because writing in its early forms did not contain many recognisable (or at least restricting) grammatical elements, just as tokens appear to have served as a lingua franca for inter-regional exchanges, so too may have early (Phase 1) writing. When we look at the contexts in which writing is both found and associated, this will become clearer. Let us now turn to these contexts through a regional breakdown.
Egypt

The earliest evidence for proto-scripts in Egypt come from the tomb of Scorpion of Dynasty 0 (tomb U-j in the royal necropolis Umm el-Qaab at Abydos). The cemetery U has burials that date as early as Naqada I period (for dates of the Naqada sequence, see Chapter 3 and this chapter above), and there seems to be a continuous development of indigenous material culture into later periods. Naqada II a/b periods are represented by burials, and although no Naqada IIc burials are yet found at cemetery U, the remains of the Naqada IIId burials, show that the cemetery had elite status by this time. The size of tombs by Naqada IIId shows high status burials, containing objects of both a personal and administrative nature. In particular, clay sealings with cylinder seal impressions and the first jar inscriptions occur (Görsdorf, Dreyer and Ulrich, 1998, p.169).

By early Naqada IIIa2, there is evidence for a kingly burial, which contained numerous examples of proto-Egyptian hieroglyphic scripts. These findings are extremely important because the causality that has often be used to explain the emergence of writing in Egypt is called into question (Ray 1986, p.309). Rather than the idea of writing having been borrowed from Mesopotamia (or Susa), the early date of these hieroglyphic forms suggests indigenous development at an early stage. In regard to the artefactual evidence for these early scripts, the excavators say this:

Small bone and ivory labels incised with hieroglyphic signs and ink inscription on W-class pots show that writing was already at an advanced stage.
(Görsdorf, Dreyer and Ulrich, 1998, p.170)

The fact that some inscriptions occur on W-class pots clearly assigns at least some of the inscriptions to the Naqada IIIa period. Fortunately, we can be more precise than simply relatively dating this site and its contents. There has been a remarkable amount of radiocarbon datable material recovered as well. The $^{14}$C analyses show surprising results for many periods (as $^{14}$C samples have been notoriously unreliable and scarce for Egypt, these findings are extremely important). The periodisation of the Naqada sequence can be shown succinctly in the following chart:
Amratian - Naqada Ia-Ib
Early Gerzean - Naqada Ic – Ia-b
Middle Gerzean - Naqada Iic
Late Gerzean - Naqada IId1-IId2
Naqada IIIa1-IIIc1 (Dynasty '0')

Dynasty '00'

Fig. 27 Periodisation of the Naqada sequence. See Adams and Cialowicz 1997.

In addition to creating a sequence and range of dates for the tombs, a greater understanding of the general chronology of Egypt is achieved.

The relative order of the $^{14}$C datings is in good accordance with the so far established historical chronology of the dynastic period [...], but the dating results are more than 100 years older. We are able to determine the age for Qa'a, the last king of Dynasty 1. The overlapping range of the calibration results of the two dated samples from the tomb of Qa'a give an age between 2900 cal BC and 2910 cal BC. These results are in agreement with earlier measurements of the first and second king of Dynasty 1 [...]

Our predynastic datings supply a more accurate form of the general chronology [...]. By our measurements we can date Naqada IIIa2 in the middle of the 34th century BC and Naqada IId in the middle of the 35th century BC.

The results for Naqada Ia-Ib, about the middle of the 37th century BC, also seem to fit into the archaeological scheme, but for final conclusions more samples are needed.

(Gorsdorf, Dreyer and Ulrich, 1998, p.175)

If we can clearly identify writing on the W-class pots to Naqada IIIa period, then we can show through the radiocarbon dating that well-developed proto-scripts were being used by the middle of the 34th century BC, and that they had precursors on jar inscriptions from the preceding Naqada IId dating to around a century earlier.

This evidence builds a strong case for the rejection of unidirectional, monocausal borrowing of scripts as has been assumed for a long time. In fact, the thought that Asian influence or migration had a singularly causal role in the early formation of the Egyptian is almost as old as the modern discipline of archaeology itself. But as it will be shown, now it looks as though Egypt too was a more-or-less equal participant in the Near Eastern Network. The idea that writing was invented in one place and diffused as a result of unidirectional influence can be abandoned, and the Egyptian proto-scripts can be studied as an indigenous development of an administrative device within the context of local and international exchanges.
What is also interesting about these proto-hieroglyphic tags is that the glyphs are generally non-traditional. In other words, they are not what one would expect to see if the Egyptians were trying to represent what later would become their fully developed script. The Egyptians could not see into the future and know how important writing would be for their culture later on. It also seems that these proto-scripts served a different purpose than to represent speech. In fact, the term proto-script is probably a misnomer, because “proto” implies a motion towards something else. It does not seem apparent that these tags from Abydos were imperfect attempts to establish a script representative of spoken speech. Rather, they probably functioned effectively within an established socio-economic system. As tags, they would likely have been used to mark containers such as bags or baskets; probably quite similar to the way in which tokens are supposed to have functioned as identifiers for commodities. The function of hieroglyphs as a tool to directly represent spoken speech does not appear until the 3rd millennium. It will be argued in Chapter 6 that the difference in function of these symbols was not due to a need for a glottal script, but rather was the result of a shift in society and the identity of that society.
Southern Mesopotamia

It has already been said in this chapter that there may be some problems with Schmandt-Besserat’s theory of the evolution of token use into 2-dimensional cuneiform script. There have been both opposition to her theory (which has often been counter-productive in this case) and alternatives presented. Alternatives are particularly welcome, especially because the most viable alternatives do not mutually exclude tokens from having been part of the developmental process. In particular, Shendge vigorously objects to Schmandt-Besserat’s theory, and proposes another theory for the evolution of symbols into the 2-dimensional cuneiform scripts, namely from seal usage (Shendge 1983).

Shendge’s argument against Schmandt-Besserat’s theory is poorly formed and weak, and there is never a case made that both theories might be parts to the same puzzle. An important observation that Shendge makes, however, is that many of Schmandt-Besserat’s conclusions are based on materials from Susa, and not from Uruk where one finds the proto-scripts that she believes evolved from token usage. Arguably, one could expect that if Susa had the largest known collection of tokens that supposedly evolved into Uruk-style cuneiform script and later on into Sumerian writing, then Susa itself would have had this Uruk-style cuneiform. But it did not! We shall return to this point when we deal specifically with Iran and the proto-Elamite script in Chapter 6. For now it shall suffice to suggest that the problem with Schmandt-Besserat’s theory is not that there is no relation between tokens and cuneiform, but that the problem is in the word “evolution”. A direct autochthonous evolutionary correlation is not represented in the artefactual record, but there is clearly a relationship between the two artefacts. Tokens and proto-scripts are not strictly linguistic, but they are both a form of signification. Seals, tokens, numbers and proto-scripts were all forms of signification that were not reliant on a specific predetermined language to extract meaning; this means that they were able to be used in an open system on a large scale. It is not until the 3rd millennium when these systems of signification became exclusionary on a regional, and for writing linguistic level.

Shendge’s other arguments are heavily laden with negative evidence. He insists that we must assert discontinuity of token usage due to lacunae in our
knowledge. This is a dangerous route to follow, and we have covered the theoretical implications of this in Chapter 3. For instance, Shendge says, “At Jarmo (6500-6000 B.C.) the number of geometric objects found is 1541. The [Schmandt-Besserat] hypothesis is however substantiated on the 4th millennia material in Susa and Elam. Again in Syria during the phase 6500-6000 B.C as the sedentary way of life advances the geometric objects disappear mysteriously. Had they anything to do with counting, they should be found in increased numbers than before” (Shendge 1983, p.120). We can say to this and many of his other arguments that we are lucky to have recovered any tokens at all! We should not read too much into the lack of evidence. Shendge’s argument implies that archaeology recovers 100% of whatever materials were used by people, which is clearly not what most archaeologists encounter.

While Shendge’s negative arguments lack credibility, his positive ideas are much more useful. He advances the idea that writing developed out of a use of seals. This argument is further substantiated by the work of Roger Matthews (1993) on the seal impressions from Jemdet Nasr and Ur, where he correctly observes that almost invariably the seals were applied to tablets before the signs and numerals were inscribed (Matthews 1993). This would designate seals as functioning more as a letterhead than as a validation. In other words, seals communicated messages that were understood by the initiated. This is a strong argument for a connection between seals and sealing practices and early scripts. Once again, this does not exclude tokens from also having played a part in the development of 2-dimensional systems of recording.

In Chapter 5, we will approach Holly Pittman’s (1994) evaluation of the glazed steatite glyptic style. An answer to the question of why there is a discrepancy between complex tokens and Proto-elamite writing at Susa can be offered based on the idea that certain sealing practices that held an ‘international’ appeal similar to the way tokens were used in the Near Eastern Network as an “international

12 ‘International’ as a term is helpful and descriptive, albeit wildly anachronistic. It should be understood that what is meant by this term is that these objects were used across regional state-level boundaries that would later on be recognised. ‘International’ is intended to mean that these objects are found and used outside of the area that we associate as their natural “home”.

160
language”. Pittman proposes that the widely used glazed steatite glyptic style was the direct precursor to the Proto-Elamite script.

**Northern Mesopotamia**

In regard to proto-scripts from North Mesopotamia, we simply have none, and therefore no comment can be made regarding any possible precursors to the pre-Sargonic Akkadian and Semitic scripts of the 3rd millennium. There have been found, however, numerical tablets, seals, sealings, bullae, tokens and tags from North Mesopotamia, albeit sometimes found in Uruk-type assemblages.

<table>
<thead>
<tr>
<th>Site</th>
<th>Region</th>
<th>Impressed Numerical Tablets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jebel Aruda</td>
<td>N Euphrates</td>
<td>13</td>
</tr>
<tr>
<td>Habuba Kabira</td>
<td>N Euphrates</td>
<td>10</td>
</tr>
<tr>
<td>Mari</td>
<td>N Euphrates</td>
<td>1</td>
</tr>
<tr>
<td>Nineveh</td>
<td>N Mesopotamia</td>
<td>1</td>
</tr>
<tr>
<td>Tell Brak</td>
<td>N Mesopotamia</td>
<td>1</td>
</tr>
<tr>
<td>Uruk</td>
<td>S Mesopotamia</td>
<td>65+</td>
</tr>
<tr>
<td>Khafajeh</td>
<td>Diyala</td>
<td>1</td>
</tr>
<tr>
<td>Godin Tepe</td>
<td>Iran</td>
<td>42</td>
</tr>
<tr>
<td>Tepe Sialk</td>
<td>Iran</td>
<td>13</td>
</tr>
<tr>
<td>Susa</td>
<td>Iran</td>
<td>90</td>
</tr>
<tr>
<td>Choga Mish</td>
<td>Iran</td>
<td>6+</td>
</tr>
<tr>
<td>Tall-i Ghazir</td>
<td>Iran</td>
<td>1</td>
</tr>
<tr>
<td>Tall-i Malyan</td>
<td>Iran</td>
<td>7-14</td>
</tr>
</tbody>
</table>

(After Schmandt-Besserat 1992, Fig. 79 on p.131; Tall-i Malyan tablets complete with proto-scripts after Nicholas 1989)

If we think of the 4th millennium “proto-scripts” as being part of a larger assemblage of administrative residue and external symbolic storage devices, we can clearly include North Mesopotamia as a more-or-less peer in the co-evolving system of interacting agents that was the Near Eastern Network.

As we shall see in Chapter 6, the scripts seen in the North during the 3rd millennium developed from within a system that had been put in place during our Phase 2 and continued to develop through Phase 3. That we do not see proto-scripts in the 4th millennium may be due to the fact that the inhabitants of the North did not possess scripts, or perhaps simply because they have not survived. But from what we can observe, the North had a very complex relationship with the South in addition to maintaining a strong autochthonous cultural developmental trajectory.

It should not be thought that the purpose of presenting each region here on its own terms is an attempt to propose unilinear cultural evolution within regions. On
the contrary, it is from the give-and-take of contact from the Network that we should be basing our models. In the case of North Mesopotamia, this give-and-take relationship is prevalent. In the 4th millennium, the pervasiveness of the Uruk-style culture is evident. It is from this heavy influence in the 4th millennium to which the 3rd millennium social transformations were responding. We shall look at the scripts and social transformations in Northern Mesopotamia in the 3rd millennium in Chapter 6.

**Iran**

Similar statements can be made about sites such as Susa and Tall-i Malyan in the 4th millennium as can be made about North Mesopotamia; but in the case of Iran, there are actually proto-scripts that have survived. The contexts where the numerical tablets were found have been radiocarbon dated and show that precursors of the proto-Elamite scripts occur as early as those in Mesopotamia (see Chapter 3). Once again, it is not until the 3rd millennium, however, that the actual social transformations take place. It is important to note that in order for these social transformations to occur, the necessary level of socio-economic sophistication needed to be achieved. That is to say, in order to exchange among the Near Eastern Network, sites in Iran must have been more-or-less peers with those with whom they were interacting. That the Iranian sites exhibit sophistication in many forms can hardly be disputed, but it wasn’t until the 3rd millennium that this sophistication came to represent their particular state-level identity.

The 3rd millennium situation in Susiana is especially complicated, and these issues will be more adequately dealt with in Chapter 6. For now, it will suffice to say that in the 4th millennium, no single region exhibits more of the intense inter-regional contact that was the nature of the Near Eastern Network than in Susiana. The “Merchants of Susa” exploited the Network perhaps more than any other participant (see Weiss and Young 1975 for an in-depth look at Susa’s far-flung economy in the 4th millenium; also see Pittman 1994 for her designation of the ‘internationally’ popular glazed steatite glyptic style as finding its true “home” in Susa, and as representing the immediate precursor to the proto-Elamite semantic structure).
Indus Valley

It is quite difficult to interject the Indus Valley into any discussion of the Near East. This is especially true when one deals with any period before c.3000 BC. For this reason, no real analysis of the Phase 1 remains from the Indus Valley will be attempted in this chapter. Rather, the Indus Valley, and its early script will be included alongside other 3rd millennium developments in the greater Near East. It will be shown in Chapter 6, however, that the precursors to the Indus Valley script can not only be traced back to as early as c.3300 BC, but also that an internal development of the script can be seen. By the middle of the 3rd millennium there can be seen a well-developed abstract script, but the forms and structures are indigenous to the Indus Valley and can be seen to evolve.

Perhaps the reason why the Indus Valley is “off-limits” to many Near Eastern scholars is due to the fact that there is no satisfactory geographical link between the Iranian sites and those further to the East. This may, in fact, have more to do with our lack of knowledge about eastern Iran and Central Asia and lack of sufficient excavating than in a real void in habitation or contact (with some exceptions such as Tepe Yahya: see Lamberg-Karloksky 1971, and Lamberg-Karloksky and Tosi 1973; Tepe Yahya and Shahr-i Sokhta: Lamberg-Karlovsky et al. 1976). These issues will be further taken up in Chapter 6.

In Chapter 5, the clearest evidence that we have of the Indus Valley’s involvement in the Near Eastern Network, seals, will be approached. The development of sealing practices and writing in the 4th millennium, as revealed by recent excavations, has changed the way we look at the Indus Valley; it is no longer a society that can be sufficiently argued to be a “Secondary State”. The glyptic evidence for the Indus Valley’s 4th millennium rise to a State-level identity in the 3rd millennium will be covered in Chapter 5.
Summary

Chapter 4 has been an attempt to put together some general archaeological information in order to create a ‘sketch’ or outline of what the 4th millennium Near Eastern Network was like. Details have focussed on the signs of shared complexity, especially in artefacts that relate to an increase in information storage and transferral. While there are certainly more details that could have been added, this chapter has simply sought to establish that an increase in information exchange was occurring in the 4th millennium, and that this is indicative of an open Network of interactors. The scale of identities in evidence in the 4th millennium did not prevent the mixing and blending of styles that would later come to be representative of regional state-level identities in the 3rd millennium.
Chapter 5
Phase 2: Presentation and Evaluation of the Glyptic Corpus

In the previous chapters, an attempt has been made to formulate a context in which the social transformations of the Urban Revolution took place. Many factors have been evaluated, and certain perspectives have been adopted. The present chapter’s primary concern is to focus on the “during” phase, here referred to as Phase 2. If Phase 1 was the “before”, and Phase 3 was the “after”, Phase 2 was the relatively short period of transformation after which a new system began to be adopted by participants in the Near Eastern Network.

For purposes of this thesis, it has been chosen that glyptics will serve to give the main illustration of the central ideas presented herein. For this reason, a corpus of provenanced glyptic artefacts has been compiled in database form (Appendix 1). Some analyses will rely heavily on statistical observations, but these analyses have some serious limitations. Therefore, multiple approaches have been adopted in order to glean as much reliable information from the corpus as possible. The corpus is surprisingly large for the time period of its focus, including well over 4000 separate entries of stamp and cylinder seals and sealings dating from circa 3500 – 2500 BC. Information included in the corpus relates to both seal impressions and actual seals, in addition to some exceptional objects.

The statistical analyses deal primarily with the raw physical attributes of the actual seals that survive. A particularly enlightening attribute is the height-diameter ratio, which displays some interesting statistical characteristics. Discussion of the types of materials used for the seals has been discussed in other publications, but this aspect will also be mentioned here. Likewise, a study of the reverse of the sealings can tell us information about the types of containers that were being sealed (and which were not). This has been explored in other studies, so it will only be briefly mentioned here.

The traditional way to deal with seals and sealings has often been to approach their analysis from an art historical approach, and the comparative analysis of seal designs is important for showing that information exchange occurred across distances. This type of art historical taxonomy, which has a history of rich scholarship, will be tapped in a distinctly archaeological manner. Styles will be shown to increasingly distinguish themselves from one another precisely at the time we are calling Phase 2. This crucial factor will be observed by using well established stylistic nomenclature and some original observations to show that certain styles are being selected over others during Phase 2 according to their effectiveness at representing newly formed state-level identities. These stylistic fragmentations are a result of the shared complexity that began to manifest as expressions of newly formed state level identities.

Because Phase 2 is by its very nature defined by Phases 1 and 3, it cannot be approached without showing the contrasts and similarities between the all three
phases. Therefore, the entire corpus representing all the phases will be presented in one unit here in Chapter 5. Additionally, contextual information on Phase 2 will be given, which will explain how Phase 2 is the period of transformation into Phase 3; the contextual analysis of Phase 3 will be given in Chapter 6.
Phase 2

It has been argued in the previous chapters that the portion of Phase 1 dealt with here (namely the 4\textsuperscript{th} millennium) was the very final stage of a long development in complexity. Some characteristic traits of this development were that it was pervasive throughout the Near East and that it necessarily involved human participants of every social and economic level, and from every region that enjoyed an appropriate level of socio-economic sophistication. Phase 2 will be shown here to be the time when this increasing complexity began to break down in a structural sense. It has been argued in Chapter 3 that Phase 2 has the unfortunate disadvantage for archaeologists that it is accompanied by a serious problem with chronology, both relative and absolute. Therefore, the best we can attempt to explain is what was happening \textit{overall} in this 200 – 300 year time span, rather than endlessly trying to prove who was the first to do this or that. It will be shown here that the \textit{structural} characteristics of 3\textsuperscript{rd} millennium society find their roots in Phase 2.

Because Period 2 will be shown as contrasting Phase 1 and similar to Phase 3, all three of these phases will be presented through a single type of artefactual analysis: glyptics. For this thesis, a corpus (Appendix 1) has been compiled of more than 4000 stamp and cylinder seals and sealings from all regions that used this technology. The time period stretches well into Phases 1 and 3 (Phase 3 is most of the 3\textsuperscript{rd} millennium) and covers all of what is considered Phase 2.

There are some very real limitations to this corpus, however, and before any analysis is attempted, these drawbacks should be addressed.

1) Regional bias

As has been discussed in Chapter 3 regarding the nature of artefactual remains and our inability to assert through negation (i.e. absence of evidence is not evidence of absence), the focus archaeology has placed on certain excavations has produced a regional bias where certain types of glyptic remains are found. This most likely has less to do with an actual bias in ancient usage patterns, but rather reflects more on our lack of knowledge of areas that have been regarded as
peripheral. Attempts will be made to reflect on some of the more underrepresented regions in this corpus through other means.

2) Dating problems

Rigid stylistic classifications have often been used as chronological classifications. This conclusion is coming under increasing scrutiny and criticism (cf. McCarthy in Peltenburg et al. 2000, pp.66-67). Therefore, for styles and even individual seals to be confidently dated, more chronological information is needed than a simple stylistic classification. As we shall see, the blurry glyptic lines that are now drawn between periods such as between Uruk – Jemdet Nasr – Early Dynastic I, actually support the arguments here. Nonetheless, caution must be raised.

3) Lack of context

This corpus contains only provenanced glyptic remains (because the object could have travelled far from its origin even in modern times, due to antiquities markets), but within a site, standards vary as to how much information has been kept regarding where the artefacts were retrieved. This could be very important in instances where seals might have been for ornamental purposes only, for example\(^1\).

Because of the lack of consistency in contextual information, only general observations will be made regarding context of seals, or in special instances where such an observation is necessary.

4) Bias of materials

It is very likely that the repertory of glyptic remains that survives is very different than the actual one that would have existed. Perishable materials such as wood survive in places like Egypt and exceptional circumstances elsewhere, but it may be safe to assume that we are only touching the “tip of the iceberg” as far as the total inventory from antiquity is concerned.

\(^1\) Contextual information would be useful, for instance, when actual sealing practices (i.e. sealing of commodities) are not attested. If, for example, a seal were recovered in a high-status burial, it could be considered to be at least an elite ornamental object, in spite of its potential function.
5) Discrepancy between seals and impressions

Related to bias of materials is the fact that often the seals that we find that are made of resilient materials do not correspond to the impressions that we find. This may likely mean that the seals that were actually being used for many economic transactions do not survive. Because our only knowledge of them is through their impressions, much metrical and statistical data are not present in this analysis. This eliminates analysis of height-diameter ratio (diameter measurement is often unreliable when taken from an impression) as well as material analysis.

6) Stamp v. Cylinders

Statistical analyses can only be made when the objects are of like-kind. The fact that certain regions preferred to use stamp seals while others used cylinders, skews an important analytical tool. This will be compensated for by paying particular attention to the regions that are underrepresented in the cylinder seal analyses.

There are, however, some important advantages that a study of seals and their impressions has over other types of artefactual analysis.

1) Ubiquity

As stated in Chapters 1 and 2, this thesis hopes to explain large-scale socio-economic changes. What better lens through which to view these changes than with seals? They are found virtually everywhere in the greater Near East, and as we are now beginning to learn, they can be found from very early on and throughout the time period we are considering here.

2) Inherently tied to economic and information exchanges

As objects that were used to mark ownership or control, seals assert themselves in the archaeological record as being highly indicative of socio-economic complexity.
3) Artistic value

Seals did not only serve as bureaucratic controlling devices, however. They also represent one of the highest forms of artistic endeavour from this time period. So by their very nature as *objets d’art*, seals are sensitive to expressions of creativity, especially as emblems of identity. These identities range from the identity of a single person all the way up to the identity or emblem of a state or region. Therefore, the resolution on the social changes that we observe is reliable on all scales.

4) Resilience of at least certain materials

Even though there is a bias in the type of material that survives into the archaeological record, there is nonetheless a vast storehouse of data that we can use to implement reliable statistical and other analyses.

5) Wealth of previous analysis

Because glyptics are such a uniquely informative artefactual category, there has been a great deal of work already done. Although there are lacunae in where excavations have taken place, almost no analysis has been spared for glyptic research. This leaves us with an accessible archive of data that, through gathering all of the information into a database form, we can analyse and reanalyse in order to satisfy up to date theoretical perspectives.

6) Strength in weaknesses

All of the above problems that we encounter with this Corpus of Glyptic Artefacts actually emphasise the unfortunate nature of archaeology in general: we deal with bad samples. It is argued here that even if some particular seals and/or impressions are lacking from this corpus, we will *never* have all of the data. The point of archaeology, however, is not to have all of the facts, but to be able to extract *meaning* from the facts that we have at that time. Even if we were to find every seal and seal impression that ever existed, this would not hold any *truth* in and of itself. This chapter will explore
patterns, based on theoretical approaches, as they can be observed in the database that has been compiled. Even an incomplete dataset is valid if the lacunae and inconsistencies are recognised and accounted for.

The techniques used in the analysis of the Corpus of Glyptic Artefacts will be as follows:

- Statistical observations of height-diameter ratios of cylinder seals
- Statistical observations of the heights of cylinder seals
- Stylistic analysis of seal designs
- Interpretation of analyses as they relate to the theoretical statements put forth in this thesis

These techniques will be used to formulate a diachronic and multi-regional framework with which to track evidence for increasing regional fragmentation through expressions of state-level identity. Therefore, certain important elements that can be gleaned from this corpus will be overlooked, due to the fact that they do not illuminate the macro-evolutionary trends that we hope to observe. Elements such as seals that denote individual owners do not benefit our analysis in ways that are immediately obvious (except, of course, in the sense that they illuminate general trends of an increased use of assertive style within the seal repertoire).

Chapters 4, 5 and 6 represent Phases 1, 2 and 3 respectively. Therefore, the focus of the present chapter is to describe Phase 2 as the transitional period between Phases 1 and 3. It will be shown that in the periods before circa 3100 BC, the general trajectory that seal styles took was to freely borrow from whatever “foreign” stylistic elements seemed appealing. During Phase 2 (roughly 3100 – 2900 BC) we begin to see the transformation occurring. Styles begin to retreat into themselves and allow little penetration of what are then considered “foreign” elements (although it must be noted that in Phase 1, it appears that there was less of a concrete definition of what “foreign” was in the first place – see footnote below). While 200 years is a

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171

2 The word “foreign” is being used here in an anachronistic way because, as argued here, in Phase 1, regional differentiation was not yet rigidly defined.
relatively lengthy period of time, considering the changes that occurred, it is indicative of a rapid transformation.

The beginning of Phase 2 is much clearer than would even be supposed for the end of Phase 2 / beginning of Phase 3. This seems the obvious result of the fact that the end of Phase 2 is accompanied by a large wiggle in our $^{14}$C calibration, and by the fact that the transition was into Phase 3. We should expect to find more similarities between Phases 2 and 3 than differences. In fact, a major argument in this thesis is the proposition that the system that would be in place for the greater Near East in the 3rd millennium began after the increasing complexity in the 4th millennium. While there are clearly continuations of culture that survive this transformation, the structure begins in what is here being called Phase 2. The beginning of Phase 2 is therefore marked by a break in structure, and the end should be thought of as more of a continuum and advance in the sophistication of this new structure that continues through the 3rd millennium. Phase 2 will therefore not show such a definitive break as it will show how Phase 1 was becoming Phase 3. Phase 2 should thus be thought of in terms of a dynamic process rather than as a 'snapshot' image of a static period. The way these changes took place was different in every region, however, and we should not expect to see uniform patterns of development throughout the greater Near East. But the time and the nature of these changes are very consistent.

**Observations from the Glyptic Corpus**

Before we delve directly into the analysis of the corpus a brief outline is provided here. An explanation for the importance of each analysis will begin each section.

I. Statistical Observations
   A. Height/Diameter Ratio
   B. Height
   C. Materials
      - Colours
D. Stamp v. Cylinder

II. Impressions
   A. Discussion of the importance of seal impressions
   B. Appeal for further research

III. Emblemic Designs in the 3rd millennium
   A. Egypt
   B. Palestine
   C. Northern Mesopotamia / Syria
   D. Anatolia
      D.1 (Part 2) Syria-Anatolia: the Case of Jerablus Tahtani
   E. Sumer
   F. Elam
   G. Indus Valley
   H. The Aegean and the Eastern Mediterranean

I. Statistical Observations

The statistical observations presented herein are among the original analyses that are possible only through the presentation of the corpus (Appendix 1) compiled for this thesis. Statistics are often met with mixed reactions. They are an easy way to provide objectivity to theory, but they can also be very subjective, especially when the dataset is based on incomplete information, as is often the case in archaeology. In this case, statistics will not be put forth as the proof of anything. Indeed, the concept of proving something is not an aim in this thesis; this thesis is an attempt to offer an alternative theoretical viewpoint for already established information. Therefore, statistics, as such, will be less of an absolute proof than it will lay down a framework into which the rest of the glyptic observations will be placed.

The viewpoint being taken here is that glyptics both hold and transmit information (see Chapter 1, Section IV on the definition of style). Glyptic artefacts are both the product of human forethought and an object from which information can be extracted. The only aspect of this process of information storage/retrieval that we
have to deal with is the actual point of contact, as seen in the glyptic itself. But this point of contact is merely a glimpse into a whole other world. A “virtual world” of thoughts, identities, feelings, and aspirations existed in the individual and collective minds of the people who lived during this time period. If we are to understand social change, it is vital that we find some way of dealing with this virtual world.

One key aspect of the “virtual world” of cognition that we will begin to see emerging (in Phase 2 and developing throughout Phase 3) is identity. It will be argued here that the statistical observations from these analyses show a pattern of increasing regional differentiation based on “state-level” identities. Glyptics are as sensitive of an indicator of these types of cognitive expressions as we as archaeologists can hope for, but it must not be assumed that this mere “point of contact” is the end of the story. On the contrary, what we begin to see developing during Phase 2 continued to grow into an overarching framework into which many aspects of life began to be placed. Architecture changed, socio-political systems changed, material culture changed, economy changed, and importantly, symbols representing identity changed.

This does not mean that everything is cut and dried, however. Phase 1 glyptics will be shown to be an expression of free-flowing emulation. But this does not mean that emulation ceases entirely at the beginning of Phase 2. In fact, there is a concentration of certain emulative aspects that both support the framework being put forth here and cloud our statistical observations. Therefore, we should not expect to get perfectly pretty pictures when we produce statistical graphs; the answers do not come quite that easily.

Generally speaking, Phase 1 is exemplified by emulation, and Phases 2 and 3 show an increasing motion towards regional “state-level” emblemic styles in glyptics. If emulation still occurred during Phases 2 and 3, though, another method beyond mere statistical analysis must be adopted in order to further define the framework. This is where a profound weakness in statistics comes into play. The observations based on simple statistical information must therefore be supplemented by more traditional subjective stylistic analysis.
It is important to keep in mind that the following statistical observations must not be taken as self-standing. They are only valid when taken in context and together with the more detailed, albeit impressionistic, stylistic analysis in Section III.

A first inkling that there was something interesting going on with seals can be seen in a chart that appears in Frankfort’s *Stratified Cylinder Seals of the Diyala Region* (1955), where he observes the stratified location of the seals in comparison to the time period they were likely made.

![Table](image)

**Table I**

<table>
<thead>
<tr>
<th>Period of Time-Set</th>
<th>Frequency of the Various Styles</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uruk</td>
<td>Jemdet Nasr</td>
</tr>
<tr>
<td>Proliterate e–d</td>
<td>3</td>
<td>222</td>
</tr>
<tr>
<td>Early Dynastic</td>
<td>121</td>
<td>141</td>
</tr>
<tr>
<td>Protointerimperial</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Uruk</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Gutium Ur III</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Later Babylonian</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

* Based on our illustrated seals whose styles are recognizable and whose time-spans are definitely dated.

**Fig. 29** Chart showing stratigraphic distribution of cylinder seals from the Diyala region (Frankfort 1955, p.11). The Uruk-style seals clearly drop off in stratigraphic contexts after the Uruk period, while the Jemdet Nasr style seals continue to be found stratigraphically until well into the 2nd millennium.

Suspicion that the Jemdet Nasr period (beginning roughly at 3100 BC) was the period of massive cultural transformations rather than the preceding Uruk periods is a notion that can be seen by observing this particular chart (Fig. 29). As is plain to see, the Jemdet Nasr seals continue in use, or at least redeposition, for thousands of years past their period of stylistic primacy. The Uruk seals drop off sharply in their stratified occurrences as the Jemdet Nasr styles become popular. This was the
first clue that the important social or cognitive changes occurred not in the Uruk periods, but rather following the increasing complexity that occurred during the Uruk periods after c. 3100 BC. It is from this point that the following glyptic analysis began to take shape.

Apparently, the Uruk-style seals from Phase 1 were not deposited in later contexts, suggesting that they were not used in these later periods. The Jemdet Nasr style seals continue in stratigraphic deposition, and therefore probably in use, throughout the 3rd millennium and into the 2nd millennium. This suggests that in the seals of the Jemdet Nasr style, we see the first instances of what would be indications of the 3rd millennium group identity, rather than in the preceding Uruk period. Whatever stylistic qualities were indicative of this 3rd millennium identity may likely have been present in the Phase 2 glyptics for them to remain in use in Phase 3.

A. Height to Diameter Ratio

In this section, an effort will be made to provide a sketch of the metrical qualities of the seals in the Glyptic Corpus grouped according to major assemblages from sites of limited regions. The discussion of style, memes and cognition in Chapters 1 and 2 are extremely important to understand this information. In particular, meme-theory can provide us with a way to observe how the ancient peoples selected certain metrical characteristics to be representative of their newly forming state-level identities. In glyptic objects, there exist memes of proportionality, size, weight, colour, etc. When we later examine designs (Part III of this Section, below), the memes are also present, but take the form of individual motifs, engraving styles, design compositions and other artistic and even linguistic characteristics. In the metrical styles, the emblemic designs of the 3rd millennium will be shown here to exhibit preferences for certain elements (memes) that become representative of the state-level identity for that region.

Height to diameter ratio analysis exhibits one of the most concrete examples of how differentiation between styles of cylinder seals began to form during our
Phase 2 and continued to define these differentiations throughout the 3rd millennium. Scatter plots of the height to diameter ratios for Phase 1 cylinder seals show that the distinctions between styles had not yet been established according to state-level identities (an idea that has been discussed in Chapters 1 and 2 and will again be approached at the end of this chapter and in Chapter 7). In Phase 2 and continuing into 3, there begins to form distinct styles as can bee seen by clustering in the scatter plot analyses.

That height to diameter ratios are actually observable is unquestionable. Certainly the people who would have used these objects in their original contexts would have had a heightened awareness to stylistic qualities such as size. But even to the modern observer, the ratio between the height and the diameter inflates the stylistic distinctions. This is because the one-dimensional difference between heights is only distinguishable if the two seals are side by side. But when the two dimensions of height and diameter are taken together, there is an immediate relationship that can be identified in two dimensions. For example, a short and squat seal looks very different from a tall and skinny seal, and these both look different from one with in-between dimensions (Fig. 30). The significant variations mark stylistic differentiations that correspond to symbolic reference. The reference can be one of assertion of an emblemic style, or it could be the emulation of another style in order to assimilate some of the recognition of the symbolic reference (power, legitimacy, etc.). (See Synthesis at the end of this chapter)

Fig. 30 Differences in metric styles – tall-skinny vs. short-squat
Firstly, let us look at the site of Uruk alone. Even at Uruk, the site where it had often been thought that the “core” of the Urban Revolution resided, in the earliest period, Phase 1 (indicated in Fig. 43 by ‘URUK1D / URUK1H), Uruk shows a remarkable amount of variability. Corresponding to the seals from the Diyala region, which we shall approach below, there are two general strains of measurement ratios. Uruk has a fair amount of seals that are of the taller, skinnier type (roughly 1cm diameter, and between 3-5cm in height), which usually corresponds to the simpler designs that can be put onto this tall thin type of seal. For instance, seals 90, 148, 400 and 569 from Basmachi’s Iraqi Museum catalogue (Basmachi 1994) are in the geometric or stylised designs that one would often expect from the Diyala region. These seals are tall and skinny and show relations with the Diyala region. But seals such as the massive seal #9, also from Basmachi’s catalogue (1994) and the seal
represented in Tafel 17a from Heinrich’s Uruk Kleinfunde volume (1936) show very complex naturalistic scenes. These two seals also date to the 4th millennium, but exhibit much more complex representations in the designs. For instance, the seal in Tafel 17a has the following design:


The seal described by Heinrich is made of lapis lazuli, an imported material of apparently of high value. A few things can be said of this seal in particular. Firstly, the seal’s dimensions were such that the design engraved into the seal would be apparent to people looking at the seal in addition to being observable upon impression. This is important because in order for complex, deeply engraved naturalistic scenes to be observable on the seal, a large fat seal is necessary. More abstract scenes can often be seen as designs on taller skinnier seals. Likewise, because it is well made and of a valued material, it may well be that the design is an important one. It may be that it belonged to an important owner as well. Typically, this sort of design can be thought to be directly representative of the depictions and cult scenes from the indigenous region of Uruk. Although it would be clear to anyone looking at the seal that this was an important high-status object, directly relating to the indigenous socio-religious practices or mythology, the fact remains that these objects are found right alongside objects that are either imported or harken to another region’s or community’s social milieu. Even at the supposed “core”, in Phase 1 there was no stylistic opposition to the accumulation of “foreign” elements within the community’s glyptic assemblage.
Furthermore, there are examples in the 4th millennium glyptic at Uruk of the blending of characteristics between "foreign" and "local" elements. This can be seen, for example, in seal Pl.IVh (an unprovenanced seal – and therefore not included in Appendix I - see Frankfort 1939; see also Ward 1909, #137). Seal Pl.IVh is interesting for the fact that it shows, in apparently 'Uruk-style' seal, an array of different activities going on at once, some perhaps (?) ritual, some perhaps secular. Of particular interest, however, is the motif of an 'Anatolian style' pointed shoe, which shows reciprocal influence from the so-called periphery into the supposed "core", even if just through the borrowing of a single motif within a larger design. This underscores the fact that the idea of a state-level identity had not yet been fully realised in Phases 1 or 2, even if some of the expressions that would later come to represent this identity were present.

In Phase 2, shown in Fig. 43 as URUK2D / URUK2H, the metric styles change somewhat. There appears to be an increase in the emphasis on the short and squat seals. This tendency drives the regression line for the scatterplot way up, further illustrating this trend. In seal W19223, from the Uruk preliminary report XVI (Lenzen 1959, seal W19223) we can see this tendency taken to a very unusual level. This seal, made of a greenish-yellow stone, measures at a massive 9cm diameter and 6cm in height. The design is a very complex rendering of many animals in multiple registers. Although W19223 is unusual for its size, it is also indicative of this more general trend, albeit usually more controlled. Seal W21259 (Lenzen 1966, seal W21259) is comparable in it bulkiness, although not quite as massive as W19223. W21259 is made of a whitish, speckled stone that measures at 4.7cm diameter and 5.5cm in height. This is still quite bulky in appearance, especially when one takes into account the very tall and skinny seals that are seen in the Jemdet Nasr and typical of later Brocade style seals that come predominantly from the Diyala region in Phase 2 and early in Phase 3. The seal design for W21259 is as follows:

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3 'Foreign' and 'local' are put into inverted commas here because it is being argued in this thesis that in the 4th millennium the idea of 'foreign' and 'local' on a state-level had not yet been established. Therefore, the fact that we find seals that are more typically "Diyala style" should not be surprising. The distinction had not yet been clearly made as to what was indigenous and what was intrusive.
Even when the seals are quite small, the dimensions of height to diameter at Uruk still tend to be blockier than elongated. This may very well have something to do with the fact that the typical Uruk glyptic tended to have naturalistic scenes, rather than geometric or stylised, which can be applied better on a thinner and taller seal. The tendency to get bigger and chunkier seals at Uruk might be the result of the fact that while naturalistic scenes can be carved into small seals, it is nearly impossible to see the design on the seal. In order to discern a deeply carved, naturalistic design from a small seal, it is usually necessary to actually roll the seal out. Therefore, if these seals were to act as symbols of identity as both tools to impress and as emblemic badges to be worn or otherwise displayed, it was necessary to have the seal large enough to be able to discern the design.

Thus, the presence of small seals in the assemblage denotes different types among the same trend in Phase 2—a preference for short and squat seals with naturalistic designs. There are exceptions in the metric styles, such as W17370 (Nöldeke et al., preliminary report X, 1939, seal W17370). But this is an uncommon example from Uruk that is clearly in the Brocade style. Therefore, it may very well be an early example of an Early Dynastic style (Phase 3) rather than the typical Phase 2 style glyptic from Uruk. The description (by the current author) of the seal design for W17370 is as follows:

In upper portion of seal is a triangle with base at top of seal and apex pointing downward. 2 oblique lines frame the triangle making it two lines thick. To the right of triangle is a horned quadruped with short tail, highly stylised. Below triangle, directly under apex is another, probably running horned quadruped with tail, although with much larger and very curved horns (also highly stylised). To the right and below other animal is a lozenge with 2 curved lines above, 2 curved lines below and a horizontal line in-between. Top and bottom of seal have incised linear border. Very similar to Brocade style.

(cf. Appendix I)

4 We know from an Early Dynastic depiction at Mari (c.2500 BC shell inlay showing a cylinder seal suspended from a garment) for instance, that cylinder seals were suspended from garment pins and displayed in an ostentatious manner (Peltenburg pers. comm.; see Roaf 1990, pp.72-3).
By Phase 3, however, the assertion of an Uruk style glyptic with this tendency to have short, squat seals dies out. The trend in southern Mesopotamia moves drastically towards more elongation. Therefore, if we put W17370 into the Phase 3 style glyptic, even if from a transitional subphase between Phases 2 and 3, it clearly points to a knowledge of and a compliance to a new metric style as indicated by more elongation. Likewise, the seal designs clearly shift from the well-crafted naturalistic styles of the Phase 1 Uruk style to highly stylised representations. These stylised designs are accompanied by a few incursions of Diyala-style ‘Brocade’ seals. Also, geometric and highly stylised motifs become common, such as fish and other animals and human scenes. Seal W20017 is an example of linear designs with stylised fish:

Der ornamentale Dekor ist in die gebrannte Siegelrolle eingeritzt und durch Vertikalestriche in vier Felder aufgeteilt. Er besteht aus einfachen Linien und kleinen Punkten und ist mit Ausnahme einer Reihe von vier Fischen recht willkürlich angeordnet. Eine Datierung ist deshalb auch schwer zugeben, doch ließ sich am ehesten an die Zeit zwischen Uruk III und der Mesilim-Stufe denken. (Strommenger in Lenzen 1962, seal W20017)

W20017 measures at 1.9cm diameter and 5cm in height and is made of fired ceramic.

Also in Phase 3 come the first glimpses of what would come to be known as typical 3rd millennium southern Mesopotamian style glyptic. Highly stylised, but increasingly “natural looking” designs of cultic scenes or mythological characters begin to appear. Things like the ubiquitous “bull man” of Early Dynastic II might be foreseen by this very early Early Dynastic I seal from Uruk that has a central anthropomorphic figure in the design:

Die erhaltene untere Hälfte des Siegelzylinders läßt noch folgende Darstellung erkennen: Als zentrales Motiv eine menschliche Figur, die etwa bis zur Hüfte hoch sichtbar blieb, begleitet zu ihrer Rechten. Der verbleibende Bildraum ist mit Vierbeinern gefüllt, die in mindestens zwei Reihen übereinander angeordnet sind, wobei jedoch die Bildenebe um 90° gedreht sein kann. Die recht grobe Zeichnung wies das Stück einer Gruppe von Rollsiegeln zu, die in die beginnende frühdynastische Zeit datiert wird. Eine nähere ihrer geringen künstlerischen und handwerklichen Qualität zumindest problematisch. (Finkbeiner in Schmidt 1979, seal W22842)
To understand the Uruk glyptic, however, it is important to take into context its neighbours and those who were also formulating\(^3\) the regional state-level identity. In fact, as massive and as important as Uruk appears to have been, its cultural pre-eminence wanes somewhat in the 3rd millennium. Instead, it appears as though Kish takes on the role of defining what the glyptic style of the Sumer in the 3rd millennium would be. Certainly, each city-state would have had expressions of city-level identity too. But it appears as though Kish functioned as the centre of identity for Sumer in the 3rd millennium. This is reflected in the glyptic record as we shall see below. As for Uruk itself, it is unfortunate that we know much more about the 4th millennium glyptic than we do for much of the 3rd millennium. Therefore, we shall focus our attention on a dataset that allows us to approach exactly what was going on in the transitional period that resulted in the establishment of such rigid stylistic traits.

*Kish*

**Fig. 32 Kish and Jemdet Nasr Phases 2 and 3 Overlay**

\(^3\) While there were surely identities present before Phase 2, it is being argued in this thesis that they were not defined rigidly according to regional boundaries, or indeed at a state-level. It is being argued that the identities and structures already present in Phase 1 were re-shuffled according to the newly forming state-level identities.
To the ancient Sumerians, the city of Kish was at the utmost centre of the world. It was the seat of all kingly authority over the lands of *ki-engi* and *ki-uri* in the 3rd millennium. Through this authority, disputes between Sumerian city-states in the Kengir League would have been politically resolved (Jacobsen 1957 – see Chapter 6). But it was not only politics that drew all eyes to Kish. Kish was thought to be the centre of identity for Sumer. Unlike the Sumerian city of Nippur, which was thought to be the home of the great gods (and hence was a religious centre itself), Kish may have defined what it was to be “Sumerian” in general, as we shall see in the observations from Appendix 1a.

Socially defined identities would have been formed around each city-state as well (see Fig. 72, this chapter, regarding the so-called ‘city seals’), but the collective regional and state-level identity that was formulated at the beginning of the 3rd millennium in southern Mesopotamia is represented in the archaeology of Kish.

It has been established through survey and excavation, however, that occupation of Kish does not precede the Jemdet Nasr period, our Phase 2. After the establishment of a settlement during Phase 2, a steady development continued on, reaching its zenith during the ED III period (Gibson 1972, p.58). But even as early as ED I, “Kish and Hursagkalama were already established as large towns, reconstructed as upon both backs of the stream” (Gibson 1972, p58). Therefore, this collective Sumerian identity was either newly formed at the turn of the 3rd millennium, or the attribution of Kish as the centre was projected upon a newly founded site. Textual evidence asserts Kish’s significance from as early as c.2700 BC (Archi 1987), but we have hints that its importance was great from the very beginning.

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6 As Gibson states, “even before the rise of the Sargonic kingdom, rule over Kish seems to have implied dominance over the entire northern part of the plain” (Gibson 1972, p.3). And while the title “King of Kish” is problematic, there may have been a “relationship between LUGAL KIS and sar ḫīḵātī, ‘King of the Universe’” (Gibson 1972, p.3).

7 At the city of Kish itself, “the earliest sherds found by survey […] were late Protoliterate” (Gibson 1972, p.58), although Ubaid sherds have also been found associated with some of the mounds (Gibson 1972, p.66). As far as the settlement is concerned, however, “the earliest, Jemdet Nasr, settlement was found 9.0m below the present plain” (Gibson 1972, p.31). Gibson also refers to mounds “with only Jemdet Nasr and Early Dynastic sherds” (Gibson 1972, p.31).
Kish being at the centre of the Sumerian world is not the end of the story, however. Its location along the ancient course of the Euphrates to the far North of the southern Mesopotamian alluvium puts its strategic position as a link between North and South Mesopotamia and interregional trade routes at supreme importance. It has long been established that the economic strength of both North and South Mesopotamia and Susiana was heavily linked to exchanges between the two regions (Algaze 1989). Therefore, in addition to Kish being the cultural centre, Kish served as a gateway to some of southern Mesopotamia’s most important economic and cultural neighbours.

**Fig. 33 Kish 3rd – 2nd Millennium Cylinder Seals; Appendix 1a**

Height to diameter ratios of seals roughly attributed to the 3rd-2nd millennium (Appendix 1a – Kish glyptics) show a tight clustering around certain proportions, suggesting that glyptic craftworkers may have been aware of a Kish canon for seal construction and design. This analysis also suggests that further elucidation of the
construction and design. This analysis also suggests that further elucidation of the style of Kish glyptics may have something to say about the identity of those associated with Kish and the role of Kish as the centre of the identity in the Sumerian world. This evidence from the seals suggests (apparent identity agglomeration seen in the canonical seal style) that at some point it was decided that Kish would act as Sumer’s navel, the location from which one could trace Sumerian identity to the very root.\(^8\)

Human thought organises itself around symbols. This is why we have things like flags or crests and other such things. Kish itself may have acted as a symbol, representing the centre of the political and economic world of Sumer. And interestingly it can be reiterated that Kish’s placement strategically between the South and the North may indicate that at least one aspect of Kish’s role was because of Sumer’s heavy reliance upon relations with their northern neighbours.

It may even be that Kish’s very existence is based upon the idea that it was to be the thing to which all Sumerians would pledge allegiance. This may be the reason why kings in Sumer who exhibited a great deal of power could claim to be the “King of Kish”, regardless of whether they were from Uruk, Ur, Eridu or any other city state in the southern Mesopotamian alluvium – see above and Gibson 1972. This epithet used by leaders was a double-edged sword of identity. Only those powerful enough to deserve the title could claim to be the “King of Kish”, but it was the actual recognition of the validity of this title by people and their leaders that gave the “King of Kish” their authority (see Chapter 6 for discussion of the Kengir League). Therefore, in a cultural sense, we as historians and archaeologists must take these cognitive self-referential representations and recognitions as part of the same reality that can be seen in the objectivity of material and symbolic power. In other words, because Kish both defines and is defined by Sumerian identity, the artificial boundaries that we as archaeologists have set up between the cognitive and material worlds are brought to the forefront. In order to understand culture and identity, neither cognition nor materials can be taken in isolation (see Chapter 1).

\(^8\) Kish is designated as the first post-deluvial kingdom on the Sumerian King List (Gibson 1972, p.2). While this may be a mythical account, it shows how attribution of the seed of identity has been projected onto Kish by later authors.
Kish provides us with an uncommon case study in which to explore some of the fundamental questions about social change and historiography and to challenge some of the basic assumptions that we often make regarding the relation between the material and cognitive worlds. An important but neglected resource in the seals from Kish has, however, been largely overlooked.

Seals can tell us a great deal about the development of identity. General canons or selected traits can reflect this “Sumerian-ness”. It appears as though this canon is especially pronounced at Kish (as can be seen in the tight clustering of metric styles in cylinder seals – see Fig. 45), and it may very well be that it is from Kish that we can expect to see other Sumerian city states getting their sense of Sumerian style.

The impressions and the seals from Kish exhibit characteristics that may warrant a distinct typology and a separate “Kish style” nomenclature may in fact be helpful. For instance, of the seal impressions, many are in what has been termed the “Fara” style, alluding to the type-site of Fara, also in Sumer. But the Kish designs, while similar to the Fara style are distinguishable stylistically. The distinctive “bull-man”, for instance, which characterises a particularly typical glyptic design from southern Mesopotamia, may have been associated with Kish itself. Kish has very early examples of the “bull-man” on seal impressions, and the style of depiction is distinct from other representations such as in the “Fara-style”.

Fig. 34 These examples may warrant a “Kish Style” nomenclature
The glyptic assemblage from the southern Mesopotamian site of Tello appears to fall in line with what has been said about Uruk and Kish so far. In Phases 1 and 2, Tello seems to be very strictly limited to diameter to height ratios similar to those seen in Uruk in Phases 1 and 2. The strikingly consistent trend in the 4th millennium is towards blockier seals. In Phase 3 at Tello, there is a shift to thinner seals (although still with a roughly 1-2cm diameter to 3cm height ratio as typical, which is not quite as elongated as the Diyala Type II [see Diyala section below] and Piedmont style seals), which fit well into the overall canon as seen in the Kish glyptics. Tello exhibits the characteristic shift from blocky seals to more elongated seals that is indicative of the 3rd millennium southern Mesopotamian emblemic style.
The Ur glyptic in Phase 1 exhibits a fairly wide range of metric types, although the tendency seems to lean towards tall and thin seals. This being said, one seal made of baked clay #496 (Basmachi 1994) is considerably chunkier and squatter. Al Gailani-Werr (1988), however, points out that this seal may actually be from a later date than Uruk/Jemdet Nasr periods, and this may therefore explain the fact that it outlies the general trend. The two seals #123 and #510 (Basmachi 1994) are much squatter than the rest of these Phase 1 glyptics. The Phase 1 seals from Ur do not actually display a stark contrast to the Phase 2 glyptic, and this may reflect the fact that the stylistic lines that have been drawn between the two phases are not always valid. The seals from Phase 1 do not, however, show much of a trend towards the proportions exhibited in the Diyala Type II, as will be approached below (see Diyala below). The Diyala Type II tends to drift towards a regression line that is more vertical, meaning that the height and diameter measurements are closer to one
another. Rather, the Ur glyptic metric trend from Phase 1 seems to reflect the regression line that suggests a tendency to have increased height and smaller diameter.

In Phase 2, while the regression line still remains roughly horizontal, the increased vertical angle does not indicate one change, but a split in preferences. Similar to the split that we see in the Diyala glyptic Types I and II (see Diyala below), there appear to be two trends at Ur. In essence, two regression lines should be drawn, corresponding to the two trends in metric styles. This may indicate some increased contact with Uruk or Tello or other sites at this time, where we see a massive increase in the diameters of seals in Phase 2. This preference could also have something to do with contact with the Diyala region. What is important, though, is that it is in Phase 2 that we see the idea of *stylistic differentiation* occurring in the metric details. For whatever reason, the Ur Phase 2 seals exhibit an increase in diameter size for one of its two style variants, and this shows that a choice was being made to conform to styles that could be identified as differentiating one identity from another.

The one Phase 3 seal (UR3D, Fig. 48) from Ur represented in the corpus fits neatly into the taller and skinnier styles typical of early 3rd millennium Sumer, as made rote at Kish.
In Phase 1, we have a few seals from Nippur and Larsa that can only hint at the nature of their metric styles. Although the Larsa Phase 1 glyptic displays a regression line that is fairly horizontal, the sample is not large enough to base conclusions on the regression line alone. One seal from Larsa (#193, Basmachi 1994) with dimensions of .9cm diameter and 3.7cm in height and is made of a brown stone. #193 has a design of a row of stylised fish below a zig-zag/chevron pattern which in turn is below a row of interlocking ‘x’s that creates a series of diamond shapes, and each diamond is filled in with a single horizontal stroke. Although much smaller (.4cm diameter to 1.3cm height), seal #175 (Basmachi 1994) has similar diameter to height proportions and is made of a similar type of stone. Also, another type of dimension is represented at Larsa in seal #233 (Basmachi 1994), which is made of marble and measures 1.4cm diameter and 1.7cm in height. #233 is much
At Nippur, which would later come to be the religious centre of Sumer and the mythical seat of the great gods (Kuhrt 1995 – see Chapter 6), in the Phase 1 seals there does not seem to be any consensus of glyptic style. The two seals shown in the graph are so different that they could not possibly have been from the same common style, regardless of the imagery represented on the seal. One seal, #557 (Basmachi 1994), has dimensions of .9cm diameter and 1.8cm in height, a 1:2 ratio. Seal #56 (Basmachi 1994) has dimensions of 5.4 cm diameter to 3.9cm height, an unusually squat and fat seal with proportions of roughly 1.4:1. To anyone observing these seals, it would have been clear that they were had much different proportions, regardless of the fact that they were made of similar materials (white stone). This is almost an exaggerated example of how the regional styles that began to differentiate in Phase 2 and solidified in Phase 3 were not at all present in the Phase 1 glyptic. As important as Nippur would come to be in formation of the identity of Sumer as a whole, in Phase 1 the seals did not display any uniformity in style. It is being argued in this thesis that seals came to be representative of group identity, but the seals from both Nippur and Larsa clearly show that any such identity was not reflected in the glyptic corpus in Phase 1. This likewise suggests that the group identity that would agglomerate in Phases 2 and 3 was not yet present in the 4th millennium.
Likewise at Fara, the Phase 2 glyptics do not show the traits that one would expect from the general canon from Phase 3 in southern Mesopotamia. Although one seal, #51 (Moortgat 1966), is considerably thinner and longer than the rest, the fact that it is made of shell means that the dimensions were probably limited according to the material. If this particular seal is omitted as an outlier (for this seal was not able to be constructed according to metric stylistic conventions), the regression line for Phase 2 would be nearly completely vertical. This is very different for Phase 3, where the metrics fall right into line with what the stylistic canon for southern Mesopotamia would have been: #70 has dimensions of 1.8cm diameter to 3.3cm height, and #67 has dimensions of 1.7cm diameter to 4.8cm height, clearly longer and thinner than from the preceding Phase 2 glyptic.
The glyptic assemblage from Susa represents the single largest collection of seals from any site in the Near East at the periods approached in this thesis. The graph of the glyptic assemblage from Susa, however, can at first glance appear confusing. This is because the chronology at Susa is both detailed and complex. When we factor in the more detailed chronological and stylistic divisions, the graph (Fig. 40) appears to be more differentiated. It is important to remember, however, that divisions such as those made between ‘Proto-elamite Mesopotamian Style’ and ‘Proto-elamite contemporary with tablets’ are based on stylistic divisions, but they would have co-existed at Susa contemporaneously.
Perhaps the most important categories here are the “Proto-élamite; Séries diverses, contemporaines des tablettes proto-élamites” (PROTABLD/PROTABLH – shown in darker grey above), and the “Proto-élamite de style mésopotamien” (PROMESOD/PROMESOH - shown in light blue above) (Amiet 1972). There is a remarkable difference between the seals that are in the Mesopotamian style in the 4th millennium (marked in light blue above). These seals correspond extremely well with what we see in southern Mesopotamia in the 4th millennium: a tendency towards blockier seals. Apparently contemporary with the Mesopotamian style seals were the seals of the style “Proto-urbain récent” (PROURBRD/PROURBRH – marked in light grey above). The difference between the two and the consistency of stylistic metric application is staggering. Although some metric crossover occurs, it would apparently have been very easy to tell the two styles apart, and these styles would
have co-existed at the same site. These styles date to Phase 2 (late 4th millennium, early 3rd millennium; Charvát 1988), which supports the idea that a cultural opposition to the borrowing, imitation and embracing of various styles did not exist before the 3rd millennium.

At the same time, because it would have been so clear that the Mesopotamian styles were of emulative rather than local emblemic styles, we would expect that when the time came to establish emblems, local styles would be sought. This is exactly what happens. In the styles “Proto-élamite: Séries diverses, contemporaines des tablettes proto-élamites” and “Proto-élamite classique” (PROELCLD/PROELCLH – shown in pink above) (both dating to the 3rd millennium – Charvát 1988) we see a clear preference to reject the Mesopotamian style seals of the 4th millennium in favour of the local style metrics. This metric, while visibly different from the 4th Millennium blockiness, is not quite as elongated as the seals in the southern Mesopotamian canon or indeed as those found in the Diyala region. If we look to the Diyala seals (see section on Diyala below), the Susa style seals of Phase 3 fall metrically between Types I and II, and tend towards a fairly standardised ratio of height to diameter.

Certainly, the stark differences between the metrics of different styles at Susa may represent different functional aspects of various glyptic forms. This idea has been pursued by Charvát (1988), where he identifies an increasing trend towards a redistributive economy. The fact still stands, however, that the Susian glyptic in the 3rd millennium asserts itself as independent and very tightly predetermined. Even though some variation may occur because of internal economic functionality, the overall glyptic trend is one of emblemic differentiation from Susa’s Mesopotamian past. The rest of Iran also follows this trend to establish an Elamite or Iranian identity, independent of Mesopotamian roots. This can be seen also in the proliferation of texts in a distinct script (Potts 1999 - see Chapter 6).

Of the seals marked in red above (SUSAEDD/SUSAEDH – many are from the Copenhagen Museum: Ravn 1960), many of these are either outliers because of constraining materials such as shell, or they may have dubious attribution as being Early Dynastic. At the same time, because Susa was such an important centre of exchange, it stands to reason that some wholesale imports would be present.
An additional breakdown of the Susa graphs has been included to differentiate the stylistically derived groups from the Susa glyptic assemblage. While Fig. 40 is important, there are so many seals in the graph that the groupings might be difficult to distinguish. The following pages should be looked at as a series of overlays that comprise much of Fig. 40. Figs. 40a and 40b are contemporary (Late Phase 1, Early Phase 2), but different styles. Figs. 40c and 40d show that the Phase 3 styles emerged from a local style that was derived from the subtle stylistic difference apparent between the Phase 1 native emblemic glyptic (Fig. 40b) and the Phase 1 emulated Mesopotamian glyptic (Fig. 40a).

**Fig. 40a**

It is clear that there is a strong trend for squatter seals than this regression line indicates. The few outliers to the general trend (i.e. the taller and skinnier seals) bring the overall regression line lower, which is misleading. These outliers are explained, however, by the fact that it is being argued that emulation and blending was occurring in Phase 1. Notice the tight clustering of many of the seals and the basic trend toward almost 1:1 proportions. This style overlaps chronologically with the seals shown in Fig. 40b, with which there are subtle, but evident, metric differences.
There are overlaps in the metric styles between the seals in Fig. 40b and the chronologically overlapping seals in Fig. 40a, but the general trend can be seen here. This regression line appears to be much truer to the apparent clustering, and a preference toward skinnier, or at least less squat, seals is evident in what can be thought of as the local-style glyptic. Figs. 40c and 40d appear to be derived from these seals metrically, rather than the squatter seals in Fig. 40a. In other words, although there was no cultural opposition to the co-existence of multiple groups of seals or indeed the blending of stylistic characteristics in Phases 1-2 Susa seals, differences were apparent. These differences were exploited in Phase 3 to reinforce the newly forming identity and to reject ‘foreign’ styles.
The seal proportions in Fig. 40c seem to be derived from the example set by the proto-Elamite seals in Fig. 40b. The Classique style adheres to a general preference to skinnier seals, or at least not very squat seals, although there are a few outliers to the general trend that lie roughly in what could be termed Phase 1 'Mesopotamian style' proportions.
The seals from later in the 3rd millennium also seem to adhere to the example set by the seals in Fig. 40b, rather than the 'foreign' seals in Fig. 40a, although the sample size here is not quite as large.
Northern Mesopotamia

*Fig. 41 Combined Nineveh and Suleimeh Phases 1, 2 and 3 Overlay*

Nineveh is only represented in this corpus by only a few early examples of Early Dynastic cylinder seals (Phase 3). These examples from Phase 3 fit in neatly with the diameter-height ratio that we can see in southern Mesopotamia in the 3rd millennium. Because the sample size is so small, conclusions cannot be drawn on metric styles alone in this case. When we look at designs (this chapter) it will be shown that northern Mesopotamia does indeed show signs of developing an independent style. As for the metric details, however, Nineveh must be observed in a wider context.

Suleimeh does not have a great number of seals either, but the period that these seals come from date to Phases 1 and 2. In accordance of what has been see from other assemblages of seals in Phase 1, there is little evidence of a consistency in
metric style. This supports and reflects the idea that large-scale state level identity had not yet been formed in Phase 1. The Phase 1 and 2 seals from Suleimeh shown here in Fig. 53 do not indicate that a particular metric trend would be picked up if a greater number of seals were present in the assemblage, although the tendency might lean towards taller and skinner seals.

**Tepe Gawra**

**Fig. 42 Tepe Gawra Phases 2 and 3 Overlay**

Unlike Nineveh and Suleimeh, which are also in the east of northern Mesopotamia, Tepe Gawra exhibits a different character in the 3rd millennium (Phase 3). In Phase 2 represented in Fig. 42, Tepe Gawra seems to have a regression line similar to Type I Diyala style (see Diyala below), which tends toward skinnier and taller seals. By Phase 3, however, the situation changes and Tepe Gawra exhibits one of the most consistent patterns of metric style as can be seen anywhere in the
Near East. Tepe Gawra’s affinities do not seem to lie with the southern Mesopotamian metric style; rather it seems more similar to the Palestinian Period 3 glyptic style that was asserted in Phase 2. This metric style is apparently very similar to Diyala Type II (see Diyala below), to Uruk in Periods 1 and 2, Jemdet Nasr in Phase 2 and Tello in Phases 1 and 2. At the same time, the difference between Phases 2 and 3 at Tepe Gawra is small enough that, if taken together, the two Phases would not significantly change the regression line between the two periods. While the slight preference at Tepe Gawra in Phase 2 to have a little bit taller and skinnier seal is a real preference, Tepe Gawra could easily have begun to assert the tendency to apply their Phase 3 metric style canon in Phase 2. Thus the transitional nature of Phase 2 is highlighted here in the sense that a stylistic identity of Phase 3 formed out of the existing glyptic repertory in Phase 2.

Northern Mesopotamia - Khabur

**Fig. 43 Tell Brak Phases 1 and 2 Overlay**

![Graph showing the overlay of Tell Brak Phases 1 and 2](image-url)
Few actual cylinder seals survive from Tell Brak, although a great number of seal impressions have been revealed that show a complex economic system comparable to any found in southern Mesopotamia. "Recent work at Brak [...] has exposed two segments of a city wall as well as a massive gateway, all predating the appearance of southern Uruk material on the site, demonstrating the complexity and scale of public construction within a large northern centre during the first half of the fourth millennium BC (J. and D. Oates 1997)". (Emberling et al. 1997, p.1).

As a centre, its importance in the region is evident. "The site did not significantly decrease in settled area through the Ninevite 5 period (Matthews 1996); texts from Ebla, Mari and Tell Beydar make it clear that Nagar - almost certainly the ancient name of Tell Brak - was a dominant urban centre by the mid-third millennium BC" (Emberling et al. 1999, p.2). As an exchange partner with southern Mesopotamia, its importance is also very clear. In Phases 1 and 2, as we can see above, the metric trend closely mirrors the trend at Uruk itself. A more vertical regression line (indicating blockier seals) in Phase 1 changes to an emphasis on taller and skinner seals in Phase 2. It should be noted, however, that this also corresponds to Types I and II in the Diyala assemblage. There are no early Phase 3 height-diameter ratios for Tell Brak, but the stylistic analysis given in Section III on northern Mesopotamia deals specifically with Tell Brak. It can be shown through this supplementary analysis that emblemic qualities do indeed emerge in Phase 3 at Tell Brak. In fact, later in the 3rd millennium a distinct 'Brak style' (Matthews 1997) comes to represent the state-level identity of this regional centre. Even without a sufficient sample of metric styles from Tell Brak itself, when taken in context of northern Mesopotamia, it may be that the more eastern sites (such as Tepe Gawra) may not be a part of the same cultural identity as the sites further to the West of northern Mesopotamia. This further underscores the disjunct nature of northern Mesopotamia, a facet of the identity in the North that will be approached again in Chapter 6.
Second only to Susa in numbers of actual cylinder seals, the Diyala assemblage tells us a great deal about the way in which metric style developed throughout Phases 1, 2 and 3. It is the purpose of this chapter to both present the Corpus of Glyptic Artefacts (Appendix 1), and to make a case that Phase 2 (roughly 3100-2900 BC) was the period of transformation, and nowhere is the latter point more evident than in the assemblage from the sites in the Diyala. Because few seals have been recovered from Phase 1, less will be said about this period. But both Phases 2 and 3 tell quite a bit about the way in which identity developed in the Diyala region and in the Near East in general.

In Phase 1, there are 2 seals that roughly correspond to the two major metric types found in Phase 2. #36 from Khafajah (Frankfort 1955), the larger and squatter
of the two Phase 1 seals is a green stone seal with dimensions 2.1cm diameter by 3.3cm height. The design on #36 is in typical Uruk style with a bull throwing a lion. #36 roughly correspond with what one would expect of the Type II metric style from the Diyala in Phase 2. Also from Khafajah #35 (Frankfort 1955) is a shell seal with dimensions .8cm diameter by 1.9cm height. The design is also typically Uruk style with a lion passant. #35 is representative of metric ratio one sees in Type I metric style from the Diyala in Phase 2.

An additional seal impression from Asmar #487 (Frankfort 1955) shows a reclining goat and other motifs, but of course lacks diameter and does not contribute to our understanding of the diameter to height metric style. Because #487 has a figurative design and has a height of 3.2cm, however, it may very well be that this seal also fit into the category of the Type II metric style of Phase 2.

Diyala Types I and II

In Phase 2 the metric styles make a split. There are two very different types of metric style that are given the names ‘Diyala Type I’ and ‘Diyala Type II’ in this thesis. There have been references made to these types in some of the analyses above. Type I corresponds with the seals from Phase 2 in the Diyala region that display the metric characteristics of being tall and thin. Type II corresponds with the seals from Phase 2 in the Diyala region that display the metric characteristics of being short and squat. Although the general regression line falls directly in the gap between these two types (understandably), the actual trends are easy to see. Apparently, an idea was emerging in Phase 2 in the Diyala that seals needed to take one of these two forms. This division may have something to do with the fact that the sites in the Diyala region were geographically and culturally wedged in between southern Mesopotamia and northern Mesopotamia. At Tepe Gawra, we have seen that by in the 3rd millennium, the standard form of metric style for seals was much more similar to the Type II Diyala style than with the Type I. At Kish, however, the style that may very well have come to represent the overall metric style for seals in Sumer corresponds much better to the Type I than the Type II from the Diyala. It is interesting that we see both types in Phase 2 in the Diyala region, because there is obviously some split in the affinities that would later come to represent the 3rd
millennium styles for the North and the South. Because of the Diyala sites' locations between the North and the South, and likewise on the East/West route to Susa and Iran, we should not be surprised to see these multiple types in such a crossroads.

**Type I**

Generally, Type I seals are those that exhibit the metric qualities of being tall and thin. They can also be generally associated with the "Piedmont style" glyptic that includes geometric and highly stylised representations. While Pittman (1994) observes that the glazed steatite style often associated with these taller and thinner seals finds its home more naturally in Susa than in the Diyala region, there is little doubt that this Type I constituted a significant portion of the glyptic system in the Diyala sites as well. We will later discuss (see below in section on Susa, this chapter) how the glazed steatite glyptic style was a major part of a communication system in place in Susa. The fact that we find such a strong preference to use these types of seals in the Diyala region in Phase 2 as well indicates that this communication system was intended to communicate *between* regions, rather than solely within a region.

With the "international" nature of the Type I seals in mind, it is clear that the two types represented in the Diyala repertoire exhibit the qualities of emulation and assertion: the Type I seals emulate aspects of the communication system used at Susa, the Type II seals correspond more closely to the seals popular in Mesopotamia from the preceding Phase 1 and those from the North such as from Tepe Gawra.

**Type II**

Type II corresponds to what we see in southern Mesopotamia and Susa in Phase 1, with the tendency being a preference toward blockier seals. While this type of seal makes up a huge proportion of the total seals in Phase 2 in the Diyala region, the Type II virtually dies out completely by Phase 3. A similar trend to the Type II style appears at Tepe Gawra in Phase 3, but in the Diyala region in Phase 3, there is very little sign that this trend remains popular.
By Phase 3, it is clear that the sites in the Diyala region had identified with the Phase 3 southern Mesopotamian glyptic style as identified through Kish, and likewise we might suppose that they also identified with the South in other ways. Even though the Diyala region would undoubtedly still have been used as a crossroads for inter-regional exchanges, the identity and the expression of this identity in seals was apparently too strong to allow intrusive elements. Almost all of the seals from Phase 3 in the Diyala region cluster around the very horizontal regression line, indicating a strong preference for taller and thinner seals. There are however, a couple of notable exceptions. #879 from Tell Agrab is made of gray limestone and measures at 3cm diameter by 5.6cm height. The design is of a “God with horned crown seated in boat steered by standing figure; another figure, before god, holding jar; snake, spouted vase, and indistinct object outside boat” - see Frankfort 1955 for further description. #256 from Khafajah is made of shell and measures at 3cm diameter by 2.6cm height. The design is of a “man holding goat by its throat, second goat behind first, rosette, third goat, geometric fill.” (Frankfort 1955) #256 may likely be an outlier simply because of the fact that the material it was produced from dictated different dimensions. But overall, the emblemic trend in the Diyala region is quite clear, and the affinity with their southern neighbours seems well established in the 3rd millennium.
From the seals that have been recovered from Palestine, the expected stylistic differentiation is clearly shown between periods. Although Phase 1 shows a fairly steep regression line for diameter-height ratios, the actual sizes would fit in well with the more horizontal regression line in Phase 2. At the same time, all of the seals from Phase 1 are of similar proportions, possibly indicating a preference to a certain ratio. They also tend to be quite small in Phase 1, with the largest seal measuring at about 2cm height. In Phase 2, larger, but also skinnier seals are experimented with, corresponding to some emulation that occurs in the designs at the turn of the 3rd millennium. By Phase 3, both design and metric style in Palestinian seals show some degree of independence, coupled with, as we shall see later in this chapter, some affinity with Syria and northern Levant.
Egypt has often been thought of as another “core” from which civilisation sprang. But if this were the case, one would expect to see autonomy in design of identity markers such as seals. In fact, that seals were even present in Egypt at all shows that there was considerable contact between the rest of the Near East and Egypt in Predynastic times. With this in mind, it should not be surprising then that the metric analysis of Egypt’s glyptic assemblage would reflect the overall trend that we see in the Near East. In Phase 1 (and Phase 2 also falls right in line with this), represented in Fig. 46 above, there appears to be a regression line that reflects those regression lines from Uruk, Tello, Jemdet Nasr and the Type II from the Diyala in
Periods 1 and 2. While one seal from Matmar that dates to Phase 1 may have even been imported (and possibly even imported from Susa), the other seals are of local design and construction. This shows an affinity to the trend in Palestine, which exhibits a remarkable uniformity, clarity and autonomy in style by Phase 2 (see Palestine above). While the idea of the cylinder seal may have been imported from the Near Eastern Network, the expression of glyptic form was quickly fitted to local traditions.

The seal from Matmar #1053, which is made of light brown limestone, has a design described as, “four vertically lined panels with criss-cross, herringbone, and criss-cross décor respectively in three, and column of three lentoid shapes, top one with ‘fish’ markings at right end, in fourth” (Buchanan 1966, p.211). This seal, which dates to Phase 1, may very well have been imported into Egypt. After this time in Phase 2, the seals found in Egypt are made of local materials (#1054 wood; #1055 wood; #1056 ivory, Buchanan 1966). Likewise, the designs are of a typically local Egyptian character:

- 1054: Three birds above five snakes above recumbant goat(?), recumbant oryx and outstretched lion with linear device on back; linear borders
- 1055: Hand(?) above oblong shape with knob(?) above lion with linear device on back, emblem of divinity before the lion; shrine above horizontal strokes and oblong shape with knob on right side, second emblem; linear borders
- 1056: Symbol above shrine, second shrine, blob above seated pigtailed figure playing on pipe-like instrument(?), third shrine; wavy linear borders in deeply-cut relief – _Nota Bene_: this seal comes from Nubia and exhibits slightly different characteristics.
  (after Buchanan 1966)

By the time Phase 3 comes, and we have full-fledged Dynastic Egypt, the use of cylinder seals is limited. They are used only to denote names of royalty or of important people, and by the 2nd Dynasty they are used in conjunction with cartouches. In fact, the cartouche itself may represent the idea that cylinder seals were the official way to “sign” a name. But clearly by Phase 3 Egypt had already developed its preferred style of seal: the scarab. Scarab seals were used from very early on in Phase 3 and possibly even in Phase 2, and may have been a way of differentiating the Egyptian identity. As we shall see in the design analysis below (this chapter, Section III), Egyptian 3rd millennium cylinder seals are unlike any other style, however, in the degree to which they are short and squat, and in the style.
of design. Many of the seals available from early 3rd millennium Egypt are unprovenanced (although undoubtedly from Egypt), however, and as such have not been included in the corpus or the metric analyses.

**T-Tests**

A simple way to test that the observations between metric styles in seals are actually indicative of real differences is to conduct what are called ‘T-Tests’. T-Tests, in essence, test whether two groups of numerical (in this case metrical) information can be confidently regarded as belonging to separate groups. In this case, the test is set to give 97% confidence.

**Fig. 47 T-Test: Paired Sample Statistics, Correlations and Test**

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</tr>
<tr>
<td>Pair 6 KISHRAT3 - GAWRAT3</td>
<td>.3947</td>
<td>1.3415</td>
<td>.3000</td>
<td>-.2332 1.0225</td>
<td>1.318</td>
<td>19</td>
<td>.204</td>
</tr>
</tbody>
</table>

Definition of "Paired Samples Correlations", Sig.: The conditional probability that a relationship as strong as the one observed in the data would be present, if the null hypothesis were true. It is often called the p-value. Typically a value of less than 0.05 is considered significant (from SPSS Statistical Package).

Definition of "Paired Samples Correlations", Correlation: A measure of linear association between two variables. Values of the correlation coefficient range from -1 to 1. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships (from SPSS Statistic Package).

In Fig. 47 above the T-Test has been run on paired samples from the glyptic corpus. In these examples, the ratios of height to diameter for individual sites’ cylinder seal assemblages have been calculated and compared against one another:

Pair 1 = Kish Phase 3 Ratio v. Susa Classique Ratio
Pair 2 = Kish Phase 3 Ratio v. Diyala Phase 3 Ratio
Pair 3 = Susa Classique Ratio v. Diyala Phase 3 Ratio
Pair 4 = Tepe Gawra Phase 3 Ratio v. Diyala Phase 3 Ratio
Pair 5 = Susa Classique Ratio v. Tepe Gawra Phase 3 Ratio
Pair 6 = Kish Phase 3 Ratio v. Tepe Gawra Phase 3 Ratio

In particular, special notice should be given to the second chart in Fig. 59 (Paired Samples Correlations) in the ‘Correlation’ column. Refer to the definition given above for the significance of this column. Pairs 1 and 4 show the greatest discrepancy in the Correlation column, indicating that we can fairly confidently determine that they belong to different groups – that is to say, Kish and Susa belong to different sets, and Tepe Gawra and Diyala belong to different sets. Pair 2 shows the strongest (i.e. the number closest to absolute 0 in the Correlation column) correlation, indicating that Kish and the Diyala regions show particular affinity. Interestingly, Pair 3 (Susa and Diyala) also shows a fairly high level of correlation, although not as high as Pair 2.

The 'Sig.' Column in the Paired Samples Correlations above gives another, possibly clearer breakdown of these results. This column represents the likelihood that the two populations of objects are related (and/or the degree to which this is true).
or the same. Therefore, Pair 2 (Kish and Diyala Phase 3) are 90.2% related, according to this analysis. Tepe Gawra and Diyala Phase 3 (Pair 5) are only 31.9% similar, by comparison.

Through these tests, we can confidently conclude that the observations that are made from the metrical statistics (shown in the graphs above) are actually grounded in observable and real differences.

This simple diameter-height ratio analysis, while useful and encouraging, is not the end point, however. Further analysis integrating regional data can be used to show that certain regions were beginning to establish standards of height-diameter ratios for the local styles. While this should probably not be taken as being an implemented control of the standard, it can be seen as an aesthetic preference based on a social identity. This notion will be taken up further in Section III.

B. Height Analysis Including Seal Impressions

While height-diameter ratios are indeed sensitive indicators or stylistic differentiation, stylistic observations can be made on the heights of seals alone. This second method of statistical analysis allows us to include the vast numbers of seal impressions that also survive in the archaeological record. In fact, at some sites there are no actual seals at all, but the presence of seal impressions indicate that seals had been used. In order to round out the picture more than diameter-height ratio allow, we shall now observe the height differentiations that occur in Period 1, 2 and 3.

The regions have been segregated according to the stylistic observations made in the analysis given thus far. The regional height analyses are given below.
For Khuzistan, it should be noted, the vast majority of seals for this region have come from Susa. From the above Fig. 48, we can see little that we could not have gleaned from the site-to-site analyses of the actual cylinder seals: in Phase 1, there is no indication that regional stylistic differentiation was occurring.
Regions Phase 2

Fig. 49 Regional Height Analysis of Cylinder Seals and Impressions from Phase 2

Likewise, for Phase 2, the height analysis shows us that some regional differentiation was beginning to occur. Also, we see a proliferation in seal production and usage during this time, especially in regions where there is little evidence for previous use.
Regions Phase 3

Fig. 50 Regional Height Analysis of Cylinder Seals and Impressions from Phase 3

Finally, although height analysis alone gives us results that are not terribly reliable, in some instances differences in the mean heights (indicated in the above figures by the horizontal black line within the red area) may be indicative of differences in regional height preferences. For instance, the mean height for Egypt is very different from most other regions in Phase 3.
In general, the height analyses do not reveal very many enlightening observations, only inasmuch as they further substantiate what can be seen in the ratio analyses. With this being said, Figs 49 and 50 show just how much different regions were asserting their identities in Phase 2 and into Phase 3. Although the comparison of the height values does not provide us with particularly valuable information, it has been included here as a way to show the participation of various regions in the Network and as they began to assert their own state-level identities in the 3rd millennium.

C. Materials

The study of the relative hardness of the stones used for seals has been presented in a paper by Gorelick and Gwinnett (1990), which shows that not only did the hardness of the materials increase due to the technology available, but that the hardness of the stones was also most likely related to status. Although harder stones were used increasingly through the history of seal usage, the greater the hardness and the more difficult the stoncutter’s task, the more the engraved object meant as an object of value. As such, increasing use of harder stones suggests (although does not by any means prove) an increase in social stratification, identity differentiation, and personal wealth. Because hardness has already been examined elsewhere, only a brief summary of the completed work will be presented.

In Gorelick and Gwinnett’s study, they argue that cylinder seals were objects that designated social status and signified emblemic qualities. Indeed, they point out that pictorial representation from the Uruk period shows that they would have been worn and displayed, rather than kept in a pouch only to be used for sealing (Gorelick and Gwinnett 1990, p.53). Furthermore, they comment that since cylinder seals “served to effect social cohesiveness, there would have been no reason to restrict” their use according to rank (ibid., p.53). This clearly mirrors some of the statements being made in this thesis regarding the usefulness of seals as indicators of group identity.
Because of constraints on lapidary techniques, harder stones were more difficult to work and therefore acquired an increased level of prestige. The study begins with a look at beads from Jarmo, a Neolithic site dating to around 6700 BC for the beads that they examine. They observe at Jarmo that soft stones were used to produce the approximately 200 beads in the corpus, except for 10 made of harder materials. These harder materials were rock crystal, obsidian, hematite, agate and carnelian (ibid., p.51). They also note that at the site of Uruk, “the proportions of cylinders made of hard stone to soft stone is similar to that at Jarmo” (ibid., p.52).

In the Early Dynastic period, while there is a somewhat increased emphasis on using harder stones, the findings of Gorelick and Gwinnett suggest:

(1) Even seals of soft material were considered significant enough to be included in burials.
(2) Status emulation was evident in low ranking burials.
(3) Within wealthy burials, important distinctions were present.

(ibid., p.53)

What this tells us for our present study is that the analysis of materials tells more about intra-site or intra-regional social differentiation and less about group identity on a large scale. While this is an interesting avenue to pursue further, it does not easily fit into the questions at hand. There is, however, an increasing trend to use imported prestige materials, which tells us that inter-regional interactions were occurring. This trend can be seen in the increase in the movement of ‘valuable’ materials over long distances – such as in lapis lauzuli exchange (Hermann 1968).

While it would be interesting to consider changes in material being used through this period of transition (based on the glyptic corpus), these analyses would not tell us much in regard to the macroscale social transformations. An analysis of the materials would, as Gorelick and Gwinnet have pointed out, tell us something about the degree to which social stratification was occurring on the scale of individual sites or regions. Therefore, this analysis is derivative and not central to the macroscale questions raised in this thesis. As not every conceivable analysis is possible in the limited space of this thesis, observations from the materials used in seal production has thus been omitted.
Colours

Fig. 51 Graph showing percentages of colours of seals in regional repertoires for Phase 1. These represent only the seals where definite unambiguous colours were distinguishable in the published literature.
Fig. 52 Graph showing percentages of colours of seals in regional repertoires for Phase 2. These represent only the seals where definite unambiguous colours were distinguishable in the published literature.
The analysis of the colours of seals shows little in the way of unequivocal support for the arguments in this thesis. The general trend in the colours of seals is what this thesis could have predicted: the idea of seal usage was popular throughout the greater Near East, but the expressions of seal use were particular to each region. This has been included for the sake of completeness, and some brief commentary will be offered in terms of interpretation of this information. Some basic trends can in fact be observed; and although these trends are not strong enough to support the arguments made in this thesis alone, when taken together with the other analyses, they offer further backing to the overall interpretation.

Firstly, it must be said that our data is strong in some places and phases and
of seals in Phases 1 and 2, but by Phase 3, the dataset is considerably smaller. In contrast, Anatolia is not represented by actual seals in Phase 1, but in Phases 2 and 3 it makes an appearance in the diagrams. This may be somewhat misleading because there is only one seal for Anatolia in Phase 3, making its colour green 100% of the total. On balance, it was decided to display the information this way because for regions with larger assemblages, such as Iran and southern Mesopotamia, percentages convey more graphic meaning than total numbers of objects.

The percentages of colours in the seal assemblages do not show many coherent trends; in part, this may be because of sampling errors and/or lack of evidence for certain types of materials such as wood. This general lack of pattern is telling, however; seals were used far and wide, but the preferences for what were attractive colours and materials were variable to each locality.

One thing that can be observed, particularly in the larger assemblages, such as Iran, southern Mesopotamia, and northern and northeastern Mesopotamia, is that Phase 2 appears to have seen a great deal more interaction and emulation. The largest groups of seals display fairly consistent ranges of colours, but before, in Phase 1, and after, in Phase 3, more differentiation is evident.

In Phase 2, the overall percentages of colours in regional repertoires look comparatively consistent. This suggests that interaction was occurring and emulation and borrowing of ideas was increasingly common. Phase 3 shows some continuation of emulation, but in varying degrees. For example, North Mesopotamia in Phase 3 for the first time shows evidence for blue (lapis lazuli) seals, and therefore a value of this commodity shared by southern Mesopotamia. But the overall impression of the colour preferences in northern Mesopotamia suggests that while certain elements of the seal repertoire may have developed out of emulation, the Phase 3 repertoire was internally consistent and representative of a unique northern Mesopotamian assemblage.

When taken in conjunction with the statistics of the colours from all of the seals of Phases 1, 2 and 3 (Figs. 53a, b and c below), one additional interesting element comes to light. In Phases 1 and 2, the largest overall group of seal colour is white. In Phase 3 this changes and we see black as the colour group with the largest number of examples. This change corresponds to an increased proportion of black
number of examples. This change corresponds to an increased proportion of black seals in the southern Mesopotamian and Diyala repertoires in particular (and these two assemblages account for the bulk of the Phase 3 black seals). This trend is reflective of the shared glyptic style between these two regions in Phase 3, as was discussed above regarding metric styles (see southern Mesopotamian and Diyala sections above).

Fig. 53a  Percentage of colours in total seal corpus from Phase 1, using only the seals where definite unambiguous colours were distinguishable in the published literature.
Fig. 53b  Percentage of colours in total seal corpus from Phase 2, using only the seals where definite unambiguous colours were distinguishable in the published literature.

Fig. 53c  Percentage of colours in total seal corpus from Phase 3, using only the seals where definite unambiguous colours were distinguishable in the published literature.
D. Stamp v. Cylinder Seal

As was seen in the scatter plot analyses of the height/diameter ratios for cylinder seals, increasing differentiation in Phases 2 and 3 was becoming evident. But not every region is equally represented in this cylinder seal analysis. In fact, some regions expressed their identity by a preference to not use cylinder seals at all, and instead concentrate on stamp seals. Unfortunately, due to the lack of uniformity in the corpus of stamp seals, statistic observations are rendered useless. Therefore, a more qualitative analysis of the stamp seals will be given for each respective region where we find a preference of stamp seal usage. For a more complete statistical and stylistic analysis of stamp seals in particular see von Wickede 1990, and Chapter 4 in this thesis.

The results from Section A (above) will be supplemented by the results from this qualitative analysis of the stamps. Essentially, this will “fill in the blanks” left by the statistical observations of cylinder seals. This analysis will be approached according to individual regions in Section III below. In particular, Anatolia exhibits a strong preference for stamp seal usage from the Late Neolithic. In Phase 1, however, Anatolian interaction with the Near Eastern Network is evident through the adoption of some cylinder seal usage. This disappears when we get to the 3rd millennium when the preference to use stamps returns. In the 3rd millennium, Anatolia exhibits the qualities of having formed a state-level identity through the stylistic attributes of stamp seals. Without the supplementation of stamp seals into the analysis of Anatolia the results would be very biased against Anatolia having developed group identity. When one does consider stamp seals as expressions of style equal but different to cylinder seals, Anatolia’s strong regional preference is highlighted.
II. Impressions

It would be a welcome endeavour to include in these analyses an evaluation of the relationship between glyptic imagery and their corresponding function. This form of analysis of reverse impressions has been increasing in popularity due largely to the pioneering work of scholars such as Fiandra and Ferioli (1981), R. Matthews (1993) and Charvát (1988). Unfortunately, time and space will not allow for every analysis to be undertaken in a single study, and for the purposes intended for this thesis, the functional aspects of sealings can be safely omitted. There is, however, one important aspect of impression analysis that is important to consider even if they are not fully analysed here.

Provenances are of the utmost importance in this study. Without positive identification of provenance, a seal is almost useless in this particular statistical analysis. Even if a seal were bought on the antiquities market in, for instance, Aleppo, there is no positive way to tell that the seal originally came from Syria. Because of the necessity of provenances and the fact that seals could have possibly moved in antiquity even if they have identifiable findspots, seal impressions give us a more reliable view of where seals came from.

In Matthews’ (1993) publication on the seal impressions from Ur and Jemdet Nasr, he establishes a correlation between the types of obverse seal impressions and the reverse impressions of what was being sealed. It is an interesting study, but one that is of a completely different scale than the one approached here. His study does, however, show that while the tablets sealed at Jemdet Nasr do show some concentration of certain types of glyptic styles corresponding to certain types of economic transactions, there is also much overlap (see Matthews 1993, p.31). Therefore, we can reasonably conclude that even though some types of seals may have been used in inter-regional exchanges, the designs were most likely of local origin. Charvát, in his similar (1988) analysis of the Susa sealings, has produced similar results.

It is therefore an assumption in this thesis, albeit one that has a great deal of scholarly backing, that seals found at a site that correspond to what has been evaluated as the local style, are actually the local style. It may be interesting in a future study to conduct analyses on the clay sealings to test this assumption. But for
the sites that have produced major assemblages of seal impressions, the overwhelming trend in the 3rd millennium is towards use in the local redistributive economy. This can be seen by an increase in the number of door sealings, as opposed to movable storage containers (this is clearly spelled out for Susa by Charvát 1988, p.61).

From Phase 1, these questions are less important because, as we have seen in Chapter 4, there are many different ways that we can show how there was a great deal of communication occurring. Whether we see borrowed attributes on seals or wholesale importation is irrelevant, because we can clearly see that exchange was indeed occurring. In fact, this is the point being made in Chapter 4; all the evidence suggests that there was a great deal of communication and interaction in the Near Eastern Network, and that there was no cultural opposition to the blending of styles. In the 3rd millennium, the glyptic imagery becomes concentrated as an emblemic symbol of identity. It would be nice to know more about how inter-regional exchanges took place in the 3rd millennium through the clay seal impressions, but what we do know in no way contradicts the statistical and stylistic conclusions presented in this chapter.
III. Emblemic Designs in the 3rd millennium

In this section, an effort will be made to provide a sketch of the emblemic glyptic designs for each major region occurring in the Glyptic Corpus. It should be remembered that the discussion of style, memes and cognition in Chapters 1 and 2 are of the utmost importance in the understanding of this information. In particular, meme-theory can provide us with a way to observe how the ancient people selected certain characteristics. In the metric styles of glyptic objects, there were memes of proportionality, size, weight, colour, etc. When analysing designs, the memes are also present, but take the form of individual motifs, engraving styles, design compositions and other artistic and even linguistic characteristics. As in the metrical styles, the emblemic designs of the 3rd millennium will be shown here to exhibit preferences for certain elements (memes) that become representative of the state-level identity for that region.

A. Egypt

When we see the first instances of cylinder seal use in Egypt in Phases 1 and 2, it seems clear that many were imported, despite the fact that the recent excavations in Abydos (Dreyer 1998; Hartung 1998) have revealed seal impressions that are distinctly Egyptian in character. The typical view is that seals imported from Mesopotamia and Susa appear, thus establishing the practice of sealing in Egypt. What can be seen increasingly, however, is that the typically Egyptian designs appear earlier than had once been thought, making the transitional period the late Predynastic, contemporary with the seals we find at the Umm el-Qaab U-j cemetery and Scorpion’s tomb (Dreyer 1998). This is also supported by the fact that we see labels in vast quantities at this same locus that depict Egyptian hieroglyphs, albeit atypical forms.

These atypical forms of hieroglyphs and the blending of characteristics in glyptic styles, even if through a simultaneous use of imported and local styles, supports the idea that Phase 2 was the period of transition in Egypt. After Phase 2, we very rapidly see an adoption of a very rigid stylistic canon, in metric form, in function and in design.
In the 3rd millennium, we see a decisive break with the earlier tradition to show glyptic affinities with other regions, such as Pl.XLVIa-b Jemdet Nasr seal from Egypt that exhibits distinct similarities with seals from Mesopotamia and Susa in late Phase 2, early Phase 3 (Frankfort 1939 – see Fig. 54 below and compare to seal Pl.VIIIa from Jemdet Nasr in Appendix 1). These early imported seals are special in their metric style, which is almost invariably short and squat.

Fig. 54 Clearly imported seal from either Susa or southern Mesopotamia into Egypt (Frankfort 1939 – Plate XLVI a, b).

There are examples of a mixture of this imported metric style with distinctly Egyptian designs, which in fact represent some very early examples of an intelligible Egyptian script. Fig. 55 shows a pair of these, Pl.XLVIc-d (Frankfort 1939).

Frankfort says of the Egyptian Phase 2 (in this thesis' terminology) seals onward, “one [type] of them is short and squat [see Fig. 64 below], a shape not known in Mesopotamia after the Jemdet Nasr period. No impressions of this type have been found in Egypt, and it is therefore likely that they served another purpose” (Frankfort 1939, p.293). He goes on to suggest that they may have been amulets. Furthermore, Frankfort states that, referring to Pl.XLVIId (Fig. 64 below), that, “we notice once again the mechanism of Egyptian derivation, which did not consist in a mere imitation of foreign customs, but utilised certain suggestions for the expression of indigenous thought” (Frankfort 1939, p.294).
In the 3rd millennium (Phase 3), Egypt's cylinder seals are strikingly
dissimilar to anything else in the greater Near East. In part, this is due to the fact that
the subject of the seals in almost invariably non-pictorial. Rather, a focus is placed
in Egypt upon the use of cylinder seals for royal names, epithets or other forms of
official communication or bureaucracy.

Already during the First Dynasty seals with purely decorative designs disappear. The
cylinders are engraved with writing alone; if they are official, they give either the name of
the king and the title of the officer but not his personal name, or they only name the office.
The shape also differs considerably from that used in Mesopotamia throughout, and in Egypt
during the First Dynasty. The Old Kingdom cylinders are tall tubes with very wide
perforations (Pl. XLVII [see Fig.64 above]). But it is especially the complete absence of
purely decorative designs which contrasts the Egyptian seals with those of Mesopotamia.
(Frankfort 1939, p.296)

Ben-Tor notes that after the Jemdet Nasr period and throughout the 3rd
millennium, the glyptic repertoire within Egypt becomes limited to a single type:
local seals. “Mesopotamian imports into Egypt ceased immediately following the
Jemdet Nasr period” (Ben-Tor 1978, p.93).
Additionally, and perhaps even more importantly, the use of scarab seals becomes conventional in Phase 3. Scarabs have not been dealt with in this study because of the fact that their quantities are so great and they would indeed warrant a separate study.

It is simply worth noting a few qualities of scarabs:

- We see their first use of scarabs as seals during late Phase 2 and Phase 3 (Petrie 1917).
- Scarabs continue in use throughout the entire history of Pharaonic Egypt.
- In most ways, scarabs were preferred to cylinder seals, especially in terms of numbers manufactured and used.

Even the form of cylinder seals was apparently too foreign to be used as representative of the Egyptian state-level identity, even if royal names continued to be engraved into cylinders. These cylinder seals, were, however, of such extreme dimensions that metrically they would be unmistakably Egyptian in style, even if they had originally been derived from ‘foreign’ models. Scarabs, on the contrary, were an indigenous form, particular to Egypt. In fact, Egypt’s influence throughout the greater Near East and Mediterranean can be tracked with some degree of confidence based on where we find scarabs outside of Egypt.
What is most important about scarabs, however, is that they represent, from their first conception in Phase 2, Egyptian state-level identity as distinct from any other regional identity. Their proliferation in Phase 3 shows the exuberance behind those supporting, and supported by, this state-level identity. This was not a half-hearted compliance with a top-down Pharaonic regime; that scarabs were produced and used in such great numbers displays the sense of independence and pride in Egyptian ethnicity and culture, power and prominence. While this sense of identity could surely not be as strong as in Egypt without an “other” to compare with, the end product was truly Egyptian, formed through autochthonous development within the Near Eastern Network.

B. Palestine and Syria

In 1978, Ben-Tor noted that the Palestinian Early Bronze II period marked the time when the glyptic in Palestine took on a decidedly distinct character. In the preceding EB I period, he noted, there was less homogeneity, but by EB II, there were distinctive stylistic traits that warranted the nomenclature “Syro-Palestinian” glyptic (Ben-Tor 1978, p.101).

Fig. 57 Cylinder seal impressions from Hama, in Syria, and from ‘Ein Kuniyeh (surface find) in Palestine, show common design elements indicative of a Syro-Palestinian glyptic style (Ben-Tor 1978, p.81).

His designation clearly shows that there are affinities with glyptic styles to the North, but Ben-Tor also notices that the homogeneity is much greater in Palestine than in Syria. “Particularly in the area of glyptic art, the large degree of Palestinian, as opposed to Syrian, unity is remarkable” (Ben-Tor 1978, p.101). In fact, one
conspicuous trait evident in the repertoire of Palestinian glyptic is that there has never been discovered any seal that shows either importation or a clearly direct influence from Mesopotamia. This is virtually the only region in the greater Near East that we can say such things. Nonetheless, there are many shared characteristics between Palestine and Syria to the North. Because of the homogeneity of the Palestinian glyptic, this leads one to consider that influence from Palestine to Syria was occurring, at least to some degree.

Because Palestine has traditionally been thought to be peripheral and a cultural backwater in the 4th-3rd millennia, any technological or stylistic innovations in Palestine have been viewed as obvious imports. With amazing finds such as the Nahal Mishmar copper hoard (see Chapter 4), eyes have been opened to Palestine’s active and contributory role in the Near Eastern Network. Even though the glyptic remains from Palestine are few, the examples that survive exhibit the same sort of stylistic traits that accompanied the 4th-3rd millennia social transitions. In Chapter 6, we will see how Palestine was truly becoming urban, and how it exhibited similar qualities of possessing a State-level identity. For now, it will suffice to show the change in glyptic style.

It is interesting that no Mesopotamian imports are found in Palestine, when we see other glyptic evidence that show contact between Palestine and Lerna, Troy, Syria, Egypt, Cilicia and Anatolia. Each of these mentioned sites and regions that had contact with Palestine also show direct contact with Mesopotamia, which means that Palestine, as part of the Near Eastern Network, must have at least been aware of Mesopotamian culture. But Palestinian glyptics seem to have avoided direct influence from Mesopotamia altogether (Ben-Tor 1978, p.94).

The reason for this absence of Mesopotamian style, which appears in general to be one of the most influential factors in glyptics, may be sought in Syria, Palestine’s northern neighbour. Syria and the northern Levant (including Byblos – Fig. 58) may not have had significant direct relation to the southern Mesopotamian centres in the 4th millennium (Ben-Tor 1978, p.94).
Fig. 58 Lion motif from seal impression from Palestine (purchased and unprovenanced) that shows similarities to lion motifs from seal impressions found at the Byblos énéolithique cemetery (Ben-Tor 1978, p.73).

Apparently, exchange routes would have travelled up the Diyala, meeting up with the Susian traders, crossed North Mesopotamia and southeastern Anatolia (perhaps near Carchemish) possibly to the Mediterranean at a site in Cilicia or on the ‘Amuq coast. This would explain the apparent Diyala-Susa-North Mesopotamia-Egypt link, and the absence of glyptic evidence for direct exchange through the southern Levant.

This does not mean that Syria was a cultural backwater either. Rather, Syria-Palestine developed autochthonously while interacting with the Near Eastern Network according to their own circumstances. From very early on, Syria-Palestine appears to have developed a strong glyptic style unique to their own cultural situation. Influence from Egypt and other regions of the Near East, including Anatolia, Elam and the Aegean (see Fig. 59 below) are evident. But the very primacy of Mesopotamia as the prime cultural mover is nonsensical in the case of Syria-Palestine.
Fig. 59 From Lerna, on the Argolid, this cylinder seal impression that shows remarkable similarities with seal impressions from Palestine, such as IE-6 from Hazor (Ben-Tor 1978, p.68).

C. Northern Mesopotamia

Northern Mesopotamia is possibly the most difficult region to describe due to the fact that it exhibits stylistic differentiations at almost every site. The region has always served as a crossroads for East-West and North-South exchange routes, and as such it appears disjunct and is difficult to describe as a homogenous whole. For Phase 1, it is very true that homogeneity and northern Mesopotamia are oxymoronic. Simply the fact that the ‘Uruk expansion’ was expressed so fully in the North displays the lack of a cultural opposition to the blending and incorporating of elements that appeared ‘foreign’. For this reason even the chronology for northern
sites are disjunct, sometimes producing internal site chronologies that are reliable, but rarely able to compare with another site. Therefore, the North is often approached on a site-to-site basis. For Phase 1 this indeed seems valid, and as it happens, there is much in common with southern Mesopotamia at this time. The glyptic styles of the North, when not local stamp seal types, correspond well to well-known types from southern Mesopotamia, especially at the so-called Uruk colonies.

By Phase 2, the Jemdet Nasr style seals (which includes some of the “international” styles) begin to be seen more and more in the North, perhaps reflecting northern Mesopotamia’s increasing role in the Near Eastern Network as a crossroads. Seals well-known from sites in the South and East turn up in increasingly greater quantities, including the glazed steatite style (which finds it home in Susa – see Pittman 1994) and drilled cylinder seals (see Fig. 60 below with squatting figures, ladders and a tree)

41. JNP
Fig. 60 Seal from Tell Brak, in the archaic debris under the foundations of room 1. Shows squatting figures, a tree and ladder motifs, typical of other early Jemdet Nasr style glyptics from the South (Matthews 1997, plate IX).

In Phases 1 and 2 we see evidence for blending of different styles in the North, with some of the typical 3rd millennium design elements beginning to emerge. For instance, the glazed steatite style (one of the “international” glyptic styles) begins to permeate through northern Mesopotamia. It can be seen at sites such as Tell Gubba, Tell Madhur, Tell Razuk, Tell Yelkh, Ahmad al Hattu and Kheit Qasim in the Hamrin Basin and also Nineveh, Mohammad Arab, Telul eth Thalathat and Leilan (Pittman 1994; also see these seals in Appendix 1 in this thesis). The presence of this “international” style seal within the northern Mesopotamian glyptic repertoire represents the North’s active participation in the Near Eastern Network.
Even though the North exhibits the qualities of being a highly trafficked crossroads there is a cultural bias to favour links to southern Mesopotamia and in all periods the North and the South share close cultural ties. In fact, the idea that southern Mesopotamian “colonies” existed in the North is based on the idea that there was a distinction between the North and the South. This supposition is based on information we have from later periods that state explicit political and ethnic differences between the North and the South. There is very little evidence to support the idea that this distinction was so clear in the prehistoric periods. Without these differences, there could not possibly be such things as “colonies”, because the question of “who is colonising whom?” is begged.

Seals such as that in Fig. 61, show just how close the glyptic traditions in the North and the South were in Phase 1. This seal impression from Phase 1 at Nineveh shows a figural scene of two bulls and a lion that is virtually indistinguishable from similar seals found in the South.

![Fig. 61 Figural scene of bulls and a lion from a seal impression from Period 1 Nineveh (Collon and Reade 1983, p.35, fig.2a.b). This scene is a very similar style to impressions found in the South.](image)

These close ties between the North and the South continued into the 3rd millennium too. We can see that seal designs were made with an awareness of designs in the South. The 3rd millennium seal impression from Tell Brak shown in Fig. 62 is similar to the “Fara style” seals that we have seen from Fara and Kish in the South, although it is easily identifiable as being different from the “proper” Fara or “Kish” styles.
104. CH under level 9

Fig. 62 Seal impression from 3rd millennium Tell Brak, with central anthropomorphic figure (hero?) holding on to two flanking animals. This is similar to the Kish and Fara style seals (Matthews 1997, plate XIII).

Even wholesale borrowing of designs and styles from the South occurred in the North in the 3rd millennium. In Fig. 63 we see an impression from Nineveh that is remarkably similar to impressions found at Ur in the 3rd millennium (Collon and Reade 1983, p.40; also see Appendix I in this thesis for seal impressions from Ur).

Fig. 6 Part of a sealing on unbaked clay

Fig.63 Seal impression from 3rd millennium Nineveh, is very closely related to impressions from Seal Impression Strata 4-5 at Ur (Collon and Reade 1983, p.40, fig.6).

Even though there are similarities between the glyptic of the North and the South, in the 3rd millennium we can begin to see subtle stylistic differences emerging between the two regions. Unfortunately, our knowledge of the earlier part of the 3rd millennium remains clouded, but the glyptic remains can shed some light on the formation of an identity that is unique to northern Mesopotamia while still retaining the close ties to southern Mesopotamia. For instance, as we have seen in Fig. 72 above, the scene is similar to ones from southern Mesopotamia in the sense that the
scenes depict similar subjects. The way that the scene is depicted, however, is quite different. The “Fara style” seals from the South (such as can be seen in Figs. 34, and 73 in Section E on Sumer, this chapter) look quite different to the seal shown in Fig. 62 above. The treatment of the figures in the seal impression (Fig. 62) from Tell Brak looks like it came from Tell Brak, when one takes it into comparison other seals in the repertoire. A similar treatment of figures can be seen in the very distinctive “dancing animals” scene, also from Brak (see Fig. 64 below).

176. JNP (scale 200%)

Fig. 64 “Dancing animals” seal impression from Tell Brak, Period 3 (Matthews 1997, plate XVII – not to scale indicated).

Stylistic distinctions do begin to emerge between the North and the South in the 3rd millennium, and northern local glyptic styles such as the “dancing animals” can be thought to represent an assertive style of an emblemic nature. But the fact that blending was still occurring to some degree suggests that the nature of the state-level identity in northern Mesopotamia in the 3rd millennium was complex and still linked to emulation of their southern Mesopotamian neighbours.

D. Anatolia

There is an extremely long local tradition in Anatolian glyptic, perhaps the oldest cohesive style that survives to us in the archaeological record. We can trace the development of stamp seals through the finds from Tell Sabi Abyad (the earliest datable seal impressions known to us), through the seal impressions at Degirmentepe, and through the seal impressions from Arslantepe. Each of these sites represents
approximately 1000 years between one another, and yet the consistency in styles is remarkable. It is not until the Uruk style seals begin to proliferate that we see clear evidence for incursions into this solid repertoire.

At Arslantepe, there are 10 individual seal impressions that have been sealed with a cylinder seal. The rest, 82 individual seal impressions, are of stamp seals (see Appendix 1), although another, as yet unpublished cache of seal impressions has recently been discovered and was not available to be included in the corpus (Frangipane 2001). All of the seal impressions from Tell Sabi Abyad (Akkermans and Duistermaat 1997) and Degirmetepe (Esin 1994) are stamp seal impressions, of course, because presumably cylinder seals had not yet been invented. The clear predominance of stamp seals and their stylistic similarities suggest an unbroken development in an indigenous style of seal production. The seal impressions from Arslantepe come from a time when the “Uruk expansion” was at a peak, but there are only a few borrowed traits in the designs, and the local style is predominant in the assemblage.

Fig. 65 Seal impressions from Tell Sabi Abyad from the Late Neolithic / Early Halaf (Akkermans and Duistermaat 1997, p.23, figs. 2 and 4).

Fig. 66 Stamp seal from Degirmetepe with similar seal design to some found at Tell Sabi Abyad. Although comparisons are dubious because of the time difference, the similarities between Tell Sabi Abyad, Degirmetepe and Arslantepe glyptic suggest a continuous and indigenous development (Esin 1994, p.65 fig.6/6; cf. Kielt 1997).
The fact that there are borrowed traits, however, are indicative of the lack of a state-level identity in Anatolia, or at least Eastern Anatolia in Phase 1. In particular, the sealing #1 shows motifs borrowed from southern Mesopotamia (Appendix 1, Frangipane and Palmieri 1983; Frangipane and Palmieri 1987; Kielt 1997). Frangipane and Palmieri (1987) note that, while sealing #1 is in a local style, it displays a sledge motif that appears borrowed from southern Mesopotamia. That this motif is incorporated into such a strong local glyptic style as is attested at Arslantepe indicates that while Eastern Anatolia had a clear local style, there was no cultural opposition to the inclusion of borrowed motifs in Phase 1. Sealing #1 comes from room A206, which is part of the layer where most of the sealings come from, Arslantepe VIA. Level VIA is roughly contemporary with Tepe Gawra level VIII (Rothman 1997, p.185). The dating for Arslantepe VIA is roughly 3400-3000 BC, supported by the calibrated radiocarbon dates from the preceding level (VII) which date to approximately 3700-3400 BC (Alessio et al. 1983, p. 578), and through inferential data from Tepe Gawra and other sites.

It can thus be surmised that in level VIA from Arslantepe (c.3400-3000 BC—Phase 1 and early Phase 2), there is evidence of integration, blending and incorporation of “foreign” motifs within the overall repertoire from Arslantepe.

One way to look at this would be to assume that the borrowed styles, motives and metric styles that we see in Phases 1 and 2 are indicative of an urge to emulate appealing stylistic characteristics in foreign styles. Indeed, this is likely what we see in sealing #1 at Arslantepe, and it may also be that the other cylinder seals show instances of emulation in the metric styles.

But at the same time, these inclusions into the overall repertoire of Arslantepe glyptics (and local-style Anatolian glyptic in general) are very isolated and do not represent the overall trend. Sarah Kielt says of the Arslantepe glyptics from VIA:

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9 Kielt (1997) observes that the specific stylistic comparison is with an unprovenanced cylinder seal, see Sürenhagen, 1985: 231.
They bear impressions of both cylinder and stamp seals, though predominantly stamps. The cylinder seal is indisputably a southern innovation; it should be emphasized, however, that the cylinder seals at Arslantepe were cut in a local style, what may even be considered an "Arslantepe" style. This style is characterized by gauging, a curved back to the animals, and figures often depicted with three fingers or claws. A cursory comparison of impressions from Arslantepe with impressions from Susa or Uruk, in the south, show the distinction. The southern examples are drilled and modeled, and generally show a linear organization of space; while the Arslantepe seals are gauged and have a more circular organization of space. (Kielt 1997)

Arslantepe level VIA has, of course, the best evidence of sealing practices from any period on the site, and therefore, our impression of what happens at Arslantepe in Phase 3 is less clear, despite the fact the recent findings (see Chapters 4 and 6). Therefore, we must look to the surrounding region to give us a picture of what the typical 3rd millennium glyptic was like. As expected, Anatolia exhibits many of the same characteristics in the 3rd millennium as it had for millennia before.

An unprovenanced seal (723) in the Ashmolean Museum that Buchanan (1966, p.132) says belongs to the Early Proto-literate period in Syria-Anatolia because of stylistic comparisons shows similarities with seal impressions from Degirmetepe (see Fig. 65). This further substantiates the idea that the Syria-Anatolian glyptic style developed largely autochthonously, experienced a period (in Phases 1 and 2) where emulative elements were attempted, followed by a re-establishment of a very tight, homogenous regional style.

![Fig.67 Birdman motifs in a seal impression from Degirmentepe (left) (Esin 1994, p.75, fig.14/6) dating to the 5th-4th millennium, and on an unprovenanced seal (above) (probably from Syria-Anatolia – in Ashmolean Museum) dating to the Early Proto-Literate period, suggest a continuation in local stylistic traits in Syria-Anatolia.](image-url)
In Phase 3 the local Syria-Anatolia style that developed was one that had considerable preference to use stamp seals. The designs that are typical of the Syrian-Anatolian style focus on geometric elements, with chevrons and triangles being very common (Amiet 1963). This style appears to be directly inherited from the local tradition, largely unchanged despite the apparent involvement in the Near Eastern Network during Phases 1 and 2. But another style developed in Syria especially that differentiated it somewhat from both Palestine and Anatolia. Amiet calls the third of his presargonic glyptic groupings the école syrienne, and he observes that it displays the most homogeneity of any of the 3rd millennium Syrian forms. The école syrienne may very well be one of the distinguishing traits of Syrian state-level identity, separate from Anatolian, North and South Mesopotamian, and Palestinian identities (see Fig. 68 below).

D.1 (Part 2) Syria-Anatolia: the case of Jerablus Tahtani

Not all of Syria was the same, and we can see that some areas exhibit interaction with the Near Eastern Network in some very interesting ways. For instance, in late Phase 1, Peltenburg (1997) has argued that the seal impression JT1017, shown in Fig. 69, (which in fact comes from a Phase 2 period deposit) represents a connection between Jerablus Tahtani (a site on the Euphrates near the modern Turkish border) and Susa. He argues that JT1017 represents a very early instance of a quatrefoil spiral motif. Other instances of this quatrefoil occur

Fig. 68 Examples of Amiet’s école syrienne, possibly emblemic of Syrian state-level identity (Amiet 1963, p.72).
predominantly in Anatolia, leading some to believe that this style originated in Anatolia. Therefore, Peltenburg argues that the stylistic influence flowed *from* the North *to* Susa, that is to say, the opposite direction that influences are often thought to flow. This is an instance of reciprocal influence and free flow of stylistic qualities within the Near Eastern Network. In fact, Peltenburg also argues that this quatrefoil motif is related to metal production and the exploitation of metal resources in the North. It is clear that metal was being used by participants of the Near Eastern Network, but it has always been thought that Uruk ‘colonies’ were doing the exploitation. Because this seal impression shows reciprocal stylistic influence, a case can be made that innovation and exploitation was not limited to Uruk ‘colonists’.

Fig. 69. Seal impression from Jerablus Tahtani with a quatrefoil motif, an example of an Anatolian style that spread through the Near Eastern Network. This interaction shows reciprocal influence within the Network, rather than unidirectional exploitation of the “periphery” (Peltenburg 1997, p.149).

Another quatrefoil spiral has been found in even earlier contexts from Arslantepe (see Section D. Anatolia above for an overview of Arslantepe’s glyptic), that “should dispel notions that these were created under Sumerian inspiration” (Peltenburg 1997, p.147)
In border regions such as where we find Jerablus Tahtani and nearby Carchemish, however, the local flavour appears to be a distinct mixture of Anatolian and Syrian glyptic styles. Jerablus Tahtani was located on an important trade route, however, so mixtures of elements from even further afield appear in the intensely interactive Phase 2. For example, in another seal impression from Jerablus Tahtani (Fig. 70), there is a clear blending of elements from the 'Brocade' style typical of the Diyala region and the local preference to incorporate chevrons and triangles (McCarthy in Peltenburg et al. 2000, p.66-7).

![Seal impressions](image)

Fig. 70 Sealed cone JT2948, dating to late Phase 2 displays a borrowed 'Brocade' style design, while retaining the local character by filling in the spaces with triangles and chevrons, elements typical of Syria-Anatolia (McCarthy in Peltenburg et al., 2000).
By the middle of the 3rd millennium, however, the glyptic styles from Jerablus Tahtani and Carchemish appear homogenous and fit neatly into the overall Syrian style as thoroughly spelled out by Amiet (1963). This local style used a combination of stamp and cylinder seals often impressed onto jars, and shows a strong preference to incorporate chevrons, triangles and geometric shapes into completely infilled designs. Jerablus Tahtani seals JT2718 and JT2529 are cylinder seals (in Appendix 1; for the 3rd millennium stamp seals from Jerablus Tahtani, see McCarthy in Peltenburg et al. 2000).

Jerablus Tahtani is interesting because it could not not have had a very large population, but it nevertheless exhibits stylistic changes in its glyptic repertoire that reflect the large scale changes occurring throughout the Near East. There is some evidence for an initial Local Late Chalcolithic settlement that was soon replaced by an Uruk-type settlement. In the continual (uninterrupted) sequence from the 4th to the 3rd millennium one does see changes occurring, but these changes could easily reflect a sense of group identity that emerged late in Phase 2 and continued into Phase 3. In the 3rd millennium, walls were put up around the site and we have evidence for organisation in production and exchange. The glyptic evidence likewise shows great affinity with the local Syrian-Anatolian styles. Carchemish and Jerablus Tahtani, therefore, emerged from the Near Eastern Network with a very strong sense of identity. This identity was so strong that at Jerablus Tahtani, a sense of 'urbanism' (in the sense of the identity associated with the 'Urban Revolution') emerged where there was no urban population. Referring to Chapter 1 and Nissen's comments (cf. Robert Carneiro, Chapter 1 Literature Review Section) about the nature of the Urban Revolution, the evidence from Jerablus Tahtani supports the assertion that the 3rd millennium ushered in material expressions of cognitive changes.

E. Sumer

The splendid repertoire of seals and impressions from Uruk in Phase 1 makes it easy to see why a stimulus-diffusion model seemed to fit the facts for such a long time. Beautifully rendered figurative scenes displaying ritual as well as common daily routines are shown on the seals from southern Mesopotamia in Phase 1. Also,
as we have see in Chapter 4, at sites that have been considered “colonies” as a result of the “Uruk expansion” reveal seals that show distinct stylistic affinities with southern Mesopotamia and Uruk especially. To some (Algaze 1989), even Susa in Phase 1 represents a peripheral area to the core of the Uruk world. At closer inspection, however, the true breadth of the geographical range of these Phase 1 ‘Uruk style’ glyptics calls into question whether they should be regarded as belonging to southern Mesopotamia, or whether they should be viewed as another “international” style seal that functioned within the Near Eastern Network.

This is not meant to sell the “achievement of the Uruk Period” (Frankfort 1939, pp.15-29) short, however. In this early form of cylinder seal representation, the “art had not yet recognised its own basic laws or constituted itself as an independent means of expression. Yet the creative power of its first manifestations is such that we meet among its astonishingly varied products anticipations of every school of glyptic art which subsequently flourished in Mesopotamia” (Frankfort 1939, p.23). Although Frankfort may not have intended for his statement to mean this, the overall feeling one gets by looking at the ‘Uruk-style’ glyptic from the entire greater Near East is that a common style had not yet been decided, and intense borrowing and blending was occurring. In fact, attribution of ‘Uruk-style’ glyptics to southern Mesopotamia is problematic if simply for the fact that we find them spread over such a large geographical range. In other words, why is a seal found Habuba Kabira peripheral to an identical seal found at Uruk?

Certainly, some of the subjects represented on the seals depict scenes that appear ‘southern’. But we also can expect to find similar monumental buildings, rituals and ways of life in Uruk, just as we would expect to find in sites such as Habuba Kabira, which share such strong cultural affinities (see Chapter 4 for analysis of Uruk-style architectural features). At the same time, the whole range of the ‘Uruk-style’ glyptic reflects the disjunctive nature of the style in general, blurring the lines between sacred and profane, stylistic and symbolic, borrowed and local. This trend actually increases throughout Phase 1 in the ‘Uruk-style’ seals, culminating in Phase 2 in the Jemdet Nasr style seals, where we see another possibly “international” style seal emerge. Much experimentation went on in the Jemdet Nasr style glyptic, from southern Mesopotamia especially. Some of this experimentation constitutes the
earliest examples of styles that would come to define the Early Dynastic period, such as the ‘Brocade’ style, that begins not strictly at the beginning of the ED I period (Frankfort, 1939), but finds its roots in preceding Jemdet Nasr period (Phase 2) seals (Teissier 1984, for a discussion of the blurry lines between Jemdet Nasr and EDI ‘Brocade’ style seals).

In particular, in both Uruk and Jemdet Nasr period seals, the southern Mesopotamian glyptic is nearly indistinguishable from those from Susa. This means a couple things:

- Although some stylistic difference can be determined, there was no cultural opposition to the borrowing of traits between Proto-Elam and southern Mesopotamia.

- While Proto-Elam and southern Mesopotamia shared many stylistic qualities in glyptic styles, they were distinguishable from one another to an informed viewer. Therefore, while there was indeed a blending of styles, there was also clearly independent and autochthonous development particular to either cultural situation.

Fig. 71 Typical design from Phase 2 (Jemdet Nasr), shared by both southern Mesopotamia and Susa (Elam; (Frankfort 1939, plate VIII, a).

In the Phase 2 at sites such as Jemdet Nasr and Ur especially, we begin to see glyptic evidence for abstract symbolic representation of individual city-states and for increasing co-operation between the city-states of southern Mesopotamia. Nowhere is this more evident than in the so-called city seals (Fig. 72 below).
Fig. 72 A reconstruction of a ‘city seal’ from Jemdet Nasr (taken from several impressions), broken down into the constituent emblemic signs (Matthews 1993, p.37). Individually, each sign represented a distinct city-state, collectively the combined city signs on the seal may have represented the ‘Kengir League’, or at least some sort of socio-economic agglomeration.

The city seals survive to us mainly through seal impressions (especially from the Seal Impression Stratum from Early Dynastic Ur, see Ur seal impressions in Appendix I) on sealings and tablets. This indicates to us that the city seals were at least to some extent for a practical economic function. Jacobsen (1943) has argued that the Jemdet Nasr period is the time where we first see the first see the idea of the Kengir League beginning to form in southern Mesopotamia. This Kengir League was essentially a group identity that manifested in military, religious, cultural and economic agreements between otherwise independent city-states in southern Mesopotamia. In a sense, the city seals are a physical manifestation of this identity.
On the city seals were a list (sometimes in different orders) of abstract emblems of cities arranged in rows. These would have then been used to seal commodities or tablets that marked economic transactions. Therefore, the city seals might represent more specifically the economic aspect of the 'Kengir League's' relations.

But clearly, through other archaeological means, the 3rd millennium materials exhibit qualities that reflect other aspects of at least some sort of league, such as a shared religion and culture. In the glyptic evidence, an increasing movement towards a standard southern Mesopotamian style can be detected, although each city-state still retained a degree of autonomy of expression throughout the 3rd millennium.

For example, the 'Fara style' glyptic of ED II from the city-state of Fara itself can be distinguished stylistically from a similar style glyptic from a site such as Kish.

**Fig. 73** Drawings of impressions of standard 'Fara style' seals. See Fig. 46 above for examples from Kish (Frankfort 1939, Plate XI, figs. a, b, c and d).

Kish in particular, it has been shown, displays a remarkable homogeneity in its metric and stylistic attributes (Fig. 34). In fact, the example from Kish may have influenced greatly upon the styles of other city-states, although not enough to implant all of the Kish traits upon each individual city-state's style. At the same time, the title 'King of Kish' was used by rulers from southern Mesopotamian city-states to establish their legitimacy as rulers of all of the land of ki-engi and ki-uri (see Chapter 6 for discussion of 3rd millennium Sumer and this chapter, above Section I, for a discussion of Kish).

Nippur, too, became the religious centre of Sumer in the 3rd millennium. Disputes between city-states would have been resolved at Nippur because divine law would have been decreed from the earthly home of the gods (Jacobsen 1943). We
may look to seals for an increasing standardisation in representations of ritual and religion. The imagery in the designs became more and more limited in the Early Dynastic periods to cultural and religious themes particular to Sumer, perhaps stemming initially through the religious authority at Nippur. Especially in the form of the Jemdet Nasr style seals showing temple and animals, the movement towards standardisation of religiosity is clear. A standard form of temple façade can be seen as a common motif representing group identification with a particular form of religion.

In Figs. 74, 75, 76 and 77 (below), we can see the progression of stylistic representation of animals from seals from Uruk period through the Jemdet Nasr and into Early Dynastic times. The progression is from figural in the Uruk to increasing abstraction in the ED I period with the ‘Brocade’ style.

![Fig. 74](image)

**Fig. 74** Figural style bulls and ears of corn from Uruk period. Unprovenanced seal, Pl.Va (Frankfort 1939).
Fig. 75 Jemdet Nasr period seal showing an increasing standardisation in animal representation. Goats with "eye" design, unprovenanced seal, Pl.VIIIk (Frankfort 1939).

Fig. 76 This seal shows a further increase in abstraction and standardisation in the Jemdet Nasr period, paving the way for the Early Dynastic 'Brocade' style glyptic. Goat with "ladder" and "eye" design, unprovenanced seal, Pl.VIIIj (Frankfort 1939).

Fig. 77 Example of the highly abstract 'Brocade' style from Early Dynastic I period. Goats, fishes and birds from Tell Asmar in the Diyala region, Pl.Ixb. (Frankfort 1939). This abstraction should not be thought of as a degeneration in technique, rather a conscious movement toward an emblemic style.
The increase in abstraction from the Uruk through to the Early Dynastic periods should not be thought of as a decline in ability or technique, rather it was a conscious movement toward an emblemic style.

Seals in the 3rd millennium show an increase in highly standardised representations of ceremonial scenes (such as banquets, processions and contests), themes from literature (such as the Epic of Gilgamesh) and religious scenes. Animal files and scenes of animals continue, but they are far less naturalistic than in the Uruk periods and take on a standardised form. In some types, the representations of animals seem almost magical-religious, and may be indicative of standard religious expression in southern Mesopotamia. This standardisation in the 3rd millennium should not be viewed as a decline in artistic renditions of natural subjects or in the creativity of invented subjects (such as mythic beasts of various forms), which achieved a high degree of sophistication in Phase 1. Rather, the standard style should be viewed as a communication device by which state-level identity was agglomerated and solidified. These standard styles became emblems of the southern Mesopotamian identity.

Fig. 78  Typical crossed animal scene with central masked figures from Early Dynastic II period. This masked figure and the style of representation is remarkably consistent throughout southern Mesopotamia in this period. Unprovenanced seal, Pl.Xi (Frankfort 1939).
F. Elam and Iran

In Phase 2, it has been noted before by scholars such as Frankfort (1939, p.227) that the Susa glyptic should not be referred to as “peripheral” from that of southern Mesopotamia.

Elam, especially Susa, occupied a peculiar position in that its connections with Mesopotamia were at all times very close. It cannot therefore be taken as characteristic of Iran. We have actually illustrated seal designs from Susa (Pl. IV g, h, j, k, l) together with those of the Uruk period, because they are indistinguishable from those found at Erech, and there is no reason in this case to speak of a peripheral style, in spite of its preference for certain themes such as composite monsters (Text-figs. 7-10, p.26).

(Frankfort 1939, p.227)

Frankfort continues to explain about how matters changed at the onset of the 3rd millennium:

We have seen that it is occasionally impossible to separate the earlier impressions from indigenous productions of the Jemdet Nasr period, but the later Elamite seals display a character of their own (Pl. VIIIa), and these represent therefore the earliest peripheral style found to the south-east of Mesopotamia.

(Frankfort 1939, p.227)

Of course, Frankfort was referring to anything variant from the Mesopotamian 3rd millennium glyptic as “peripheral”, but he certainly did not mean this in a ‘Wallersteinian’ or ‘Algazian’ sense (despite that this is anachronistic). At the same time, Frankfort readily recognises that the 3rd millennium ushers in great changes in glyptic styles in the two regions.

Peripheral seals of the first half of the Third Millennium B.C. are much less numerous than those of the Jemdet Nasr Period. They are also of a different character.

(Frankfort 1939, p.232)

But Frankfort continues:

The Mesopotamian and the peripheral seals of the earlier age are often equal in quality [...]. In Early Dynastic and Sargonid times such seals of neighbouring countries as we can recognise show merely bungled versions of Mesopotamian themes.

(Frankfort 1939, p.232)

Rather than these new styles being representative of a failed attempt to imitate the Mesopotamian seals, these seals can be regarded as representative of a newly developed State-level identity in Elam. Amiet (1979) has argued that the nature of this identity was dualistic. Elam may have even had a mixed population,
according to Amiet, with a portion seeking affinity with Mesopotamia and another portion looking to identify with the east, to Iran and perhaps as far as the Indus Valley. This is supported by an increase in Iranian-style seals and motifs in Elamite contexts (Amiet 1979) and even the establishment of a new capitol at Anshan (Tall-i Malyan). This regional development first begins in Iran in Phase 2, however, as one facet of the huge amount of complex interactions that were taking place in Iran. Godin Tepe seals #7 and #8 in Appendix 1 are examples of the early establishment of an assertive regional style in Phase 2 (Weiss and Young 1975).

Furthermore, Pittman argues (1994) that the glazed steatite style cylinder seals find their natural home in Susiana, rather than in the Diyala region as had previously been thought.

The analysis of the imagery suggests that the center point of the style’s distribution was not the Diyala or the Hamrin Basin, the geographical center point of the piedmont zone. Rather, it is at Susa that the full range of the style is represented. (Pittman 1994, p.248)

Pittman goes on to say that the abstract designs, and their subsequent arrangement on the seals and upon their impression, represent a form of communication, one specific to Elam, or more precisely “Proto-Elam”. Particularly, the geometric and schematic elements on the glazed steatite seals have “conventional meaning that was more or less closely linked to natural language” (Pittman 1994, p.247). Specifically, Pittman’s Multiple Element Group had a definable structure similar to the way the Proto-Elamite script was structured. Additionally, the “glyptic imagery contributed to the symbolic systems used to administer the economy,” in the same way that tokens functioned in Phase 1 (Pittman 1994, p.243).

This observation by Pittman fills an important gap in our understanding of the development of communication systems in place in Mesopotamia and Elam. In the Chapter 4 discussion of prehistoric tokens, there had been posed the question as to why, if the largest assemblage of tokens comes from Susa, does the writing system derived from tokens not develop at Susa rather than, or in addition to, Mesopotamia. If the Proto-Elamite script developed from a use of seals rather than tokens, then this question is answered. Additionally, the communication systems in both Mesopotamia and Elam are inherently linked to inter-regional exchanges (probably
of commodities in addition to the exchanges of information that were certainly taking place) in Phases 1 and 2.

By Phase 3, the glyptic styles in Elam changed radically, consisting of either combat or banquet scenes in the Early Dynastic I styles from Elam (Pittman 1994, p.263). The earlier styles, including the glazed steatite style (the epitome of an "international style") drop completely out of production (Pittman 1994, p.263). In Phase 3, the style changes to one typical to Elam itself, with some affinities to neighbouring regions pointing at the possible duality in the ethnicity of the indigenous population (Amiet 1979). Despite this apparent duality, the overall character of the Elamite seals was largely homogenous and representative of a common and independent style throughout much of the 3rd millennium.

In the glyptic remains, several seals from Iran support the view that the initial formation processes of the state-level identity that we see in the 3rd millennium begin in Phase 2, but do not solidify until Phase 3. Seals Text-fig.69 and Text-fig.70, which most likely date to Phase 2 (Frankfort 1939, p.228)\(^\text{10}\), show that there was a blending of elements in the designs (Fig. 79, below).

Frankfort says of these two seals:

*Text-fig.69* — "A chariot scene, is drawn in a straightforward linear style such as we find at all times and all points of the periphery of the cultural centre" (Frankfort 1939, p.227).

*Text-fig.70* — "Has evident connections with Elamite subjects of the Jemdet Nasr period. The division of the bull's body by a sharp line at the shoulder; the ample space between hindquarters and tail, the latter a lance-shaped tassel; and the long hair of the animal's hocks, are all features recurring at Susa. The cross is at home there too (Text-fig.9), and the curious design on the right recalls the Inana symbol of the Mesopotamian seals (Pls.IIIa; Vc)" (Frankfort 1939, p.227-8).

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\(^{10}\) Frankfort also notes that it would not be out of the question the consider these as being from the Early Dynastic Period either. But the reason for this opinion is not due to stratigraphic information. Rather, it is due to the fact that he considers *a priori* anything coming from outside of the "core" areas as being influenced through stimulus-diffusion. Contemporaneity and co-evolution were not a consideration to Frankfort in this instance, apparently. It is argued here that when objects lack a definite chronological primacy, co-evolution is a valid and indeed preferred outlook.
Fig. 79 Seals from Tepe Hissar near the Caspian Sea in Iran dating to Phase 2. These show some of the first evidence for a break away from the Mesopotamian imagery typical of Phase 1 in Elam. Text-fig.70 especially shows affinity to seals from Susa that occur in Phase 3, while still incorporating other elements that harken to Mesopotamian styles (Frankfort 1939, p.228). Attention should also be drawn to the fact that stylistic affinities to Indus Valley stamp seals can also clearly be seen (see Chapter 6, Fig.94, "Unicorn seal").

It is in Phase 2 that we see the first traces of what would come to be emblemic of Elam and much of Iran, but it is not until Phase 3 that these elements become a unified marker of state-level identity. Elam can no longer justifiably be viewed as having developed their rich culture by means of stimulus-diffusion from the “core” of southern Mesopotamia.

G. Indus Valley

As discussed above in the section on Elam, the glazed steatite style cylinder seal represents the zenith of the “international” style. It is therefore telling that we find an apparently imported glazed steatite cylinder seal at Tell Asmar (in the Diyala region) that has a distinctly Indus Valley style design. Frankfort says of this seal:

[…] the peculiarities of design, as well as the subject show such close resemblances to the seals from the Indus valley that its Indian origin is certain (Text-fig.108). The elephant, rhinoceros (gharial), foreign to Babylonia, were obviously carved by an artist to whom they were familiar, as appears from the faithful rendering of the skin of the rhinoceros (resembling plate-armour) and the sloping back and bulbous forehead of the elephant. Certain other peculiarities of style connect the seal as definitely with the Indus civilisation as if it actually bore the signs of the Indus script. Such is the convention by which the feet of the elephant are rendered and the network of lines, in other Indian seals mostly confined to the ears, but extending here over the whole of his head and trunk. The setting of the ears of the rhinoceros on two little stems is also a feature connecting this cylinder with the Indus Valley seals.

A similar procession of animals, with a gharial placed above them, appears on a seal impression at Mohenjo Daro, and this and others of these impressions may well be derived from cylinders.

(Frankfort 1939, p.305)
Text-fig. 108. Imported Indian seal from Tell Asmar.

Fig. 80 Seal Text-fig.108 from Frankfort 1939, found at Tell Asmar in the Diyala region. It is made of a glazed steatite, typical of Period 2 piedmont style (but now identified with Susa), but the design is unmistakably from the Indus Valley, with an elephant, a rhinoceros and a gharial (Frankfort 1939, p.305).

There are other cylinder seals found in Mesopotamia that show definite reliance on Indus Valley design and construction (three from Phase 2 or 3 according to Frankfort 1939, p.305). In addition to the seal from Tell Asmar, one from Ur also has grooves incised at the ends that apparently would have at one time held metal caps in place. This construction technique found on both of these seals is “decidedly foreign to Mesopotamia” (Frankfort 1939, p.305). While Frankfort attributes the use of cylinder seals in general to “stimulus-diffusion” influence from Mesopotamia, what is certain is that in early periods, Phase 2 especially, importation of glyptics were coming into Mesopotamia. Where the cylinder seal was invented is less important than the fact that cylinder seals were being used by people in the Indus Valley (or at very least by people that knew quite well the ways of artistic representation in the Indus Valley), and that seals were exchanged in more than one direction. This supports the idea that there was true cross-cultural exchange in Phase 2 and earlier, rather than a unidirectional stimulus-diffusion method of interaction.

Any doubt of the influence that Mesopotamia received from the Indus Valley should be eliminated through another seal, Plate VIc (Frankfort 1939) which is unprovenanced (and therefore has not been included in Appendix 1, the Corpus of Glyptic Artefacts, but appears here in the text in Fig. 81). Frankfort unequivocally dates this seal to the Jemdet Nasr period (Phase 2), “as its technique and the tree-and-
mountain design make clear” (Frankfort 1939, p.307). But a central figure in the design is a composite monster, a mixture of a bull’s body with an elephant’s trunk. This is a design that appears at home among other southern Mesopotamian designs from the Jemdet Nasr period, with the exception of the composite monster image. Frankfort says that the figure is of, “a monster which is unique in Mesopotamian art but well known in the Indus civilisation, a bull with an elephant’s trunk” (Frankfort 1939, p.307).

Fig. 81 Seal b shows a typical Jemdet Nasr style seal, unprovenanced from the British Museum (B.M. 113875). Seal c is a similar seal design which Frankfort designates as having come from Mesopotamia, although it is also unprovenanced. In the centre of seal c is the bull-elephant composite monster typical of the Indus Valley, showing reciprocal influence between Mesopotamia and the Indus Valley (Frankfort 1939).

Clearly, however, by the middle of the 3rd millennium, a fully developed glyptic repertoire is attested in the mature Harappan civilisation (see Chapter 6 for details of the 3rd millennium Indus Valley civilisation). As in Mesopotamia, Egypt, Syria and North Mesopotamia, and Elam, the seals of the Indus Valley also had a full and independently developed script in place that also can be seen represented on the seals and impressions. Therefore in Phase 3, the qualitative difference of the communication systems, the systems of bureaucratic control, and the state-level
identity as represented in the glyptic artefacts is negligible between the Indus Valley and the rest of the newly formed states in the greater Near East. The Indus Valley also experienced these changes in Phase 2 and developed its own independent State-level identity in Phase 3.

Specifically, the elements particular to the Indus Valley are such:

- Square stamps seals are prevalent, although the occasional cylinder occurs (see Fig. 20 in Chapter 3 for a square stamp seal impression; Fig. 82 below for an example of a cylinder seal).
- The representations are generally of animals, particularly notable is the “Unicorn” bull (see Fig. 94 in Chapter 6).
- The designs are deeply engraved and evoke a general sense of “Indus-ness” in addition to more concrete elements that clearly define the Indus style.
- Indus Valley script signs are incorporated into seal designs.

In fact, the style in the Indus Valley is one of the strongest and most homogenous of all the styles to emerge in the 3rd millennium. This is no doubt indicative of a strong sense of identity that developed after Phase 2, the period of transition, and agglomerated in Phase 3, when we see other signs of a developing state-level identity emerge (see Chapter 6).

Fig. 82 Example of a late 3rd millennium cylinder seal inscribed with Indus Valley script and an Old Akkadian design. From Kaleno near the Turkmeni frontier. The Schøyen Collection (Private Collection, Oslo and London). (not included in corpus – Appendix 1) 
(seehttp://www.nb.no/baser/schoyen/4/4.4/441.html#2645)

MS 2645
Indus valley script, and Old Akkadian illustration.
North West Afghanistan, ca. 21st c. BC
H. The Aegean and the Eastern Mediterranean

While there is little evidence from Phase 1 glyptic in the Aegean and the Eastern Mediterranean, by Phase 2 we can see evidence for importation and borrowing of Jemdet Nasr style seals. At Lerna, Troy and Amorgos we see signs that the Eastern Mediterranean was interacting in the Near Eastern Network (Ben-Tor 1978). Crete, by the middle of the 3rd millennium was actively developing a very distinct emblemic style. We have little evidence for seal usage before this time, but this may be due to bad samples. In any case, although the Eastern Mediterranean seems underrepresented in the glyptic corpus, there was clearly participation in the Near Eastern Network as can be seen through other studies, including analysis of pottery (Amiran 1970 and 1970b) and obsidian (Cann and Refrew 1964; Dixon, Cann and Renfrew 1968; Renfrew, Dixon and Cann 1968).

In Period 2, we see evidence for Jemdet Nasr style cylinder seals appearing at various locations (Lerna, Troy II) indicating cross-cultural exchanges with the central Near East. Particularly active in these apparently maritime exchanges was Palestine, as we have see in Fig. 59, showing the similarities between a seal impression from Hazor (in Palestine) and Lerna (the Argolid). In much of the Eastern Mediterranean stamp seals were used in preference to cylinders, however. Lerna has revealed evidence of complex storage techniques that incorporate this use of stamp seals. That seals were being used functionally as well as symbols of identity shows that the cultures of the Eastern Mediterranean were also more-or-less peers that began to develop state-level identities in the 3rd millennium.

In the case of much of the Aegean, including the very rich Cretan glyptic (Kenna 1960) repertoire and the Lerna III assemblage (Heath 1958; Wiencke 1969; Wiencke 1974), it is difficult to see an assertion of emblemic style until the second half of the 3rd millennium (although it may have existed from early on – see Cycladic seal from Phase 2 in Fig. 49). Because we see Jemdet Nasr style imports in various Aegean or Aegean-related contexts, it is clear that seals and sealing practices and stylistic interaction were occurring by at least c.3000 BC at the latest (Frankfort 1939, p.301-2).

Why we cannot see earlier evidence of emblemic styles or complex uses of sealing methods earlier than Lerna III is unclear. It may be because the Lerna III
assemblage was deposited in such an unusually favourable condition (burnt layers at the House of the Tiles) that we even have this limited information, however.

In any case, by the mid-late 3rd millennium, assertion of identity can be clearly seen in many Aegean and Mediterranean contexts. For example, identical seal impression patterns can be found in Early Helladic II sites in the Argolid, such as Tiryns, Lerna and Zygouries (Aruz 1994). It may even be that specific itinerant artists actually sealed the immovable pithoi and hearths in each location. It may also be that the House of the Tiles at Lerna functioned as a central redistribution location for the Argolid\(^{11}\), indicating socio-political and economic agglomeration as well as simply sharing stylistic attributes.

Cyprus has revealed a couple of stamp seals and one seal impression from the Late Chalcolithic period (Lemba Lakkous stamp seal - LL 211 - Peltenburg et al. 1985, Plate 47.11; Kissonerga-Mosphilia seal impression - KM 15, and stamp seal KM 597 - Peltenburg et al. 1998; nota bene seal impression does not correspond to any known seal) but without extensive evidence for the functional use of seals as economic controlling devices it is difficult to say how the Cypriote examples were used. The seal impression from Kissonerga-Mosphilia, which may date to the first half of the 3rd millennium, was impressed into a limestone-paste, similar to the type of material used to seal containers (Peltenburg, pers. comm.), but as the fragment (KM 15 - see Appendix 1) is so small and does not show reverse impression, this is just an isolated object and difficult to draw conclusions.

We are becoming increasingly aware, however, of Cyprus’ early involvement with the greater Near East. For example, recent excavations (Crewe, Peltenburg and Spanou 2002) at Souskiou-Laona Cemetery (dating to the Late Chalcolithic period -

\(^{11}\) It should be noted, however, that this economic interpretation is not accepted by everyone. It is also argued that the foreign influences are too great to be considered locally used, and imposition of an administrative system from a foreign source is a better interpretation (Weingarten 1997). In fact, Weingarten actually goes so far as to interpret the Lerna sealings as evidence for a ‘colony’, or a trading post. This alternative conclusion brings us right back to the core/periphery, stimulus-diffusion model that is being argued strongly against in this thesis. Furthermore, the stamp impressions have such distinct designs that they make up a homogenous group with characteristics shared by other neighbouring communities. This seems to indicate an assertion of identity.
late 4th millennium BC), have produced the earliest known example of glassy faience beads on Cyprus. Faience production was technologically intensive and it is likely that these beads were either imported or the technology itself was imported (from Egypt or, more likely, Syria; Peltenburg, pers. comm. - *Nota Bene* - work on these faience beads is still underway). In spite of this evidence, for the time being Cyprus can be thought of as doing something different from the rest of the Near Eastern Network. We still know so little about this time period in Cyprus, and it will take more excavation (especially in North Cyprus) to figure out how Cyprus fits into the 'big picture'.

Why was Cyprus not a bigger participant in the Near Eastern Network? The answer to this question must come after we understand more about this time period in Cyprus as a whole. Perhaps it was because they had not adequately exploited their local copper resources and they had little to offer the Near Eastern Network. Or perhaps it was the other way around and their local economy and culture was sustainable and participation in the Near Eastern Network was therefore unappealing. These are merely speculations. Cyprus as an example of an outlier to the overall trend in the greater Near East seems almost as though it is the exception that makes the rule: if interaction was not occurring between more-or-less peers, the social transformations would not happen. Evidence for Cypriote sealing practices is all but absent. Cyprus may in the future, however, surprise us with added information.

On the other hand, it is entirely possible that the strong preference in Cyprus to maintain traditional architecture and other forms of material culture in spite of changing social structure (Spanou 2001) may indicate a resistance to conform to 'foreign' cultural influence. In this way, Cyprus might indeed have been asserting a regional identity by simply choosing not to participate in the Near Eastern Network in the same way as their neighbours. This would indicate a *strong* sense of identity rather than an inadequacy or lack of social sophistication.
Conclusion

Synthesis

Why does the presentation of the Corpus of Glyptic Artefacts (Appendix 1) necessarily equal a reflection of state-level identity? As was mentioned in Chapter 1, it is not intended to necessarily prove anything through artefactual analysis; rather, it is intended that a viable model be proposed that suits the facts in a productive and precise way. It is argued that the model being proposed in this thesis indeed fits the facts as exemplified by the patterns observed in the glyptic corpus.

As discussed in Chapter 1, style itself is both an expression of identity and a way in which identity is created. Therefore, the patterns of stylistic agglomeration in Phases 2 and 3 can be interpreted as reflecting social identity. Because we can see a shift in the stylistic patterns from Phase 1 into Phase 3, we must explore explanatory models for the way in which these patterns formed.

Seals did not simply exist as a passive economic or bureaucratic device. They were actively created as material signs of a cognitive reality. This form of signification as an expression of cognition offers a unique glimpse into the way in which the societies considered here solidified around symbols of identity. This becomes difficult to describe because the interplay between cognition and material culture is inherently a diachronic phenomenon; archaeologically, we normally have ‘snapshot images’ (i.e. something is Phase 1, 2 or 3). We can in some instances see a progression of solidification in regional styles (see progression of abstraction in Figs. 74-77), but due to problems of chronology in Phase 2 (see Chapter 3), the most pronounced difference in stylistic patterns should simply regarded as being between Phase 1 and Phase 3.

The evidence pulled from various archaeological sources consistently points to a model that calls for a change in social identity occurring sometime during Phase 2 (and increasing in solidification in Phase 3). Patterns in the seal styles show that the formation of state-level identity at the beginning of the 3rd millennium can be seen.

Seals and other artefacts as forms of signification will be approached further in Chapter 7. In Chapter 7, seals will be inserted into theories about how
signification (in various forms) affects and is effected by social realities, especially including power structures. The patterns observed in the glyptic corpus will thus be argued to be indicative of social realities that existed as an interplay between cognition (collective and individual) and material culture.

**Memeplexes**

The analyses in Chapter 5, while important for simply being the first observations taken from a database of all of the seals and impressions during this time period, show us something extraordinary. The seals themselves represent the ideas of the ancient people, the Glyptic Corpus represents the collection of all of the ideas of these ancient people (as expressed through seal production and use), and the interpretations provided are based on a collection of these ideas. So in this final part of Chapter 5, it is important to address exactly how seals and the Glyptic Corpus fit into the model of social change being promoted in this thesis.

The reader is reminded of the Mind/Material Loops shown in Chapter 1 (Figures 1 and 2) in order to place the seals themselves into the overall composition of reality. It is important to note, however, that the reality of the time period being approached here was not static; it was being created. Seals in the 4th millennium did not merely reflect emblemic qualities of state-level identities, because they were some of the very mechanisms through which this identity was forming. It is not until we see the preference for certain emblemic memes and the exclusion of other memes (as seen here in the glyptic) that we can truly speak of a state-level identity.

In fact, this identity was, to some degree, a conglomeration of the memes that had co-existed in the 4th millennium, only to be selected or excluded in the 3rd millennium. For instance, a slender, elongated seal may represent a meme that one might call an 'elegant meme', and may have been preferable to some communities; a blockier seal may represent another meme, perhaps a 'bead-like meme', and would have just seemed more natural to other communities. All of the memes that went into the formation of the identities of these communities would have then been embodied in the emblemic styles of the objects. Because these objects were created by craftspeople (see Figures 1 and 2), they were reflections of the memes and constitutive of the memeplexes that they were representing.
Therefore, by observing the Glyptic Corpus, we have not only traced the trajectories that the ideas and identities were taking, we have also observed the actual processes by which these trajectories came about. It is through a combined look at the cognitive and the material, both of which can be picked up in the glyptic objects, that we can begin to see how the identities, through their constituent memes, began to respond to increasing complexity. In the 4th millennium, it is evident that there was a great deal of interaction throughout the Network (refer to Chapter 4). The Glyptic Corpus presented in this chapter reinforces the evidence for a Network, and also shows some of the subtle nuances that were developing from that interaction.

For instance, at Susa, a site that had a great deal of interaction with Mesopotamia, seems to have developed parallel lines of glyptic styles in the late 4th millennium, co-existing at the same site. In the 3rd millennium, the Mesopotamian style was dropped in favour of what, apparently, the proto-Elamite inhabitants considered to be local, or representative of the state-level identity that they wanted to promote as dominant in that region. The increasing complexity brought on by the interactions inherent in the Network could not be representative of state-level identities. Simplicity was needed for identification. New memes were created that incorporated a whole mesh of ideas, systems and structures. These memes, and their expressions in seals were the ‘flags’ for this new identity. In a way, this was one of the simplest forms of communication; in another way, it was one of the most sophisticated, and in fact, this simplicity can be thought to be development of an increasingly sophisticated form of signification.

In Chapter 7, some of these issues will be discussed further. Presently, it is important to observe that seals had an important role in the formation of state-level identities. The seals observed in this chapter were part of the process of the emergence of state-level identity; the patterns that can be picked up in the glyptic corpus are actually signs of emerging memeplexes. In other terms, these patterns show how the spread of the idea of seal use coincided with how the idea of state-level identity ‘infected’ (Sperber 1996) the minds of people in the greater Near East at this time.
Seals in particular are important for a number of reasons, including the following:

1.) Seals were creative outlets for an increasing number of memes and memeplexes in the minds of craftspeople and seal users/owners.

2.) Seals, once created, served as a material reference to these memes and memeplexes.

3.) Seals communicated these memes and memeplexes and, importantly, represented instructions for understanding culture.

The final point (#3) is significant because in Phase 1 and some of Phase 2, communicable references in seals (colours, materials, designs, size, symbols, and later scripts) appear to be open, understandable and representative of many different sites and regions. Beginning in Phase 2 and continuing in Phase 3, these instructions were open only to those to whom they were referring. Certain elements may have continued to be borrowed, but this is most likely explained by a desire to be included or be perceived to be included by emulation, rather than openness in the newly formed system. To a 'local', the different elements of seals served as communicable referents, in much the same way a university coat-of-arms serves to embody the spirit of the institution for its students (see Chapter 2, Fig. 6).

Therefore, the large-scale social transformations that took place in Phase 2 and solidified in Phase 3 were in part the result of a communication of ideas. These ideas were communicated through, among other things, seals. These seals communicated the ideas, but in the act of communicating, a simplification occurred, creating identities, states, and 'civilisations'. Thus the very essence of state-level identity is a simplification of complex ideas into easily manageable memeplexes. In seals we can see the very process of creating a state-level identity. The analyses herein should not be looked at as simply study of artefactual assemblages; these artefacts were attached to, and in turn created, ideas in the minds and in the collective minds of people. These analyses are therefore an attempt to study the culture change from an integrated approach, using minds and materials.
Chapter 6
Phase 3: The New World Order and State Level Identity

What often initially attracts people to the study of the Urban Revolution are the many wonderful things that mankind produced after the “Revolution” occurred. Surely, undue emphasis should not be placed on singularly anomalous remains such as the Great Pyramids of Giza, or the Royal Cemetery at Ur, when these were clearly outliers to what “normal people” would have encountered in their everyday lives. Nonetheless, the idea of an “origin” of what we have come to call “civilisation” is appealing to many. It has been the attempt of this thesis to supply a model for this origin that accounts for the richness and complexity of human development, rather than trying to follow a monocausal trail.

In Chapter 5, it was shown that the “moment” in time (granted, this moment lasted 200-300 years!) where the old system began to break down was gradually replaced by a new system that began at around 3100 BC. With this in mind, we should hereafter think of all that occurred within the Near Eastern Network as operating from within a new system, functioning by different rules, and expressing different characteristics. Therefore, Chapter 6 will attempt to illuminate what some of the characteristics of this New World Order were.

This is a subject that has already received a great deal of treatment in other sources. The term “civilisation”, which of course comes from Latin “civitas”, meaning city, has come to be synonymous with the achievements of the 3rd millennium. If, by civilisation, we mean being defined by urban communities, then we should look much further into antiquity to find the earliest expressions thereof. But here it will be supposed that “civilisation” as meant in common understanding, means the state level society that we see in the 3rd millennium BC. Right or wrong, any other attribution of the word would be defying popular usage and understanding.

State-level identity will be shown to be a defining feature underlying the system in which we see the both the great achievements and the mundane everyday inner-workings of 3rd millennium society and economy. The main points where the 3rd millennium identity differs from 4th millennium identity will be spelled out in this chapter. Much of it will be a review of previous work done by other scholars, but when taken in conjunction with the definitions of Phases 1 and 2, the distinctions between the systems of the 4th and 3rd millennia will be clear. Therefore, although many of the actual material remains may be the same in 3500 BC as they will be in 2500 BC, the systems of which they were a part are very different. Thus, the transformation that we see occurring in Phase 2 was not a technological revolution based on material primacy, but rather a “virtual” transformation based in cognition. An identical item in 3500 BC would have a very different place in 2500 BC because it would be perceived differently as a part of a new system.

In the previous chapters, emphasis has been placed on the idea that diffusion was occurring at a scale that has consistently been underestimated in the past.
'Ultra-diffusionism', is not too far from the mark when describing the approach taken in this thesis. In Chapter 6, the emphasis will shift from describing the range in which interaction was occurring to the way in which indigenous cultures were manifesting themselves independently and assertively. By now, increasing sources tell us that long-distance exchanges were occurring more often than ever. But the focus here will be to show that the regions formerly thought of as "peripheral" to the "core" of southern Mesopotamia were not the cultural backwaters as they have been previously depicted. These "peripheral" areas were not desperately trying to keep up with the far more advanced southern Mesopotamian civilisation. On the contrary, through various material expressions of identity it can clearly be seen that they were trying to distance themselves from their integrated past and to assert themselves as independent states in their own right.
Section I

Society Structured within a New Framework

An important facet of the social transformations that took place between Phases 1 and 3 is that the differences between the two periods are not essentially artefactual, but rather cognitive. Many of the artefacts that have often been thought to be indicative of "civilisation" would have already been widely used in Phase 1. The reason for this is that the transformation was not simply a material one, but developed from a new outlook on the way the world operated. The social and cognitive changes that took place during Phase 2 reorganised the pre-existing material and artefactual world into a new framework. Many aspects of life would have been effected, and this eventually would have been represented in the archaeological and artefactual record, but not until after the new cognitive framework had been well established.

This line of thought is better explored from a theoretical perspective, but it is important to provide the archaeological data in a chronological sequence, in order to substantiate the models that will be formed. Very few new data will actually be presented, because it is not the point of this thesis to offer new facts that will challenge other archaeological models for the origins of civilisation. It is intended, however, to offer a new outlook on the already well-studied objects and archaeological information based on the idea that material objects (representations) and their analogous ideas (memes – see Chapter 2) are distinguishable from one another. It will be attempted to show that even though many of the objects associated with early states may have been present in Phase 1, it was not until the cognitive and social transformations occurred that we get a restructuring of these objects and institutions under a state-level framework.

The basic structure of this chapter will be to simply give an archaeological and synthetic account of what the 3rd millennium was like in general. Specific sites and artefacts will only be brought up as they are needed to illustrate certain points. Many of the regional sketches may be familiar. This synthesis is merely trying to provide a brief picture of the development of regional trajectories of 3rd millennium cultures, as opposed to the Near Eastern Network of the 4th millennium (Chapter 4).
Next, the topic of early writing will be revisited from the earlier treatment in Chapter 4, this time with more detail. Although "writing", in the sense of two-dimensional scripts, did exist in Phase 1, it was not until the development in Phase 2 and the solidification of being representative of spoken speech in Phase 3 that it came to be a clear representation of regional state-level identity.

Even though regional state-level identities and strong city-states will be shown to be the new order of things in the 3rd millennium, this does not mean that communication and exchanges were cut off. On the contrary, this new system could not have worked with each of the participants in isolation. Therefore, some discussion of exchange-relations in the 3rd millennium will, once again briefly, give a general overview on how each of these newly formed states interacted among one another.

Finally, some discussion on how this system was organised according to layers of identity (some new layers, some old) will be approached. The basic idea behind state-level society is one of identity; but to have an identity there must be something to identify with and something to identity against. Therefore, the final section, which will lead into the theoretical modelling in Chapter 7, will deal with 3rd millennium concepts of “Self” and “Other”.

Society and Economy

Southern Mesopotamia

Algaze (1989) espouses the view that in the 4th millennium the seed of ‘high civilisation’ was sown in southern Mesopotamia, and only later spread to other cultures. The chronological and cultural primacy of southern Mesopotamia is never for a moment doubted in his account. Algaze (2001) has reiterated this point in a more recent publication. As has been seen in Chapter 3, the chronological primacy of southern Mesopotamia clearly should be doubted, and the cultural primacy of southern Mesopotamia has been shown (Chapter 4) to be merely a difference in scale rather than one of kind. Furthermore, finding a “core” for the Uruk material culture is an impossible endeavour; is a "core" a person, a city, a region? In this section, it is important to stress and iterate that the cultural transformations discussed in this
thesis occurred only after the Uruk cultural influences into the 'periphery' withdrew, and the seed for the 3rd millennium southern Mesopotamian culture should not be sought in Phase 1, but in Phase 2.

In the 4th millennium, there is no evidence that large-scale social or political hegemony existed within South Mesopotamia. As was illustrated in Chapter 4, the Uruk-style influence extended well into northern Mesopotamia and northern Euphrates, and even across to sites in the East such as Susa. This is not to say that the importance and eminence of Uruk itself should be forgotten, but it must be remembered that there is very little evidence which dictates that these Uruk "influences" were either unidirectional or the result of a conscious colonisation.

In fact, the wide spread of the Uruk-style artefactual and architectural influence emphasises the fact that regional boundaries did not exist, or were not clearly defined in the 4th millennium. Lack of boundaries works both ways, and it can be assumed that if influence spread as far as it did through the Network that was in place, the cultural influences must have been powerful, attractive and expansive. That these cultural influences were expansive indicates that an inward-looking cultural hegemony in South Mesopotamia did not exist in the 4th millennium.

The picture we have of the 3rd millennium is much different. Beginning at our Phase 2, but certainly by our Phase 3 (Early Dynastic I), a system had emerged in the South that shows clear indications of increasing socio-political hegemony and consolidated power structures. We have seen in Chapter 5 the implications that the 'city seals' from southern Mesopotamia suggest. In this section, we will consider more evidence from the 3rd millennium in order to try to reconstruct the society and economy of South Mesopotamia in terms of the new system that was established.

The Kengir League

By the middle of the 3rd millennium, it is estimated that approximately 80% of the population of South Mesopotamia lived in cities of 40ha or more (Kuhrt 1995, p.31). This necessitates that we must think of southern Mesopotamia as predominantly urban, while still interacting and co-operating with non-urban groups. Many of the cities underwent great and rapid transformations and population increases from the beginning of the 3rd millennium through the Early Dynastic
periods. In fact, some cities, such as Shuruppak (Fara), were even founded in Phase 2 (Jemdet Nasr), and by the end of ED I some 200-300 years later it had reached approximately 70ha in size, continuing to expand until the end of the Early Dynastic period to reach 100ha (Kuhrt 1995, p.32; Martin 1988).

The artefactual remains from Shuruppak indicate a high level of social organisation, and a complex economy. Literary and scribal texts recovered from Shuruppak dating to around the middle of the 3rd millennium show a remarkable similarity to and duplication of texts dating to the same time period from Abu Salabikh (Kuhrt 1995, p.32). This shows that there was a great deal of interaction and collaboration in the formation of social and ideological practices between different cities, in addition to the economic aspects of sealing practices as seen through the ‘city seals’.

This is not to say that conflicts did not arise between these newly formed city-states. Some of the first hard evidence for widespread warfare in this part of the world comes from the 3rd millennium, as seen in city walls, depictions of slavery and warfare (Algaze 2001), and weaponry (Watkins 1989). The leaders of the city-states invariably had a connection to warfare and military power (Kuhrt 1995, p.36). Rather than being an indication of disparity between rivalling city-states in southern Mesopotamia however, these military conflicts underscore the close ties between the cities in southern Mesopotamia. The title, ‘King of Kish’, first evinced in the Early Dynastic period¹ (Kuhrt 1995, p.42), may very well have been political propaganda representing a wider cultural sense of hegemony among the inhabitants of the southern alluvium (Kuhrt 1995, p.42). An earlier allusion to this hegemony can be seen in the either founding or rapid growth of certain cities, especially Shuruppak, Nippur, Kish and Eshnunna. That Kish was actually founded during this Phase 2 is indicative of when the southern Mesopotamians regarded the institution of kingship itself beginning. The title ‘King of Kish’ could not possibly directly refer to institutions that were in place before the founding of Kish itself!

On a similar note, Nippur, which served as the religious centre of southern Mesopotamia in the 3rd millennium, also saw a flowering during the ED I period (Phase 3). The ED I period attested at Nippur, once thought to be short and rather

¹ Mesalim, ruler of Lagash, uses this title in the ED III period (Kuhrt 1995, p.27; p.42).
insignificant, now appears to be an important formative phase from around 2900-2700 BC (Kuhrt 1995, p.28). From Nippur, “the evidence has not yet been published, but the basic results are being incorporated in studies, and are profoundly affecting the image of this period” (Kuhrt 1995, p.28).

Nippur may also have served as the centre for resolving intra-Sumerian ad hoc disputes (Jacobsen 1957, p.110). According to political expressions known from later textual evidence, “the king of all Sumer is elected in an assembly of city-gods in Nippur” (ibid., p.116). In fact, the centrality in the socio-political climate of 3rd millennium Sumer can be summed up by the well-known designation of the overarching social/political/religious/economic concept of the Kengir League:

If we look, then, for original political realities which can have given Nippur its prestige as source of kingship over all of Sumer, and which at the same time can have shaped the specific concepts which we encounter in the myths and the later political theory it is difficult to avoid the conclusion that Nippur was originally the meeting-place to which the citizens of the Sumerian cities assembled to elect common leaders “lords” or “kings” as the case may be.

With such an assumption agrees well the only term we have for Sumer as a political unit, the term Kengir; for there is good evidence that this term was originally a term for Nippur itself, and it is understandable that a political organization created in Nippur meetings should take its name from the meeting place. Another term of interest is the designation bara(g)-bara(g) Kengir-a(k) used for rulers of cities forming part of the Kengir organization and which contrasts with ensi(g) kur-kur-a(k) “the ensiks of all the sovereign countries.” It seems likely that bara(g) “throne-dais” refers to the seats on the Nippur assembly and that the meaning of the term thus is “all the throne-daises of Nippur.” To have a convenient name for the assumed original organization of Sumer as a whole under the form of “Primitive Democracy” we may – since its temporary and loose character preclude terms like “state” or even “nation” – choose the relatively noncommittal term “Kengir League”.

(Jacobsen 1957, p.106)

Clearly, without any real evidence for cultural hegemony to the extent that one gets in the case of the Kengir League, coupled with the fact that this cultural hegemony itself was founded in Phase 2 (as seen in the archaeological record), the idea that Algaze maintains that the Uruk expansion was the conscious decision of a unified South does not hold up to scrutiny. Moreover, there is nothing even to suggest that either the South was primary, or that the North was “peripheral”.

276
Northern Mesopotamia

While problems confronted when examining North Mesopotamia, northern Euphrates and Syria are manifold, there are a couple of difficulties that stand out in particular. First, we lack a great deal of data regarding the crucial 4th – 3rd millennium transition, as much of the early 3rd millennium remains are unexcavated due to successions of massive architecture that followed. Large sites such as Tell Mozan, Tell Brak, Tell Leilan and Tell Beydar are only beginning to yield the wealth of information that lies below later occupations. At Tell Beydar, for example, the Ninevite 5 occupation (with both painted and incised sherds), begins at nearly 19m above the surrounding plain (J. Bretschneider, pers. comm.). It is clear that our archaeological understanding of sites in the North in Phases 1, 2 and 3 is inadequate. Until more excavations continue and more information is obtained, this region will remain in a prehistoric fog, and conclusions will be speculative at best. Secondly, a satisfactory overarching and integrated synthesis for this region has not yet been written. This is not due to lack of quality scholarship, however. The cautious work done by many scholars has actually shown that an overall view of the society and economy of North Mesopotamia is difficult to describe. It is not until we begin to have written records at sites such as Ebla, Mari and Tell Beydar that we begin to see scholarly syntheses on these subjects.

The archaeological material that we have recovered can, however, give us some idea of the place of North Mesopotamia in the larger scheme, as is being approached in this thesis. We have already looked at how North Mesopotamia and the northern Euphrates area were integrated into the large Uruk-cultural system in the 4th millennium through an architectural overview of sites such as Jebel Aruda, Habuba Kabira, and alternatively Arslantepe, etc. (see Chapter 4). In spite of the difficulties we face regarding the information we hold on the North in Phases 2 and 3, let us consider the 3rd millennium in the North and the socio-economic transformations that occurred therein.

No Kengir-League

One of the most striking observations that one can make regarding the nature of 3rd millennium society in the North is its overall dissimilarity with the South.
With all of the supposed contact that was being made during the “Uruk-expansion”, and with all of the evidence of cultural affinity during the 3rd millennium, one would expect more similar types of socio-economies. Where we saw the purported Kengir League in the South, this type of uniformity does not appear in the North until after the Early Dynastic period, with the Sargonic Empire.

Glyptic styles in the North take on a flavour of their own and establish themselves as being distinctly “Northern” or “Anatolian”. In Ebla, affinity with the Levant and trade contacts with Egypt are evident (possibly through Byblos and environs by this time), and as a polity Ebla even rivals the city-states of southern Mesopotamia in size, complexity and wealth. A system of government, independent and free from southern Mesopotamian control, with the malikum (king) at the head and a body of elders governing, can be gleaned from the upwards of 8000 pre-Sargonic texts recovered (Kuhrt 1995, p.41). These texts and the language they represent are discussed in the section on writing below (this chapter). The information in these texts informs us of an advanced economy that makes use of its prime location along major trade routes. South Mesopotamia was merely one of Ebla’s exchange partners, and these exchanges may have even taken place via Mari as an intermediary, with which Ebla had active relationships.

Linguistic cross-cultural contacts were occurring up and down the Euphrates/Khabur, however, and as is seen at Mari and Ashur especially, there was a strong affinity with the South (especially with Ur, as seen in prestige items recovered from Mari; Kuhrt 1995). But even with these increased contacts in parts of the North, there are recognisable differences, and both a clear exclusion of the Northern city states from the ‘Kengir League’ on the part of the southern Mesopotamians and a genuine sense of autonomy and independence in the North.

Perhaps the difficulty (see above) of creating an overarching synthesis of North Mesopotamia is, however, due to a lack of an overarching hegemony. Though we have seen evidence for socio-political and economic integration in the South, perhaps there simply was very little of this occurring in the North. In fact, by the time we have documentary evidence from Ebla and Mari, it can be shown that the northern city states (and additionally others such as Tell Chuera, Tell Brak, Tell Leilan, Tell Taya, etc.) were large and powerful enough, and that they possessed an
economic independence, that they may not have needed an equivalent to the South's Kengir League. Indeed, Jacobsen (1957, p.109) suggests that the Kengir League itself may have been formulated in the South in response to an increasing "common danger" in the North.

The Ninevite 5 period in northern Mesopotamia begins at approximately the turn of the 3rd millennium, contemporary with the end of the Jemdet Nasr period in southern Mesopotamian terminology. The Ninevite 5 period appears to have lasted through a large part of the 3rd millennium, characterised by the Ninevite 5 pottery sequence first established from level 5 of the prehistoric sounding at Nineveh (Mallowan 1933; Schwartz 1994, p.156). The pottery type is native to the region of northern Mesopotamia including the upper and middle Khabur drainage into the northern Jazira, and the Assyrian plains east of the River Tigris.

Tell Leilan reached a size of approximately 15 ha at the beginning of the Ninevite 5 period, but by the end of the period (c. 2500 BC) it had expanded to nearly 90 ha. Tell Leilan typifies the development of social complexity in northern Mesopotamia during the 3rd millennium, reaching large-scale population agglomeration during the end of the Ninevite 5 period. Also, Tell Leilan exhibits a shift from two-tiered to three-tiered settlement pattern, indicating an advance into a more complex site hierarchy (Schwartz 1994).

Mari exhibits exceptions to the general rule that the middle of the 3rd millennium was the period of state-formation in the North, as Mari may represent a reflection of the regional state-level identity of this region beginning in Phase 2. This would put the formation of state-level identity in the North as roughly contemporary with similar manifestations in the South (e.g. Kish). Until more is understood about the early periods of Mari, however, Phase 2 in the North will remain obscure.

The situation at Mari is actually symptomatic of the overburden that later periods have on the late prehistoric strata. Recently, Tell Beydar has revealed both painted and incised Ninevite 5 sherds approximately 19m above the surrounding plain (as mentioned above), indicating that there is undoubtedly a rich and interesting 2

2 Interestingly, in 2002 a wedge-incised sherd and a possible blank tablet were found in a secure Ninevite 5 context (McCarthy and Ristvet, forthcoming).
prehistory to the seemingly “precocious” nature of Tell Beydar’s Presargonic accomplishments (see below – 3rd millennium scripts).

**Anatolia**

In Anatolia and in particular Arslantepe, as was approached in Chapter 4, stylistic influence at the end of the 4th millennium was not just coming from southern Mesopotamia. On the contrary, influences from the North, and in particular from Azerbaijan / Transcaucasus region, were gaining popularity in material culture expression. Dating to perhaps 100 years after the VIA period, a “Royal Tomb” was recently discovered at Arslantepe that shows strong connections with the neighbouring northern cultures from Azerbaijan. The tomb was a 5m diameter pit with a cist grave at the bottom that was covered with two stone slabs (Frangipane 2001). The remains of four adolescent people, three female and a fourth probably male, were found on top of the slab. They were probably sacrificed. Among these victims were two copper/silver alloy diadems, copper pins and other artefacts, many with Transcaucasian decoration (Frangipane 2001).

In the tomb itself (under the slab) was buried a single male with sixty-four metal objects in total. Nine spearheads were of the exact same type as the spearhead found in Period VIA, one of which with triangular silver inlay similar to the sword handle from Period IVA mentioned in Chapter 4 – which shows Kuro-Arax influence. Also included in this interment were Mesopotamian and Transcaucasian ceramic wares alongside one another (Frangipane 2001). Timber from the tomb construction has been recovered and dated, giving a range from about 3030-2930 cal BC for the tomb (Frangipane 2001 – although the individual radiocarbon determinations were not available by the time of the completion of this thesis).

After this tomb, things changed dramatically at Arslantepe. It should be noted that the radiocarbon dates for the tomb point to exactly the same time as Phase 2; therefore, the evidence that exists after this tomb can be considered late Phase 2 early Phase 3. At around 3000-2800 BC (Frangipane 2001) evidence for an acropolis and fortified city being founded is attested at Arslantepe. A large wall near the top of the mound appears at the beginning of the 3rd millennium. Frangipane (2001) takes this to mean that at this time there is a transition from one type of
society and administration to another. Furthermore, and importantly, this new type of society and economy no longer shows affinity with either Mesopotamian or Kuro-Arax (Transcaucasian) influence. The local pottery styles in particular superseded any Kuro-Arax influence that had earlier been so ‘high profile’ (Frangipane 2001). Apparently, the last expression of the old system of the Near Eastern Network died with the person in the “Royal Tomb”, because afterwards (in the 3rd millennium), the newly formed Anatolian state had established itself using locally derived expressions of identity.

**Elam**

Elam in the 3rd millennium remains enigmatic, although there are some general comments that can be made. Most important to note are two things: a reorganisation occurred at the end of Phase 2, and that a true regional identity emerged as clearly separate from the regional identity of southern Mesopotamia. More information will also be given in a section on 3rd millennium writing in Iran, and here we shall focus on the archaeological, chronological and cultural data in an attempt to formulate a general impression of the character of Elam in the 3rd millennium.

Contemporary with the withdrawal of the Uruk-type culture from areas outside of southern Mesopotamia were restructurings at Uruk and the rest of southern Mesopotamia itself. The series of temples in Eanna level IV were put to an end, and the characteristic Jemdet Nasr culture took over, although definite ties to the earlier Uruk tradition are clear. According to scholars such as Algaze (2001), Susa in the Uruk period was part of the Uruk “core”, whereas the “colonies” in the North were not. If this were true, one would expect that Susa would adopt the Jemdet Nasr material culture, which would then establish itself as it did in southern Mesopotamia.

It appears that Susa has been added to the Uruk “core” by Algaze as an attempt to salvage the core-periphery model that would not stand up to the fact that Susa itself displays strong autochthonous cultural characteristics. Explanations for the restructuring that occurred in Iran have been sought from various sources, including the arrival of the Yanik culture from the north which brought about the
abandonment at Godin Tepe V (Amiet 1979, p.199), or the withdrawal of the Uruk colonies. Both of these explanations emphasise exogenous motivation for the late 4th – early 3rd millennium restructuring in Iran. It is argued here that the establishment of the 3rd millennium social structure in Iran was due to a shift in identity of the inhabitants, and therefore the explanation should be sought internally.

In Phase 2, the ‘piedmont’ style seals proliferate throughout much of the greater Near East. Pittman (1994) has argued that the ‘home’ of this type (the glazed steatite style) of seal is truly in proto-Elam (Iran), and not in southern Mesopotamia or the Diyala, as had been previously thought. “In the 3rd millennium, when Iranian and Mesopotamian glyptic styles diverged, the ‘piedmont’ cylinders represent a notable continuing link between the Proto-Elamite and Sumerian realms. Rather than a shared sealing style and practice, this is one instance where it may be plausible to explain the overlapping distribution in terms of highland-lowland trade, the sealings travelling with Iranian goods into the lowlands” (Potts 1994, p.66). From Potts’ argument, we can see that proto-Elam was emerging with a distinct style in glyptic form. One of these styles (‘piedmont’) was directly linked to exchange relations with the West (Diyala and Sumer). These relations were no longer marked by blending and borrowing of cultural traits (as Susa and Mesopotamia in the 4th millennium had been almost indistinguishable stylistically), but were instead clearly separated as different cultural groups.

Timothy Potts, however, rightly questions a purely economic model for the development of a proto-Elamite state. Neither trade nor agriculture seems sufficient to Potts to warrant the great developments that took place in Phase 2 and continued into Phase 3, even though, “the Proto-Elamite period was one of pronounced internationalism” (Potts 1994, p.83). In what amounts to our Phase 2, Potts’ arguments closely mirror statements made in this thesis: “The wide distribution of administrative devices and records indicates that people travelled freely and ideas were exchanged across areas of the plateau with widely different resource potentials” (Potts 1994, p.83). This system of administration and control of resources was distinctly Iranian, not Mesopotamian, however. Therefore, the idea of an ‘Uruk-colony’ lasting into the 3rd millennium is entirely unfounded.
By Phase 3, however, this ‘internationalism’ had developed into a fully developed, regional style indicative of a state-level identity. The identity of proto-Elam is even referred to in various Sumerian literary texts, which clearly shows that the Sumerians believed that the proto-Elamite culture was distinct and more-or-less equal at least as a rival state. There may have even been a “King of Kish” (Enmebaregesi) from the Sumerian King List that attacked Elam (Potts 1999, p.87-8). Also, there may have even been a “transfer of kingship from Ur I to the Elamite city of Awan, tentatively located in Susiana or the neighbouring highlands” (Potts 1994, p.91).

In addition to inferential and archaeological references, there are at least four poems that more than likely refer to Elam: Enmerkar and the Lord of Aratta, Enmerkar and Lugalbanda, Lugalbanda in Hurrumkurra, and Enmerkar and Ensukhešdanna (Potts 1994, p.90). Even if these early examples of literary documentation do not refer specifically or actually to what we call ‘proto-Elam’, it is clear that Sumer had a powerful regional identity, but by definition did not hold this identity in isolation. It does indeed seem likely that these texts refer to another kingdom that existed to the East (Potts 1994, p.91). Even if these myths are just ‘fairy tales’, it seems clear that the establishment of an identity in Sumer meant that there was something to identify with, and something to identify against.

In Phase 2, we have evidence of proto-scripts in the Susa III period (Potts 1999, p.84); likewise, we see these proto-scripts evinced in sites throughout the Highland region during this same time. Additionally, Tall-i Malyan was steadily increasing in size during this period, and by the end of Phase 2, beginning of Phase 3, we can see the construction of a city wall. This evidence tells us that while Susa remained a regional centre, a new system was beginning to be established. This new system was one where shared stylistic traits began to agglomerate and identity solidified. In the locations where we find evidence of this script, it seems clear that these shared traits were understood. The easternmost proto-Elamite tablet found so far comes from Shahr-i Sokhta, and this indeed seems to be the limit of where an ‘Elamite’ presence can be felt (Potts 1994, p.288).

In the 3rd millennium before the Sargonic period, “nothing suggests that sustained political influence was ever exercised by a Mesopotamian city over one of
its eastern neighbours" (Potts 1999, p.101). Although there is "generally increased traffic between southwestern Iran and southern Mesopotamia through the middle of the 3rd millennium", a distinctly Iranian culture emerged, albeit one that consisted of several inter-related but discreet parts (Elam and Awan referred to in southern Mesopotamian cuneiform sources). The Susa III (Susa) and Banesh period (Tall-i Malyan) developments ended in major reorganisation of social structures, suggesting that, "a major break in the sequence occurred around 2900 or 2800 BC". (Potts 1999, p.90)

The centres that had flourished in Phase 2 were either abandoned or greatly reduced in population and developments at other locations resulting in the establishment of new state-level identities are attested dating to early in Phase 3. Potts (1999, p.92) ascribes the identity of Awan to the Godin Tepe III:6 assemblage. We know from textual sources that, "Awan was the region responsible for the overthrow of the house of Kish, and it is with Awan that I propose identifying the assemblage just described" (i.e. Godin Tepe III:6). (Potts 1999, p.92) At Susa, however, there seems to be a dominance of Early Dynastic southern Mesopotamian forms of imagery in the 3rd millennium. This dichotomy in Iran reflects the mixed nature of the population and identity (Amiet 1979) before and after Phase 2; but in spite of this the 3rd millennium saw the creation of a state or states in Iran that were equal to or rivalled those in southern Mesopotamia.

Egypt

Dynastic Egypt in the Archaic Periods

Certainly, we know much more about the historical periods in Egypt due to the fact that we have written documentation, even if not all aspects of life were written about. In spite of this, "the archaic period covered by the first two dynasties is largely unknown to us" (Aldred 1965, p.53). The plundered tombs at Abydos and

3 Although, as Potts (1999, p.90) comments, "Early Dynastic Mesopotamian styles became dominant in glyptic and statuary forms", this is in reference to the site of Susa itself, where a dual-identity can be attested (Amiet 1979).
Saqqara leave much to be desired and the dates and even the order of the kings of the first dynasty are still debated. “Nevertheless from a comparison of what precedes and what follows, we can see that the economic and cultural leaven introduced by unification continues unabated” (ibid., p.53). The foundation of the new capital at Memphis, “the point of balance between Upper and Lower Egypt” (ibid., p.53) was important to maintain the control over the Two Lands. Taxation, writing (for religious, but also taxation purposes), organised agriculture, the arts and sciences (i.e. mathematics, astronomy, the Egyptian artistic canon, etc.) and monumental architecture (mastabas [large bench-like tombs] and eventually the pyramids during the first four dynasties) all saw either their first appearance or their epitome during this time.

*Rise to Civilisation in Egypt*

There is much more information that survives to us in southern Egypt than in the North because, due to an environment unfavourable for preservation in the North, we are left with relatively scanty remains. Also, because of the fact that some of the early conclusions drawn by scholars close to the turn of the century had remained unchallenged until recently, Egyptian interdisciplinary archaeological methodology is still in its infancy. Many of the ideas that were commonly held about the study of early Egypt were, in fact, coined by some of the early “modern” Egyptologists. Although Petrie’s classification of a “New Race” (Petrie 1901, p. 2) was admittedly vague and was quickly renamed the Naqadan (after the type-site of the same name) the tendency to view the late Naqadans as “invaders” into Egypt is a concept that became so embedded into the minds of scholars that this issue still needs clarification to this day.

Petrie paved the way for others to follow in what was (at the turn of the century) rapidly becoming a more exact science. Gertrude Caton-Thompson (Caton-Thompson and Gardner 1934) in the Fayum and Hermann Junker (see Hoffman 1979) in the Delta provided much needed information on the cultures of areas in addition to the well-studied South, in order that the view of Egypt’s making was not too one-sided. The work conducted by these and other archaeologists was so comprehensive and far-sighted, that little was left to be said until the resurgence of
innovative archaeological techniques in the 1950’s, 60’s and 70’s provided us with new questions and new ways of looking at the ancient world (for example, radiocarbon dating, Libby 1952). This in turn leads us to question some of the postulates that the early work in the field implied. New data, when placed into modern models and frameworks may in fact overturn some of the ideas that had for years come to be regarded as simple truths. Still, some of the best data to which we can turn for pre- and early Dynastic Egypt remains those collected by the early archaeologists.

The Naqadan culture was to overwhelm the other cultures co-existing in what would be a unified Egypt; but even though the Naqadan culture did end up dominating the rest of the regions politically through subjugation under the rule of one king, the other groups never fully lost their cultural and political identity (see Fig. 83, below).

Fig. 83. Various Nome emblems from Egypt shown on standards (centre on 2nd register from top). These would be comparable to ‘state-flags’ within a larger confederation. Narmer Palette, c.3050 BC.

Even among the the Naqadan culture, there were areas grouped spatially around dominating city-states that were independent and in direct competition with one
another. The archaeologist who analyses the remains places categories on “cultures” based on broad similarities; but it should be remembered that even within the “North” and the “South” the cultural entities were subdivided into smaller categories than simply “Naqadan”. (Refer to Chapter 4 for a description of the Naqada I period)

**Naqada II-III / Gerzean**

In the Naqada II period (Early Gerzean 3500 - 3300 BC; Late Gerzean 3300 - 3100 BC – see Chapters 3 and 4) we see some distinct changes in the material culture, the funerary practices and the settlement morphology of the people inhabiting Upper Egypt. There were some major changes that took place that show definite signs of direct influence from Asia, and what began to emerge was a complex, stratified, urban civilisation with considerable technological capabilities and a distinct character which formed the foundation upon which Dynastic Egypt would rest. “In later Nagada II times the Maadi culture disappears archaeologically in the north and is replaced by Nagada material culture (Kaiser 1964: 105-113). Following the Nagada III [Protodynastic] period comes the beginning of the Early Dynastic period, with a centrally unified state that stretched from the Delta possibly as far south as Aswan” (Bard 1992, p.1-2).

Let us now look at the material culture that survives to us from the Naqada II period in order that we may lay the groundwork for making statements about how and why unification occurred, and what the nature of the new Dynastic civilisation was. In order to accomplish the huge task of summarising the material culture, we will now limit ourselves as much as possible to the site from which the kingship of the two lands would come: Hierakonpolis (excavated by Quibell and Green 1900). The increasing complexity of the society during the Late Gerzean (Protodynastic) period at Hierakonpolis is mostly evinced through mortuary contexts.

The importance of cemeteries as reflections of emerging complexity should not be underestimated. Kathryn Bard argues that, “with increasingly complex social relations among groups living in more densely populated regions, material symbols and rules for behavior used by subgroups would help create individual identity and membership in specific social groups, as well as help maintain interregional
affiliations” (Bard 1992, p.2). The material symbolism, as shown in cemeteries, tells us that, “Upper Egyptian mortuary differentiation increased through time, and what have been interpreted as elite burials were larger and contained more grave goods than non-elite burials” (ibid. 1992, p.3). “As the Predynastic culture of Upper Egypt evolved in complexity so did its ideologies...burials...became symbolic means of social and economic control” (ibid. 1992, p.3). Socio-economic, as well as political complexity was evolving during the Late Gerzean and Protodynastic periods, due, most likely, to a combination of local innovation, and simply the “borrowing of ideas” from the Mesopotamians and Susians with whom they would have been in contact in this period. We can see through the material culture that during the Protodynastic and early Archaic times, imported ideas were giving a push to the ripe urban culture existing in Egypt that allowed them to adapt certain characteristics as expressions of their state-level identity.

Of what remains to us besides some of the first instances of writing, the most important (along with the mortuary remains) was the monumental architecture: fortifications and palaces. At Hierakonepolis in particular, it is clear that this society was fully urban, supported by a surrounding hinterland which was in turn protected by a stronghold, and organised by a stratified and complex social structure with an emerging god/king at the head. Through artefacts such as royal maceheads (e.g. the ‘Scorpion’ macehead) and royal ceremonial palettes (e.g. the ‘Narmer’ palette, see Fig. 92 above), we have evidence that conspicuous displays of unification under pharaonic kingship was emerging. We can reconstruct a more or less acceptable chronology of kingship in the Protodynastic/Archaic period. The following is after Ruffle, Heritage of the Pharaohs: an introduction to Egyptian Archaeology:

THE ARCHAIC PERIOD
1st dynasty 3100 - 2890

| Scorpion    | \     |
| Narmer      | >=Menes? |
| Aha         | /      |
| Djer (Zer)  |       |
| Queen Merneith (Meryet-nit) |
| Wadjit (Djet) |
| Udimu       |
| Anedjib (Enezib) |
| Semerkhet   |
| Ka’a        |

(Ruffle 1977, p.24)
Now that we have set the stage for the coming of the Dynasties, let us now put the available information into a model that can allow us to grasp what were the motivating factors that led to the eventual establishment of Dynastic Egypt and state-level identity. The model which best represents the way in which urbanisation and complexity arose in Egypt, according to the information presented in this paper, was proposed by Barry Kemp in *Ancient Egypt: Anatomy of a Civilization*. The reference is given more-or-less in its entirety in Chapter 2.

Looking at all of the evidence presented in this paper, the reconstruction outlined by Kemp’s model (see Chapter 2) is vindicated. Unification, led by the kings from Hierakonpolis (who would in turn move the capital to the new central and conspicuous location at Memphis), was inevitable only in the later stages of the Predynastic period, the actual evolution of the cultures and ideologies of the people reaching back even into the Palaeolithic. “With the rise of large powerful political units (chiefdoms?) in the late Predynastic, economic interaction may have become more predatory, which probably resulted in conflict and eventually warfare leading to the unification of Egypt into the Early Dynastic state” (Bard 1992, p.3). Although this may seem, in some ways a sort of ‘demographic determinism’ (i.e. the formation of the state due to population increase and the necessity for control – see Chapter 1 on Carneiro and Wittfogel), the inevitability of this (as pointed out in Kemp’s argument; see Chapter 2) was not present until most of the social institutions had already come to be. Competition, population increase and increased inter- and intra-social stratification were factors resulting in the unification of Egypt, but it must be remembered that this was indeed a long process, even if the final changes happened quite rapidly.

The kings of Archaic Egypt (who set up a precedent which would define the kingship of succeeding dynasties and kingdoms) apparently understood that if they were to maintain control, they needed to allow for some flexibility in the system, allowing each Nome to carry their own standard and to have their own viceroy (Fig. 83 above). This allowed for smaller-scale identities to remain in existence while belonging under the greater umbrella that was the Kingdom of Egypt (this refers to the ‘layers’ of identity referred to in Chapter 2). This is also expressed in the fact
that the Pharaoh was in some ways the servant of his subjects, as seen in the sed-festival where he ran a type of obstacle-course representing each of the Nomes of Egypt, showing that he was their unifier, their defender and their intermediary with the gods (for example, a part of the hieroglyph for sed consisted of two thrones, meant to indicate the unified two lands of Upper and Lower Egypt – see Bunson 1991). This being said, there was also a sense of rigidity in the Pharaoh’s kingship: the Pharaoh was a god. Who were the people to question the word of the God/King? This delicate balance produced stability and a harmony that pervaded the Egyptian lifestyle.

**Southern Levant**

*Early Bronze II: Urbanisation*

The pottery of the Early Bronze II period, the period of urbanisation, is the “main anchor” (Amiran 1970) for the chronology of Palestine/Transjordan in the entire Early Bronze Age. Likewise, due to correlations with the Egyptian 1st Dynasty (see Joffe 1992; Stager 1992; and Egyptian correlation in Chapter 3), the ceramic chronology from Palestine also provides this anchor where even Dynastic Egyptian chronology is problematic. In EB II there are notable changes in myriad facets of life in Palestine, i.e. life in fortified urban centres, changes in subsistence strategies, ideological changes, increase and change in foreign exchange-relations, increased internal hegemony, etc. Once again through the ceramic repertoire we can see that these changes took place from within the long-standing and indigenous cultural evolution whose roots we can trace all the way back to the introduction (invention?) of pottery in Palestine in the Neolithic.

The EB II ceramic repertoire is as follows:

**Common Wares:**
1. Platters (often with potter’s marks)
   - A predominant form is a platter with red burnished slip [see EB I, above]
   - Tray with flat base
2. Bowls - deep, large bowl with sloping sides is common
3. Amphoriskoi
   • Southern “line-group” still occurs, but less frequently than in EB I
   • Three variants of earlier EB I prototype occur in EB I with longer neck, different locations for lug handles and other, degenerated traits
4. Twin-vessels - emerges in EB I, but appears in a much larger form in EB II
5. Juglets - most common is diminutive version of full-sized jugs
   • hybrid, amphoriskos/juglet, which first came about in EB I, continues into EB II
6. Jars - continue in many ways from EB I, but differ in various aspects:
   • rope ornamentation is rare
   • combing appears (a technical advancement, it is accompanied by better firing and levigating techniques as well)
   Jars are similar to earlier periods in these aspects:
   • net painting continues in popularity
   • three types: with neck; intermediate; no neck (holemouth are common)
   • “Tubular handles, encountered since the Chalcolithic period, continue to be made.” (Amiran 1970, p.59)
   (After Amiran 1970)

'Abydos’ Ware

The Abydos ware, named so after the Egyptian royal tombs in which they were first found, are the key to understanding not only the chronology of the Southern Levant, they also are basis upon which dynastic Egyptian chronology is formed. New nomenclature has been attributed to this ware (Stager 1992), “Red Polished Ware”, which seems more appropriate and less Egypto-centric, as these wares are indeed of Palestinian origin (Amiran 1970). These wares are:

Red- or brown-slipped surface usually highly burnished, over brown fabric, highly fired. The form is limited to one-handed flasks, small bottles without handles, and small two-handled jars. (Stager 1992, p.37)

These forms, subdivided when necessary, are as follows:

1. One-handed flasks (Palestine and Syria: EB II-III; Egypt: Dynasties I - IV)
   • Rim-to-shoulder handle
   • Neck-to-shoulder handle variant
   • Singled-handled flask variant with a small band around the neck
2. Small bottles without handles (Palestine and Syria: EB II; Egypt: Dynasty I [Djer])
3. Two-handled jars (Palestine: EB II; Egypt: Dynasty I [Den-Qaa])
4. One-handled, wide-mouth flask (Palestine and Syria: EB III; Egypt Dynasty IV)
   (After Stager 1992, p.37-8)
As one can see, the so-called Red-Polished Ware, a style particular to Palestine (and Syria, but less so) remains popular throughout the EB II and through the EB III periods in the Levant. It also is apparent that, since this ware is usually found in Egypt in royal funerary contexts, these ceramics (and, for that matter possibly their contents as well) were exchanged from Palestine as items of prestige, and as such were buried with their royal owners. It may even be argued that it was, in part, due to the exchanges with neighbouring Palestine that Egypt was able to establish social hierarchy and complexity in the way in which they did. An argument one might make from this situation is that from the “Egyptian colonists” found in the extreme south of Palestine (e.g. Arad: Amiran 1978; Areini: Brandl 1989; ‘En Besor: Gophna 1990), one may infer that Egypt was extending its long arm of trade into areas which were easily and readily exploitable. On the other hand, through recent excavations in the Sinai, it is becoming clear that there were quite a few settlements spread throughout the point of contact between Palestine and Egypt (especially along the northern coastal trade route towards Gaza), dating from the EB I and into the EB II. These have been consistently found to have distinctly Egyptian affinities (Stager 1992). Therefore, it would seem perfectly reasonable that there were reciprocal exchanges between Egypt and Palestine, as they were “more-or-less peers”. The furthest extent of the “core” Egyptian material culture reached into the Sinai; the furthest extent of the “core” Palestinian material culture extended into the Negev. It is clear that there was some intermingling and communication between the two cultures at their respective points of contact. The sites at which one gets Egyptian wares are simply points of contact, as the material assemblages have been shown in most cases to be overwhelmingly Palestinian in nature (Amiran 1978), rather than being evidence for an Egyptian “colony”. An exception to this rule may be in the case of ‘En Besor, where rather than contemporary Palestinian and Egyptian pottery assemblages, there may be evidence for a purely Egyptian phase (Stratum III):

4 By this same token, however, the Palestinian trading “colony” at Maadi in the preceding EB I period, should not be regarded as an organised effort by the Palestinians to culturally supersede the Egyptians. This is merely an example of an emphasis on exchanges between peoples of two neighbouring regions within the complex network of exchange relations that comprised the Near East at this time. Once again, these trade routes are not static, and no doubt Egyptian interest in monopolising the economy in the Predynastic period had something to do with the shift from inward-oriented riverine exchanges, to outbound-exchanges as is seen through the Arad contact in EB II.
between Stratum I - EB Ib and Stratum II - EB II; see Gophna 1976; Stager 1992; Amiran 1974).

Aside from these foreign intrusions, the whole of Palestine, beginning in the EB II period, is remarkably hegemonous, characterised by urban centres, fortifications of massive proportion (some with glacis; e.g. Taanach, Areini, Yarmuth, Tell Halif and Tell el-Hesi - Stager 1992) and increased density of population. These urban centres, dependent upon agriculture for subsistence, displayed signs of social stratification. “Bureaucratic elites [...] played a dominant role in shaping the community, as seen in the ramparts, central water systems (Ai and Arad), palaces (perhaps Arad), and temples, [...] [Arad, Ai, Yarmuth]” (Stager 1992, p.36). These characteristics were fostered throughout the EB II-III periods and began to fall apart during the EB IV/MB I period.

Early Bronze III

The EB III period should be, and often is, thought of as being part of the a greater chronological entity that is the EB II-III. This leaves us with a strong cultural hegemony in Palestine throughout the 3rd millennium, our Phase 3. Although the ceramic repertoires of the EB III period are quite different from those of the preceding EB II, i.e. there are styles introduced that are completely foreign to Palestine, these differences are brought about by the changes which occurred during the EB II and continued into the EB III (e.g. Khirbet Kerak ware). Beginning in the EB II, there was increasing hegemony expressed through the demographic shift and site morphology changes that are brought on by urbanism. EB III continues to be urban in character, but due to this internal cohesion, foreign relations are stepped-up, thus allowing for increased reciprocal influence in various material manifestations. Some of the clearest examples of reciprocal exchanges between Palestine and neighbouring regions are the glyptic art on stamp and cylinder seals, and the techniques involved in the sealing process (as we have seen in Chapter 5). The influence brought in from neighbouring ceramic styles, coupled with the establishment of the continuing local style will be shown here. The EB III roughly corresponds to the Dynasties III-VI of the Old Kingdom in Egypt.
The common wares in EB III Palestine show continuities from earlier indigenous styles:

1. Platters and bowls  
   - Deep bowl with ledge handle is typical of this period
2. Chalices (uncommon)
3. Cups (uncommon)
4. Cooking pots - various styles, many with ledge handles
5. Jars - most common features are:
   - pattern-combing
   - rope-decoration at base of neck

(After Amiran 1970)

**Early State Formation in Palestine/Transjordan**

Fig. 84 below shows how different aspects of southern Levantine culture displays evidence of a true social transformation between EB I to EB II periods. This transformative phase corresponds to Phase 2, and by Phase 3 we can see a truly urban society with new subsistence strategies, economic systems, settlement patterns and political systems, in addition to the state-level identity examined through seal analysis in Chapter 5.

**Fig. 84 Social Organisation of the Early Bronze Age**

<table>
<thead>
<tr>
<th>Socio-Political</th>
<th>EB I (3700-3300)</th>
<th>EB II-III (3050-2250)</th>
<th>EB IV/MB I (2250-2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>Ranked; segmentary</td>
<td>City-State</td>
<td>Segmentary</td>
</tr>
<tr>
<td>Economy:</td>
<td>Non-stratified</td>
<td>Stratified</td>
<td>Non-Stratified</td>
</tr>
<tr>
<td>-Local Subsistence</td>
<td>Reciprocal</td>
<td>Redistributive</td>
<td>Subsistence</td>
</tr>
<tr>
<td>-International</td>
<td>Reciprocal</td>
<td>Reciprocal</td>
<td>Subsistence</td>
</tr>
<tr>
<td>-Trade mechanism</td>
<td>Land based</td>
<td>Marine Based</td>
<td>Land-based</td>
</tr>
<tr>
<td>Individual Down-the-line</td>
<td>State Organized</td>
<td>Bureaucracy</td>
<td>Individual</td>
</tr>
<tr>
<td>Prestige items</td>
<td>Subsistence products</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>-Craft Specialization (Pottery)</td>
<td>Regional styles</td>
<td>Inter-regional</td>
<td>Regional styles</td>
</tr>
<tr>
<td>Site Distribution</td>
<td>Dispersed villages</td>
<td>Urban centers</td>
<td>Dispersed villages</td>
</tr>
<tr>
<td>Site Stratification</td>
<td>Cultic/Domestic</td>
<td>Cultic/Domestic</td>
<td>Domestic</td>
</tr>
</tbody>
</table>

(After Esse 1989, p.83)
One of the initial arguments made by the early scholars of Palestinian state formation that supported the idea of an influx of foreign people from whom "civilisation" emerged was the fact that there was a discontinuity of settlement in the stratigraphy for this transitional period (not to mention that the time allotted for this period was not sufficient enough, making this transformation appear more rapid than it actually occurred). This discontinuity is partially explained, however, by the fact that there were some major settlement changes of indigenous people in the Late Chalcolithic, the EBI A, and the EBI B (see quote from Esse 1989, below). Many methods to prove the existence of this immigration have been explored (in addition to material culture, an argument for racial differences has been proposed) but none have been successful in this regard. "There is no evidence for any major immigration before the Chalcolithic, or at any time during the fourth millennium" (Hanbury-Tenison 1986, p.71).

Unfortunately, the answer to what the precise cause of these settlement shifts eludes us. "Most workers in the field [...] would agree the socio-economic, rather than environmental, issues were most significant in the cultural development of the fourth millennium. If the abandonment of marginal zones had been the only major settlement shift, the one might suppose that the demise of the Ghassul-Beersheba culture was brought on by an increase in aridity. However, since the settlement shift is noticeable throughout Palestine and Tra[n]sjordan, and continued throughout the fourth millennium, one may suppose that the issues were more complicated" (Hanbury-Tenison 1986, p.71).

One can attempt to explain these shifts in settlement patterns through an analysis of the socio-economic mechanisms at work, but these mechanisms are difficult to interpret even in our own time with easily-observable indicators. It may then be more useful to explain the socio-economics through the settlement patterns; as Esse says: "it is by now accepted that an analysis of the settlement landscape, both its distribution and function, can lead to a productive analysis of social organization" (Esse 1989, p.82). There appears to have been an increase in the population from the Late Chalcolithic to the Early Bronze I, and although the size of the sites did not increase considerably, an increase in the number of sites is considerable. "In northern Palestine there does not seem to be a radical shift in site location between
the Chalcolithic and EB I, thus eliminating the danger of ignoring a major shift in subsistence” (Esse 1989, p.83). There was, however, “a shift from wadi irrigation along the Nahal Besor to increased dry farming. These EB I settlements were located farther east than their Chalcolithic counterparts, in an area which was more suitable for exploitation by dry farming techniques” (Esse 1989, p.83). “[...] the general pattern of Chalcolithic settlement indicates that agriculture was primarily an intensive system of land use and not extensive. [...] A change from these intensive agricultural systems to extensive ones seems to have occurred during the [...] Early Bronze I - II period” (Levy and Alon in Levy 1987, p.80).

For the most part, with very few exceptions, the EB I period in the southern Levant consisted of smaller-sized settlements, some relying on pastoralism/subsistence agriculture, and some making the move into sedentary irrigation agriculture. Throughout the rather lengthy EB I period, there was a constant interplay of different factors: new subsistence strategies, more complex organisational levels, craft specialisation (only in pottery and metallurgy at this time) and interregional trade colliding with the “old ways” of pastoralism, egalitarianism (to what extent this existed can be disputed), and decentralisation. It was through this dynamic interplay that urbanisation came about in the EB II -III period, with the new ways of centralisation, ranked social structure, regulated irrigation agriculture and redistribution dominating (sometimes with limited success) over the pastoralists. There is a continuity from the Chalcolithic into the EB I, but now we will focus on these discontinuities which came about in the EB II and finally fell apart in the EB IV/MB I.

“In the northern part of Palestine, the settlement in the Jordan Valley, previously heavy during EB I, became much less evident. [...] Settlement location in the Mediterranean zone remained the same, but the functional differentiation of settlement became much more complex. Rather than dependence on a stable subsistence based economy of farming and herding, the EB II-III period witnessed the rise of an urban settlement network” (Esse 1989, p.86). There is a great deal of evidence to show that there were new socio-economic structures present, not the least of which, being evidence for stratified society.
The remnants of power are obvious in EB II-III. Massive fortification walls [Bab edh-Dhra, Hesi, Fār‘ah North, Megiddo, Arad, Jericho, Ai, Beth Yeran, Yarmuth, and Taanach] and palace [Arad and Megiddo] /temple [Ai, Arad, Yarmuth and Megiddo] complexes are some of the archaeologically discernible residues of power politics in the Early Bronze Age. Several tiers of social organization are present in EB II-III and there is little doubt the social system integrated politics, economics, and religion at a complex level. (Esse 1989, p.89)

Although the material remains from the Early Bronze Age show signs of societal complexity, it is still difficult to prove that these “indicators” are truly symptoms of real urbanism. There is the question whether Palestine actually achieved urbanism or whether it was simply a landscape of villages. It may still be argued that even though there were certain clues in the architecture that point to stratified society, the size of the sites is on such a smaller scale that the agglomeration that took place during the Early Bronze Age was incomparable to the agglomerations that occurred in places such as Sumer and Egypt during their periods of urbanisation. This may well be the case, but the change in subsistence strategies from EB I to EB II-III is one of kind rather than degree (Esse 1991, p.164), and although this shift is in degree greater represented in other regions (i.e. Egypt, Sumer), the shift was similarly a lifestyle change marked by many of the “classic” indicators of “civilisation” (e.g. evidence for organised, complex and stratified labour, religion, economics, politics, etc., through material remains such as architecture). This shift in subsistence strategies can be represented through the change in settlement distribution observable in the survey of a portion of northern Palestine which was reported in Douglas Esse’s 1991, *Subsistence, Trade and Social Change in Early Bronze Age Palestine*:

The median site size in northern Palestine tripled in EB II-III, but the number of sites dropped sharply. This process of agglomeration has been well documented in other examples of urbanism. There is no strong evidence for a large general population increase during this period. Rather, what may have happened was a shift in the proportion of subsistence strategies; many small rural agricultural communities and pastoralists were integrated into a socio-economic system dominated by urban centers and suprasubsistence interrelationships. The hinterland served as a source of labour that could be drawn to the larger centers. Thus agglomeration could have occurred as a result of economic growth. Forced sedentarization of pastoralist groups is rarely effective, but economic incentives are often successful in attracting groups from the hinterlands. Increased corporate power (archaeologically attested by massive fortification walls, public granaries, temples, and palaces, for example) also could have been exercised to control nearby pastoralists. Although villages still existed in EB II-III, they were located in areas where agriculture and herdsman husbandry would have been practiced. The disappearance of sites in the steppic zones where pastoralism was dominant was almost total. (Esse 1991, p.165)
It is clear that with the exception of some Egyptian trading or "outposts" (Tel Erani, Tel Halif, Arad, En Besor), which attest to Egyptian occupation "with large quantities of Egyptian pottery including Narmer serekhs and even Egyptian domestic cooking ware" (Esse 1989, p.91) the new urban centres came to existence through the people indigenous to this region. It is an error to assume that because these "outposts" existed in southern Palestine, it was an urban stimulus that spread to the rest of the Levant. This stimulus-diffusion model and the assumption that Palestine and Transjordan is a "secondary-state" (as opposed to a "pristine-state" like Sumer or Egypt) does not stand up to criticism. First, the sites which do show evidence of Egyptian occupation, show a much larger quantity of local goods and indigenous traits. To say that the Egyptians brought a ready-made civilisation into Palestine (not to mention that pharaonic Egyptian civilisation was in its infancy at this stage as well) and that the local people were either coerced or influenced to stratify their society, worship a different way, survive on a different economic base and generally live a different lifestyle is dubious at best. Second, even if this were the case in the South, how was this diffusion so pervasive throughout the rest of the Levant? Third, the stimulus-diffusion idea could explain why the Levant never wholly co-operated as a unit and remained as city-states (until after the collapse of the urban centres at the beginning of the Middle Bronze Age), only if one supports the idea that the whole of Palestine was a vassal-region to Egypt. There is, however, no evidence to support such a view of this time period. Finally, if one looks at the exchange-relations between Egypt and Palestine from the Chalcolithic into the periods of urbanisation, it was a system of reciprocal exchanges between "more-or-less peers". Exchanged prestige items dominate the foreign materials in the periods antedating urbanisation in Palestine, whereas in Egypt we see the possibility of a trading "outpost" of Palestinian occupation at Maadi (see Chapter 4). This settlement was destroyed at the onset of Pharoaonic rule, but nevertheless, it is indicative of a much more complex system of exchange than a simple, asymmetrical "pristine" v. "secondary" mechanism.

Alternative to this outside stimulus model, internal catalysts can be used to explain this shift in subsistence strategies, not the least of which are environmental and demographical. "As the Late Neolithic population gradually increased on the
Negev coastal plain, the carrying capacity of the moist bottom land around [...] springs was reached and alternative subsistence strategies became imperative during the Chalcolithic period" (Levy and Alon in Levy 1987, p.81). We should not, however, with reckless abandon, accept this argument that environmental determinism and population pressure was the cause for this gradual increase in socio-political complexity, but certainly man’s reaction to his environment fits somewhere in this picture. More likely, it was the synergistic effect that the shift in subsistence strategies had upon the lifestyle of the people in this region that coincided with the change in their socio-political mechanisms.

There are two main differences in the economy of the Late Chalcolithic and the Early Bronze I. First, the social structure of the Late Chalcolithic was based on herding, whereas later emphasis moved to arable farming. Both periods were essentially agricultural. Secondly, the level of craftsmanship drops dramatically in the Early Bronze I, but the general distribution of objects of value rises. Whereas Late Chalcolithic manufactured objects suggest some corporate ownership or responsibility, typified by the Nahal Mishmar hoard, in the Early Bronze I personal objects, such as weapons and ornaments, are more widespread. The conclusion to be drawn is that the economy of Palestine became privatised, as the tribal emphasis on shared resources was taken over by personal considerations of fixed-plot cultivation, such as land-ownership and water control [...] (Hanbury-Tenison 1986, p.102)

Truly, much work needs to be done in regard to the study of state-formation in Palestine and Transjordan, particularly in regard to settlement distribution surveys in southern Palestine (especially in the difficulties regarding population density estimates). There is a definite disadvantage for scholars of this region, due to the fact that there are no literary remains, as we have in Sumer, N. Mesopotamia and Egypt. This region, however, should not be approached in exactly the same way as one would approach these other areas. As Esse (1989, p.81) says: “The greatest problem [...] is that most models are inapplicable to this geographical area. Palestine is often referred to as a ‘backwater’ of urbanism. The path out of this morass then, is to begin to analyze the system on its own terms.” Contrary to Esse’s view that Palestine’s “own terms” are those of a “Secondary State”, Palestine should be looked upon as an integral part of the whole that was the Near East at this time. It arose out of an indigenous tradition and succeeded in establishing itself as an entity separate from its neighbours. Its civilisation had its own character that manifested itself overtly in the fact that a real hegemony only occurred in later years. But Palestine
remained creative, innovative and influential into historical times, as it had been from the beginnings of its indigenous habitation.

**Indus Valley**

A synthesis of the Indus Valley culture in the 3rd millennium is beyond the scope of this thesis, and it is only mentioned here as a matter of completeness. The Indus Valley increasingly became a source of contact with southern Mesopotamia, as can be seen in artefacts (especially glyptics – see Chapter 5), and texts ('Seafaring Merchants of Ur' – Oppenheim 1974). Also, as will be approached in the section on 3rd millennium writing below, there are hints at cultural contacts (possibly through archaeologically unexamined routes/sites in eastern Iran), such as the fact that Elam may have enjoyed a close relationship with the Indus Valley, perhaps through simple exchange relations, or possibly with more substantial cultural/heritage links.

But the Indus Valley culture’s socio-economic system itself appears archaeologically to have functioned very differently than the societies further to the West. The evidence of elite goods and monumental architecture at Harappa and Mohenjo-Daro does not unequivocally show social stratification, central authority or warfare, some of the hallmarks of the Near Eastern civilisations in the 3rd millennium.

**Fig. 85 Ancient Indus Chronology**

<table>
<thead>
<tr>
<th>Period</th>
<th>Phase</th>
<th>Yrs. (B.C.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Late Harappan (Cemetery H)</td>
<td>1700-1300</td>
</tr>
<tr>
<td>4</td>
<td>Harappan/Late Harappan Transitional</td>
<td>1900-1700</td>
</tr>
<tr>
<td>3C</td>
<td>Harappan Phase</td>
<td>c. 2200-1900</td>
</tr>
<tr>
<td>3B</td>
<td>Harappan Phase</td>
<td>c. 2450-2200</td>
</tr>
<tr>
<td>3A</td>
<td>Harappan Phase</td>
<td>c. 2600-2450</td>
</tr>
<tr>
<td>2</td>
<td>Early Harappan/Kot Diji Phase</td>
<td>c. 2800-2600</td>
</tr>
<tr>
<td>1A/B</td>
<td>Early Harappan/Ravi Phase</td>
<td>c. 3300-2800</td>
</tr>
</tbody>
</table>

(after http://www.harappa.com/indus2/index.html)

Third millennium texts from Mesopotamia refer to trade relations with the seafaring nations of Makkan and Meluha, most likely associated with the India or
Indus Valley civilisations. "This trade was conducted with real financial sophistication in amounts that could involve tons of copper. The Mesopotamians speak of Meluha as an aquatic culture, where water and bathing played a central role. A number of Indus Valley objects have been found buried with Mesopotamians.” (Kenoyer, http://www.harappa.com/indus2/index.html)

![Interaction Networks of the Ravi Phase](http://www.harappa.com/indus2/index.html)

**Fig. 86** Interaction networks of the Ravi Phase c. 3300-2800 BC. Arrows extend from Harappa to likely source areas for raw materials such as agate, lapis lazuli, steatite, marine shell and copper. These raw materials were transformed into ornaments and tools at Harappa for local trade (http://www.harappa.com/indus2/index.html).

Although there are still many questions that remain regarding the early Indus Valley civilisation, recent excavations and surveys have revealed a great deal of information. It is beyond the scope of this thesis to provide an in-depth summation of the current understanding of this culture. But an outline of the major sites and the social transformations that occurred will help to contextualise this portion of the greater Near East.
The following information was taken from Kenoyer 2000.

http://www.harappa.com/har/harl.html:

- Harappa was an Indus Valley urban center. It lies in Punjab Province, Pakistan, on an old bed of the River Ravi. The latest research has revealed at least five mounds at Harappa. Two large walls around them, perhaps as much for trade regulation as defense. A structure once considered a granary is now thought to have been a palace with ventilated air ducts. Harappa provided the first clues to the ancient Indus Valley, which is often called Harappan civilization.

- Mohenjodaro is probably the best known Indus Valley site. It is in Sindh, Pakistan, next to the Indus. Here the Great Bath, uniform buildings and weights, hidden drains and other hallmarks of the civilization were discovered in the 1920's. Due to a rising water table, most of the site remains unexcavated, and its earliest levels have not been reached.

- Dholavira is located on Khadir Beit, an island in the Great Rann of Kutch in Gujarat State, India. It has only been excavated since 1990. As large as Harappa and Mohenjodaro, it has some of the best preserved architecture. A tantalizing signboard with Indus script has also been discovered.

- Lothal is on the top of the Gulf of Cambay in Gujarat, India, near the Sabarmati River and the Arabian Sea. It is the most extensively researched Harappan coastal site. A bead factory and Mesopotamian seal have been found here.

- Rakhigarhi is a recently discovered, still unexcavated city in Haryana, India. It is as large as Harappa, Mohenjodaro and Ganweriwala.

- Ganweriwala is in Punjab, Pakistan near the Indian border. It was discovered in the 1970's, and at 80 hectares is as large as Mohenjodaro. It is near a dry bed of the former Ghaggar or Sarasvati River, and has not been excavated. Equidistant between Harappa and Mohenjodaro, Ganweriwala may have been the urban center of a third Indus Valley region covering copper-rich Rajasthan.

- Daimabad is in Maharashtra near Bombay. Discovered in 1958, it is a controversial site. Some suggest that the pottery and single shard with Indus Valley signs on it is definitive of Harappan settlement; others say the evidence is not enough. A unique hoard of exquisite bronze chariots and animals that may or may not be of Indus Valley style was also found here.

- Chanudarho is 80 miles south of Mohenjodaro in Sindh. It was a manufacturing center. Various tool, shell, bone and seal-making facilities which involved writing were found. Beads were made using efficiently layered floors. Chanudarho seems to have been hastily abandoned.

- Sutkagen Dor in Baluchistan next to Iran is the westernmost known Harappan site. It is thought to have once been on a navigable inlet of the Arabian Sea. The usual citadel and town are present, as well as defensive walls 30 feet wide. Sutkagen Dor would have been on the trade route from Lothal in Gujarat to Mesopotamia.

All these sites flourished between 3000 and 2000 B.C., if not earlier. There are probably many more important Indus Valley sites. Some must have been lost or destroyed by shifting river paths. Others may be buried under modern towns.

What does seem clear is that the important sites were commercial centers. They are on rivers or near the coast. Various specialized manufacturing facilities suggest that they were heavily involved in trade with each other and far outside the region.


What is clear about the Indus Valley civilisation in the 3rd millennium is that it had a highly advanced commercial economy. And even though Mesopotamia was a major trading partner, the Indus Valley civilisation was not culturally dependent upon the example of the Sumerians. In fact, most of the cultural influence that we
see is from the Indus Valley into Sumer (as we have seen in Chapter 5, and see 3rd millennium Ur in Appendix 1).

The Indus Valley, it is becoming clear, developed largely through autochthonous means to achieve a regional state-level identity which flourished in the middle of the 3rd millennium. That it was a part of the greater Near Eastern Network in the 4th millennium is more difficult to display, as our understanding of the earlier periods leaves much to be desired. But with the establishment of the Ravi Phase at Harappa, it is clear that there was indeed a prehistory in the Indus Valley that showed similarities to the material cultures in the West, although exhibiting characteristics particular to its own traditions.

Certainly, however, by the middle of the 3rd millennium, the Indus Valley civilisation existed as a complex (but still little understood) society with clear and rigid stylistic attributes. Furthermore, the Indus Valley script underwent an indigenous development that reached its zenith during the Harappan Phase. The truly urban centres that typified much of the Indus Valley rival those in Mesopotamia in size and quality of design. But it is important to remember that in the 3rd millennium, when it is certain that sustained contact occurred between the Indus culture and the "West", the Indus Valley culture chose to formulate and retain their own regional state-level character. This was done through writing, social organisation, architecture, glyptics and economics.

The state-level identity that emerged in the 3rd millennium was, however, the product of transformations that occurred during the Early Indus phases, including the Ravi and Kot Diji phases (see Fig. 85 above). During the Kot Diji phase, we see "a tendency towards a more unified style" (Allchin and Allchin 1996, p.163) in painted pottery decoration in particular. "The process of cultural convergence and the increase in homogeneity [...] is also evident in the realm of ideology and religious beliefs," (Allchin and Allchin 1996, p.163); for example, this is when we see the so-called Buffalo Diety beginning to emerge (Allchin and Allchin 1996). Furthermore, "from all these things we conclude that, whatever the changes which occurred between the Early and Mature Indus stages and however they are to be accounted for, the Early stage must be seen as the formative period, the stage of incipient urbanism" (Allchin and Allchin 1996, p.163-165). This conclusion parallels what we see in
other parts of the greater Near East. Because this “formative period” can be seen to have taken place at around the turn of the 3rd millennium, the state-level identity that we see emerging in the Indus Valley may be taken to be part of the same large-scale social transformations that simultaneously took place in the West.

Section II
Writing and Literature

Early Scripts

It has already been mentioned in Chapter 3 and Chapter 4 that proto-scripts were not exclusive to southern Mesopotamia in Phase 1. Here we shall further explore writing and the expressions it took in Phase 3. It is after Phase 2, and developing in Phase 3, that writing actually comes to represent a predetermined spoken speech. This occurred only after scripts had been used for long enough as administrative tools that it became evident that the forms already present could represent the entire syllabic repertoire in a language. Postgate, Wang and Wilkinson (1995, p.464) say for Mesopotamia, “only later, at about 2700-2600 BC, do we begin to find texts with a non-utilitarian purpose”. By the second half of the 3rd millennium this was exactly what was occurring, but it was also not limited, as was once thought, to southern Mesopotamia.

In this section, early writing systems will be approached, especially in light of recent excavations that elucidate the linguistic and written traditions in the “periphery”. In particular, the scripts in Egypt, Syria and North Mesopotamia, South Mesopotamia, Elam, and the Indus Valley will be defined and shown to be legitimate expressions of independent identities. In fact, it can be argued that many of the literary and religious texts from the Early Dynastic periods in Mesopotamia are attempts to assert one tradition as the state-endorsed identity. For example, the problems that linguists encounter when dealing with bilingualism and loan words in Sumerian and Akkadian documents may reflect a region’s preference to write in one language, while the inhabitants of the region may have been far less linguistically homogenous than this scribal disposition suggests. The scribal disposition, of
course, served the purposes that were dictated from the ruling body, and therefore scribal preference of one language over another may have had more to do with politics than with a genuine separation of linguistic groups. In other words, writing both served those in power and reinforced that power. Therefore, writing in the forms it took in the 3rd millennium served the purpose of reinforcing the identities that had been established in Phase 2. These expressions of identity manifested in such forms as religious texts, kingship/hereditary lists, economic-related texts, and genuine literature.

In the case of the origins of literacy in Mesopotamia, it is quite clear that the first uses were for the storage of data (Nissen, Damerow and Englund 1993) in association with the increasing socio-economic complexity that was part of the transformation into statehood and urbanism. But if we leave the subject here, we are leaving out vital components that may not be quite as obvious to the modern observer. For instance, the religious component of literacy is intertwined with its origins to such a degree that it would be a mistake to omit it in our discussion here. Robert Redfield points out the importance of religion in relation to literacy,

In the city appeared the administrative elite, the literate priest with his opportunities for reflection and cultivation of esoteric knowledge, the specialized artisan, detached from the local community. These are new kinds of men, not only because they have found new kinds of economic support, but because, in the greater impersonality of their relations with others and in their relative independence of the village community with its local culture and "inward-facingness," these city men have a new world view and essential style of life. (Redfield 1953; p.30)

Although Redfield states that "civilization is breakdown of old ways" (Redfield 1953, p.136), but we must also look to the lifestyle of the people that predated the newly forming state societies in order to understand the origins of the new identity. Following Redfield’s statement, we should look to see how literacy came about through the institutions within these communities and continued into this new way of life. One way that we can approach this is through religion and representational art; almost nowhere in the ancient world is this more apparent than in Egypt.

We have no evidence in Egypt for precursor to hieroglyphs dating back as far as the Neolithic, if we mean in the same sense as in Mesopotamia where we have
symbolic representation like tokens used for the purpose of data storage. We do, however, see writing pre-empted in the form of pictorial representation.

The canon for pictorial representation was in some ways more rigid for the artists than was the liberty that was available to the scribe (the scribes and artists may have been one in the same person). Through these canons of artistic representation, very clear messages could be conveyed to the ordinary person, thus creating a "universally-intelligible script" in what we would simply call "art" (Quirke and Spencer 1994, p.50).

The Egyptian writing system was quite similar to the cuneiform system in the sense that it was based on a syllabic-system and the rebus-principle (differing in some ways that are not important to go into here). The marked difference in the two systems is the value that was placed upon the pictures themselves, as being, perhaps, more than just representations of material items that existed in the "real world".

The first examples of writing in Egypt come from a time close to when the two distinct regions of Upper and Lower Egypt were united by a "god-king". In fact, one of the earliest full complex sentences in Egyptian hieroglyphs we have dates to the Second Dynasty and deals specifically with the Pharaoh Peribsen (see below). In addition, Fischer says that the very nature of what the writing dealt with was quite different than the mere data storage that we find in the earliest economic texts in Mesopotamia:

The surviving evidence for the first use of writing in Egypt may be summarized as follows...
1. Ceremonial objects, such as the cosmetic palette of Narmer and the mace heads of Narmer and Scorpion.
2. Stelae marking the tombs of kings, a single queen, lesser persons, and pet dogs.
3. Labels attached to goods placed in royal tombs, some dated by events of a specific regnal year.
4. Seals and sealings of kings, queens, and officials.
5. Inscriptions on vessels of pottery or stone, usually identifying the owner and/or contents. (Fischer 1989; pp.67-8)

Hieroglyphs remained constant in form and function for thousands of years, being used in an almost unchanged canon for the script and being used almost exclusively for religious, ceremonial, regal (or high official) or magical purposes. In this way, there is a precursor to the hieroglyphs, which we can follow in the course that representational art took in the thousands of years prior to the formation of the Egyptian State.
It appears that fully developed scripts that represent spoken language can serve a different purpose than the script did when it was used as an accounting device. In many of the societies dealt with here it can be assumed that religion and state were not as neatly defined and separated as they are today. It is clear, however, that the writing in the 3rd millennium displays characteristics that qualitatively set it apart from its precursors (this will be discussed in detail below and again in Chapter 7).

Therefore, we shall now turn to a detailed analysis of each of the major writing systems that came about by the middle of the 3rd millennium, and what role they served in the communities in which they were used. The common trait that we will begin to see emerging is this: writing of spoken language begins to take first rank among symbols of power. Previously, a ruling body or individual person would have attempted to represent themselves in their position of power via Art, symbols or other non-verbal means (although it can be assumed that spoken speech would have also been an important factor, in prehistoric times this information is, of course, archaeologically invisible). When writing becomes recognised as being able to represent a predetermined spoken speech, it is quickly snatched up for representation of power. Before this form of writing existed, the ruler (for example) would only have been able to represent himself as looking “kingly” or as doing kingly things, but for the first time written speech can actually say, “I AM THE KING!!”

And even though an elite class would have used writing, and power consolidation would have been a primary function of employing a scribal class, there were no doubt other forms of consolidation besides royal circles. Although problematic to represent in archaeological syntheses, what we would term *ethnicity* would likely have been another way in which written speech could have consolidated power and alienated others. In fact, all of the forms of identity that we can imagine existed at this time could have been represented in the subtle nuances that written speech could provide.

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5 For example, “The first incontrovertible syntactic interference of Akkadian in Sumerian, the use of the conjunction *u* and the adjustment of the case government of certain Sumerian verbs on the model of their Akkadian counterparts, indicates rather intimate linguistic contact, as well as a relatively large bilingual community” (Cooper 1969, p.5-6). See Section Sumerian in this chapter, below.
Egyptian Hieroglyphs

The earliest surviving expression of writing in Egypt that actually represents a complex form of literature comes from the Old Kingdom periods. And yet even with the extreme antiquity of the Pyramid Texts from the 5th and 6th Dynasties, these early texts seem too elaborate to be assumed as a 'developmental phase'. Clearly, the ritual nature of the Pyramid Texts seems to hint at tradition.

It is easy for us to think that the tags found at Abydos cemetery U-j in the predynastic tomb of Scorpion represent early forms of proto-scripts, which then later evolved in a similar manner as the scripts in Mesopotamia. The early and quick change from the exclusive use of cylinder seals to the preference for scarab seals may indicate a predisposition to stamp papyrus documents that no longer survive. This of course must remain speculation until actual evidence is found. It may, however, be that hieratic developed alongside standard hieroglyphics, rather than coming into being later. We do know, however, that "both the cursive and the monumental forms of the Egyptian script are attested from at least as early as the First Dynasty" (Postgate, Wang and Wilkinson 1995, p.477). The earliest examples of the forms that would comprise the hieroglyphic/hieratic script came as ink drawings (in a somewhat cursive style) and are thought to have been for administrative purposes (ibid., p.466). Because hieratic was a cursive form of the script (which could be written quickly), it may have originally been used mainly for administrative purposes, which would fit well with the early use of scarab seals.

The elaborate Egyptian symbolic culture makes things complicated for us. As it has been mentioned (Chapter 2), even very compact and concise symbols can convey a narrative. Therefore, as early as we see the forms of what were later to become the hieroglyphic character set we can imagine that there was some sort of understanding of meaning behind the pictures. This is not to say that wherever one finds a picture that looks vaguely hieroglyphic, it necessarily follows that there was a narrative intended. But even in such artefacts such as the Narmer Palette, there was a clear message being conveyed – so clear that even today we can glean much information from it. In fact, the serekhs themselves are both phonetic and
symbolically meaningful at the same time with the serekh frame for the royal name meant to represent the royal house: *per-o = pharaoh.*

It is both a blessing and a curse that so many royal textual artefacts remain. In Egypt, we know more about ritual and belief than we do about economics. We even often know more about social structures than we do about the way exchanges were taking place. This is exactly the opposite of what information survives in Mesopotamia, where the vast majority of clay tablets deal with economic transactions. In Egypt, stone was used as an accessible building material from a very early time. Inscribed stone monuments and buildings also provide us with a great deal of information, but this information is once again, extremely biased.

What we can say about early Egyptian writing is this:

- We have evidence of very early (4th millennium) forms of hieroglyphic characters written on tags and placed in a royal funerary context
- We have some evidence for the phonetic use of hieroglyphic characters being used on cylinder, stamp and scarab seals dating from the very earliest dynasties. These represent names and simple phrases and are both royal and non-royal.
- The first use of hieroglyphs to represent complex forms of writing does not spring forth fully-grown during the middle of the 3rd millennium; rather, it is the product of autochthonous development of indigenous Egyptian forms of signification used to express state-level identity.

In Egypt, there is a gap of about 600 years from the time when we see the first traces of a proto-script until we see a fully developed writing of literature. It would be absurd to think that the use of these early phonetic forms stayed static or dropped from use in these 600 years. It would be more reasonable to imagine that by the time we see such awesome works as the Pyramid Texts, the hieroglyphic script had already undergone a progressive development. If this notion is to be believed, then we must for the time being accept that there is probably a great deal of textual information that is lost to us.

Very early remains of hieroglyphs come from Abydos U-j, which date to *circa* 3400 – 3200 BC, according to the excavator (Dreyer 1998). In these tags that
are found at Abydos, we learn more about the economy and society of Egypt than we do from nearly all of the extant hieroglyphic texts in the Old Kingdom. These tags found in Predynastic Egypt would have been used to document the type, quantity and origin of the commodities within the associated containers. Seal impressions and inked inscriptions may also have served this economic function (Dreyer 1998). These sentiments have been mirrored by others:

“Before writing began to be adopted as a mirror of the spoken word there's a period of circa half a millennium during which it was used on little tags (those from the Abydos cemetery B and exp. U, recording goods' quantities and provenances) on ivory and wooden labels, stone vessels, seals and monuments, with an increasing degree of complexity.”

(Francesco Raffaele 2001, http://members.xoom.it/francescoraf/thesyrapribsn.htm)

During Egyptian 2nd Dynasty, some important discoveries show that even though the evidence of the use of hieroglyphs that survives deals with only a very limited class of people (and not often economic transactions), there was an indigenous evolution in the formation of grammatical structures and conventions within the system of writing. Firstly, on a brick from Saqqara, we find evidence for use of the cartouche to circumscribe the name of a royal figure (a standard practice used throughout the rest of the entire history of Egyptian writing). The name within this cartouche is Nefersenedjra⁶, possibly the 5th king of Dynasty II (Leclant and Clere 1988, p.330). The name represented is not a Horus name, but later in the dynasty we see that the Horus name becomes incorporated into the use of the cartouche. During the reign of what might be the eighth king of Dynasty II, we see a second instance of a royal title enclosed in a cartouche, if this seal does indeed date to the second millennium, as the royal name suggests. This second use of the cartouche is on a cylinder seal with the name of Neferkaseker⁷ (Raffaele 2001, http://members.xoom.it/francescoraf/thesyrapribsn.htm). Finally, near the end of

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⁶ The 5th king of Dynasty II is Sethenes according to Manetho sources: from Syncellus KATA ΑΦΡΙΚΑΝΟΝ. ε' Σεθνης, ετη ιτζ. The royal name inside the cartouche is Nfr-snd-R’w (Leclant and Clere 1988, p.330)

⁷ The 8th king of Dynasty II is Sesochris according to Manetho sources: from Syncellus KATA ΑΦΡΙΚΑΝΟΝ. η' Σεσοχρες, ετη μη', ος υψος ειχη πιξαν ε', πολαιςαν γ'; from Syncellus KATA ΕΥΣΕΒΙΟΝ. η' Μεθ' ον Σεσοχρες < ετη> μη'; ος λεγεται γεγονεναι υψος εχω σεν πιξαν ε', πολαιςαν γ' το μεγεθος; from Eusebius, Chronica 1 (Armenian Version). Postea Sesochris annis XLVIII, quem aiunt quinque cubitos altum, tres vero palmos latum fuisse.
Dynasty II, we have both a royal name in a cartouche and an early example of complete complex sentence during the reign of and referring to Peribsen, the elusive penultimate (or antepenultimate?) pharaoh of Dynasty II. The name of Peribsen in a cartouche comes from an unprovenanced and unpublished cylinder seal now in the Civiche Raccolte Archeologiche e Numismatiche in Milano, Italy. The seal is made of brown limestone with white stripes (height 2.04 cm diameter 1.94 cm., perforation diameter 0.68 cm – see Appendix 1). Francesco Raffaele referring to personal communication from F. Tiradritti on the catalogue 'KEMET - Alle sorgenti del Tempo ' of the Archaic-Ancient Egypt exhibition in Ravenna, 1998). See http://members.xoom.it/francescoraf/hesyra/pribsn.htm for online article by Francesco Raffaele.

Fig. 87 On this otherwise unpublished seal can be seen the name of Peribsen enclosed within a cartouche, probably the third such instance of royal titulary seen this way. Although unprovenanced, in all likelihood this seal dates to the reign of Peribsen at the end of Dynasty II (Raffaele 2001).

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8 There is a very similar seal with the cartouche of Neferkaseker (Kaplony ‘Die Rollseigel des Alten Reichs’ II, 1981 tav. I). Neferkaseker should be before Peribsen and if the seal is of authentic 2nd Dynasty date, this would be the second cartouche known, dating after the Saqqara brick and before the Peribsen seal.

9 Peribsen is not referred to in Manetho sources, but in addition to the artefactual evidence for this King, we have his Neswbit and Seth names: Nebty-Neswbit Peribsen, and his Seth name which reads Seth Peribsen (Raffaele 2001).
A very early complex sentence in Egyptian hieroglyphic script that dates to Peribsen’s reign comes from a seal impression found at Abydos Tomb P at Umm el Qa’ab. There is no cartouche surrounding the royal name in this instance\(^\text{10}\). This complex use of hieroglyphic script is important because by at least the end of Dynasty II, we know that the Egyptians were conscious of their ability to formulate a representation of spoken language through the economic system they had used since Predynastic times. It was also unambiguously Egyptian, and with the \textit{nsw-bity} epithet for Peribsen we have an expression of a ‘dual king’ of a unified Egypt (Quirke and Spencer 1994). Before the reign of Peribsen, there are numerous artefacts that show fragmentary phrases or dedications (see Petrie 1917; Appendix 1). This single sentence confirms, however, that there was an evolution in the \textit{use} of hieroglyphs within Egypt itself, and the idea of writing spoken language was probably indigenously formulated and sensitive to the Egyptian society of which it was a part.

Fig. 88 An early example of a complete complex sentence written in Egyptian hieroglyphic script. The group of characters on the end (to the right) is the \textit{nsw-bity} name of \textit{per-ib-s-n} (see Raffaele 2001).

In the years to follow, there are examples of an increasing use of brief sentences, e.g. during the reigns of Khasekemwy and Djoser, on various objects. In the case of Khasekhemwy, sentences are found on Nimaathapi seals, and during the reign of Djoser, the Heliopolis temple reliefs (\textit{ibid.}). Later in the Old Kingdom, an

\(^{10}\) "The first full sentence of Egyptian history [is] on a seal impression from Abydos Tomb P at Umm el Qa’ab. This demonstrates the evolution of the writing from a mere means to record and count some goods, to mark the property or provenance of these, to propagate chieftainship (serekhs, names) and to record the passing of time to an instrument for the expression of thoughts, ideas, statements and so on." (Raffaele 2001) http://members.xoom.it/francescora/hesyra/pribsn.htm
extremely rich literature seems to have emerged, including examples of biographies (Metjen, Pehernefer during the reigns of Huni and Snefru\textsuperscript{11}). By the time we see the elaborate Pyramid Texts of Unas\textsuperscript{12} (\textit{ibid.}), it is clear that there had been a long, sustained and indigenous development of the Egyptian hieroglyphic script, in spite of the major lacunae in our knowledge.

**Sumerian**

It is a central point of this thesis that the relative antiquity of southern Mesopotamian literate culture should not be thought of as the seed from which all other forms of writing in the world grew. It is proposed here that the genius of writing was not inherently evident in Phases 1 and 2, and it was not until much later that the utility of the proto-scripts came to more than simple economic recording. In Phases 1 and 2, there was a wide range of information storage devices that could be used for economics, which means that anyone who was using any form of external symbolic storage must have been on a comparable level.

There is, of course, the "Sumerian Question", with which scholarship has proved somewhat inconclusive. In part, this question asks what was the language spoken by the people who used the "proto-scripts" before definitive linguistic traits could be deciphered. What is clear, however, is that from the very earliest time that we have intelligible texts in southern Mesopotamia, the language being represented is plainly Sumerian – but notably, interspersed with Akkadian names and word forms. The opposite can be said about the earliest northern Mesopotamian and Syrian texts that survive, which we shall deal with in a moment.

What we do have in Sumer, however, is precisely that which is wanting in the archaeological record from Egypt, a great deal of evidence for development in the script. We have, due to the nature of the material upon which the texts were written and the accident of good luck, a definite sequence of development in the southern Mesopotamian cuneiform script from proto-cuneiform ideograms and abstract notations to fully developed and abstract cuneiform script. Given, however, the potential of bilingualism and/or a polyglottal society in Mesopotamia at this time, it

\textsuperscript{11} Huni was the last pharaoh of Dynasty III. Snefru was the first king of Dynasty IV.

\textsuperscript{12} Unas was the last pharaoh of Dynasty V.
would be presumptuous to think that Sumerian was the only factor that influenced the way in which cuneiform developed.

Firstly, let us consider the evolution of the cuneiform script. Although it can be argued that Schmandt-Besserat’s (1992; see Chapter 4) work on tokens and their relation to the development of cuneiform has some flaws, it is quite plain that there are some relations between the two systems. While we do not fully understand the system (for example, tokens within envelopes do not necessarily correlate to the two-dimensional representations on the outside of the envelope), it seems safe to consider tokens as being an earlier form of reckoning that were later replaced by two-dimensional scripts.

Once the two-dimensional forms began to replace the role that tokens played in the economy of at least southern Mesopotamia, an evolution in the form of the two-dimensional script can be seen in the archaeological record. The trend is toward increasing abstraction, to the point where even what were once very clear pictures no longer hold any physical resemblance to what they originally represented. This continues throughout the 3rd millennium, and even by circa 2500 BC, a fully developed, abstract phonetic script is evident in the archaeological record.

<table>
<thead>
<tr>
<th>Uruk IV</th>
<th>Jamdet Nasr</th>
<th>Early Dyn. III</th>
<th>Ur III</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>3200 BC</td>
<td>ca. 3000</td>
<td>ca. 2400</td>
<td>ca. 2000</td>
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<tr>
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<td><img src="JamdetNasr.png" alt="Image" /></td>
<td><img src="EarlyDynIII.png" alt="Image" /></td>
<td><img src="UrIII.png" alt="Image" /></td>
<td>SAG 'Head'</td>
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<tr>
<td><img src="NINDA.png" alt="Image" /></td>
<td><img src="Bread.png" alt="Image" /></td>
<td><img src="KU.png" alt="Image" /></td>
<td><img src="ToEat.png" alt="Image" /></td>
<td>NINDA 'Bread'</td>
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<tr>
<td><img src="Cow.png" alt="Image" /></td>
<td><img src="Eat.png" alt="Image" /></td>
<td><img src="Cow.png" alt="Image" /></td>
<td><img src="Plow.png" alt="Image" /></td>
<td>KU 'to eat'</td>
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<td><img src="PIN.png" alt="Image" /></td>
<td><img src="Plow.png" alt="Image" /></td>
<td><img src="Place.png" alt="Image" /></td>
<td><img src="Place.png" alt="Image" /></td>
<td>AB 'Cow'</td>
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<tr>
<td><img src="K.png" alt="Image" /></td>
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<td><img src="K.png" alt="Image" /></td>
<td><img src="Resp.png" alt="Image" /></td>
<td>APIN 'Plow'</td>
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<td><img src="Place.png" alt="Image" /></td>
<td><img src="KI.png" alt="Image" /></td>
<td><img src="Resp.png" alt="Image" /></td>
<td>KI 'Place'</td>
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<td><img src="1.png" alt="Image" /></td>
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<td>'10' resp '6'</td>
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<tr>
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<td><img src="Resp.png" alt="Image" /></td>
<td>'1'</td>
</tr>
</tbody>
</table>

Fig. 89 Highlighted are examples of the earliest proto-scripts from Uruk, dating to circa 3200 BC (courtesy of Trevor Watkins).
Fig. 90 Highlighted is the way the script would have looked during the middle of the 3rd millennium BC. By this time full abstraction has been made standard.

What has often been overlooked or understated in synthetic arguments on the origin of the southern Mesopotamian script and its relation to socio-economy is the fact that from the very earliest stages there seems to be an Akkadian presence within what is predominantly the representation of a Sumerian script. As we learn more about the early texts, it becomes evident that a geographic distinction between North and South does not simply equate with a distinction between Akkadian and Sumerian. Therefore, even though linguistically we can think of these early texts as being Sumerian, culturally we should be thinking in terms of more permeable definitions.

Just as there has been an inherent archaeological bias to treat southern Mesopotamia with primacy, there also seems to be the same bias within linguistics. Because it is assumed that writing used for Sumerian language diffused North to the Semitic speakers, the direction in which influences travelled is rarely questioned. Of course, as in archaeology, it is extremely difficult to track unidirectional influence through linguistic means, because it must be assumed that one of the parties involved in an exchange came first. This faces the same difficulty as with any study of the
past, that we simply do not have all of the information, so assuming primacy of one party over another will always encounter problems. Sumerian will have come before Akkadian in the history books until we find Akkadian that predates Sumerian; and even then, the situation would be reversed!

But this does not mean that we cannot track influences at all. In fact, there is some very good evidence for cross-cultural linguistic influence between Semites and Sumerians. As has been mentioned before, there are certain linguistic traits (rules governing certain verbs, no less) in Sumerian that are certain to have been borrowed from Akkadian. The first unequivocal evidence for this comes from Gudea and forerunners (Cooper 1969, p.6).


(2) Hier wäre u durchaus entbehrlich.
(3) Hier ist die Verwendung eines Äquivalents für “und” geradezu unentbehrlich. – bi(-da) ist aus syntaktischen Gründen ungeeignet. Von ähnlich gelagerten Fällen geht sicher die Übernahme des akkadischen u aus. Die mir bekannten frühesten Belege sind SAK 62 g, 3-9 (Urbaba); 62 Nr. 13 II 1-III 4 (Ugar); 64 c 5-14; d 3-9 (Nammahani). (Falkenstein 1978, p.42 Nr.2, ff.2-3; ellipses in brackets are mine, for full references of literary sources, see Falkenstein 1978).

We will further discuss the reciprocal nature of borrowing between Akkadian and Sumerian in the next section. For now, it is sufficient to say that in southern Mesopotamia, the language that was predominantly used for writing purposes was Sumerian. That we see intimate contact between Semitic and Sumerian speakers through what texts survive can suggest any range of relationships between the two languages, from widespread bilingualism to simply a deep knowledge of Akkadian by the scribes. What can be assumed, however, is that the social institutions which writing served were biased towards the Sumerian language. This also can mean any range of relationships between the people’s spoken language and the script: anywhere from a limited number of Sumerian speakers living in southern Mesopotamia, but accustomed to writing in Sumerian (similar to Latin as the lingua
academica and lingua theologica during the Middle Ages), to nearly all southern Mesopotamians speaking Sumerian, with only isolated groups speaking otherwise.

We can be certain that the writing of this script served a purpose, as it did in other regions. Because we can, even today, associate Sumerian with southern Mesopotamia, it no doubt would have had an association in ancient times as well. The lands of Sumer and Akkad meant something socially, politically, religiously and probably "ethnically"\(^{13}\) as well. But these boundaries were decided, and were probably inherent neither to geography nor demography. And, as we shall see, it was also not a linguistic boundary.

As we can see, points of contact between the North and the South can be seen in texts from such sites as Abu Salabikh. As the boundaries between what is Sumerian and what is Semitic become blurred, it becomes more clear that we should not think of writing acquisition as a unidirectional event. For the adoption of writing to occur, firstly a society must be at an appropriate level of sophistication to find sufficient motivation to use scripts – for they are certainly not necessary economically (as has been demonstrated in Chapter 4 – see tokens and ‘proto-scripts’). Secondly, from what is being demonstrated in this chapter, writing of spoken language has less to do with economics and more to do with the consolidation of power and identity. Because identity is a relative attribute (i.e. one must identify something with and against something), writing as an "emblem" must invariably be considered a co-evolution. This co-evolution necessarily means that unidirectional influence is highly unlikely. And, as we see in the case of Akkadian and other Semitic scripts, there is sufficient evidence for multi-directional cross-cultural exchange.

\(^{13}\) While what we would today consider ethnicity was almost certainly a feature of ancient societies, the term is problematic even in descriptions of modern society.
Abu Salabikh

The sites of Fara and especially Abu Salabikh provide us with some of the earliest evidence for sustained scribal overlap between the Sumerian and Semitic languages. Abu Salabikh has evidence for occupation (on the western side of the Tell) from the Uruk and Jemdet Nasr periods (in other words, our Phases 1 and 2) after which this side of the tell was abandoned. "[...] the period of the most extensive occupation on the eastern side was the Early Dynastic period. Occupation ceased at the end of Early Dynastic IIIA or shortly thereafter, and the site was never reoccupied. [...] The tablets were found in the buildings on the eastern mound, in Area E" (Hansen, in Biggs 1974, p.5).

Therefore, it appears as though after a restructuring after Phase 2, Phase 3 exhibits growth and sustained prosperity through much of the 3rd millennium. This Early Dynastic occupation comes complete with tablets written in Sumerian cuneiform. The dating of these texts is difficult and relies heavily on relative dating techniques, but Biggs suggests "that the Fara – Abū Salābikh texts probably antedate the reign of Ur-Nansē by one or two generations, that is, that they fall toward the beginning of the Early Dynastic IIIA. Therefore, if Ur-Nansē is dated to about 2550 B.C., the Fara and Abū Salābikh tablets are probably to be dated somewhere around 2600 B.C." (Biggs 1974, p.26).

Even at this early date, and well within what would be considered southern Mesopotamia, we find evidence of a great deal of cross-cultural contact14. This cross-cultural communication occurs not only amongst the city-states of Sumeria (i.e. the putative Kengir League of Jacobsen – Jacobsen 1943), but there are considerable Semitic linguistic elements in the Abu Salabikh texts. The fact that communication is already evident in these early texts shows the carry-over from what we have seen in Phases 1 and 2. In Phase 3, these communications are still kept up, but the exchange relations operate under a new set of rules. It seems clear from the linguistic evidence that the Abu Salabikh scribes had considerable contact with Semitic languages. Because the state-level identity in southern Mesopotamia placed

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14 "An interesting fact in this period is that there appears to have been considerable communication among the cities in Sumer, not only of a commercial nature but scholarly as well." (Biggs 1974, p.26)
emphasis on Sumerian language and script, however, this now became a symbolic representation of this identity.

The striking new element introduced by the Abu Salábikh tablets is that not only do Semitic names appear in the administrative texts, but approximately half the names in the colophons to the lexical and literary texts are Semitic. [...] whether these scribes were Semitic or of mixed Sumerian-Semitic background or whether the area included a group of people who were so prestigious that their name types were in common use among another linguistic group cannot be said. I incline toward the view that Semitic people had been living in the area for some time, in a peaceful urban society. It seems entirely probable that some of the scribes were indeed of Semitic background.

(Biggs 1974, p.27)

Akkadian and Early Northwest Semitic

It has long been supposed that because the script used to represent Akkadian in the second half of the 3rd millennium is derived from the same forms as seen in southern Mesopotamia to represent Sumerian, the use of cuneiform in the North was inherently borrowed from the South. An analogous situation to this supposed North/South relationship can be seen in the way in which Japan acquired characters from the Chinese mainland, even though the languages themselves were very different. It is seen by many that in the second half of the 3rd millennium, after the “Dark Age” in northern Mesopotamia subsided, the local Semitic speakers adopted the writing system that their more advanced southern Mesopotamian neighbours had been using in some form since almost the middle of the 4th millennium.

The problems with this viewpoint are manifold. First, some of the best evidence we have of the proto-literate numerical tablets actually comes from the North (Schmandt-Besserat 1992, Fig. 79 on p.131; also see Chapter 4). Of course, an argument held by many is that because these sites were colonies of southern Mesopotamia, the local northerners would have no understanding of or use for the economic system that was being used. This is still open for discussion, and it will not be necessary here to openly dispute the status of these “colonial” sites. It is sufficient to say that the use of proto-scripts was definitely part of the economic system in the second half of the 4th millennium. Because we see this system being used outside of southern Mesopotamia, it stands to reason that interactions between
the North and the South were important to the establishment of the system of writing in the first place.

Another point of contention with the standard model is that ethnicity cannot be easily defined by linguistic groups or even by material cultures. This is especially true when dealing with the early scripts of both northern and southern Mesopotamia. Just as there are numerous references to Akkadian names and Akkadian endings in otherwise Sumerian texts, the opposite is also true. The earliest Akkadian texts that survive to us also have numerous Sumerian and southern Mesopotamian elements in loanwords, names, grammatical elements and character types.

The earliest fully-developed Akkadian scripts that survive date to approximately the 26th century BC, merely a hundred or so years after the earliest fully-developed Sumerian texts that survive to us. The evidence is this:

- Proto-literate numerical tablets15 existed in both the South and the North from circa 3300 BC.
- Fully developed scripts representing a predetermined spoken language emerge in both the North and the South by the middle of the 3rd millennium BC, although the earlier of the two that we have recovered are from the South and are in Sumerian.
- There is evidence not only of considerable early contact between Sumerian and Akkadian speakers at least in scribal circles, but that this contact was reciprocal (Cooper 1969).

This last point requires further elaboration. In Akkadian, the word for “ear”, for example, has an association with the concept of “intelligence”; this association may be due to the fact that the Sumerian word geštuğ means both “ear” and intelligence (Cooper 1969, p.3). But influence in the opposite direction is also attested. In Sumerian “pity” is associated with their word for “womb”, which may

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15 In the earliest forms of proto-cuneiform, it must remembered, it is impossible to distinguish what language would have been spoken. It seems very clear that from what the earliest translatable texts tell us, there were both Akkadian speakers and Sumerian speakers in both the South and the North. In relation to the numerical tablets, the “Sumerian Question” is even more pronounced.
be a semantic extension from the Akkadian word remu, which holds both "womb" and "pity" as meanings (Cooper 1969, p.4).

As has been mentioned, the cuneiform evidence we have for fully developed Sumerian antedates that of fully developed Akkadian, but evidence for bilingualism and the Semitic influences attested date almost as far back as the earliest unequivocal Sumerian writing. In the past few decades, however, excavations in northern Mesopotamia have revealed cuneiform archives in pre-Sargonic Semitic, including Eblaitic and Akkadian with multiple local variations. These pre-Sargonic Semitic writings are beginning to close the gap between what was thought of as the advanced South and the backward North. The North seems now to have been using cuneiform writing to represent local forms of speech from very early on as well – pre-Sargonic is prior to circa 2340 BC (Dombrowski 1988, p.214).

Let us now examine some of these early forms of Northwest Semitic and Akkadian dialects from the most important pre-Sargonic northern Mesopotamian and Syrian sites from which we have literary information: Mari, Ebla, and Tell Beydar.

Mari

The pre-Sargonic Akkadian archives found at Mari are one of the great sources of information that we have from the 3rd millennium North Mesopotamia. The site of Mari, however, has often been looked upon by scholars as an outlier to the otherwise backwards tendencies of the North. In fact, it has even been referred to as an "anomaly" (Schwartz 1994, p.158). The truth is that we do not know enough about the first part of the 3rd millennium to conclude that there was a "Dark Age" between c.3000-2500 BC in the North. With this in mind, the seeming precociousness of Mari may not be so surprising if we allow for some amount of development in the North at the turn of the 3rd millennium.

Mari was situated in a prime area to act as an intermediary between the developing states in the North and in the southern alluvium (Schwartz 1994, p.155). With Ebla to the northwest and the Jezira sites upstream to the northeast, Mari acted

16 The earliest Sumerian cuneiform text that constitutes intelligible representation of spoken language are the archaic Ur texts, which date to the end of the Early Dynastic I period, (circa 2700-2675 BC). The earliest Semitic influences that we can see in Sumerian texts dates to the beginning of the Early Dynastic III period (circa 2550-2350 BC), i.e. from the Fara period (cf. Cooper 1969, p.1).
as a bottleneck through which contact between emerging polities exchanged. This, of course, put Mari in a situation advantageous for exploitation.

That Mari acted as a contact between these two regions is evinced in texts from Kish dating to the middle of the 3rd millennium, and show that there were clear affinities between the two sites (i.e. Kish and Mari; M. Gibson, pers. comm.). These affinities show up from very early on, and were probably present from the very beginning. Both Kish and Mari were founded at almost exactly our Phase 2, and as such underscore the importance of c.3100 BC as a time after which organisation of settlements followed a different set of rules.

Mari itself has been difficult to describe in its early stages due to the fact that it did not fit neatly into the core-periphery model with southern Mesopotamia at the core. If we abandon the idea that the North was always lagging behind the South, then Mari no longer presents a problem at all. Mari exemplifies the transformation that took place during Phase 2, in fact. “According to its excavator, Mari was founded ex nihilo as an urban centre of at least 100 hectares in an act of ‘political will’ early in the third millennium (Margueron 1987, 1991); the proposed impetus for the site’s establishment and subsequent prosperity was the control of traffic along the Euphrates and Khabur” (Schwartz 1994, p.158).

But if the foundation of Mari was a political expression, whose will was being expressed? This region of the Euphrates does not seem to have sustained a large enough population in the preceding period to set the stage for a “natural” population agglomeration, although the founding of the upstream site of Terqa (modern Asharah) and its relation to Mari is as yet unclear. There are, however, two clear indicators that tell us what the “identity” of the founders of Mari was. Even from the relatively small sample of data from the early periods, “material remains from the earliest contexts at Mari have a Northern Mesopotamian, Ninevite V-related character with little evidence of southern contact (Lebeau 1987, 1990)” (Schwartz 1994, p.158). If Mari acted as an economic intermediary between the North and the South, it certainly did not exhibit its intermediary status in its material culture. Mari was assertively a part of the northern Mesopotamian culture.

Another indicator of what the identity of the Mari inhabitants was comes from the fact that we have recovered scripts. These scripts are written in Akkadian.
They are not, however, written in Eblaitic, which indicates that Mari did not fully identify with the strong culture of Ebla to the Northwest.

Therefore, we have every indication that a powerful city-state which identified with the Ninevite 5 material culture and (later) the Akkadian script established itself in Phase 2. Mari was to increase its power and strengthen its own identity through the 3rd millennium, eventually to reach a social sophistication (complete with dynastic rulers) rivalling that of anything one might find in the South in the 3rd millennium. And although it did show some close ties to Kish and some elements of the South\textsuperscript{17}, Mari retained its northern flavour.

In fact, Kish itself may have been the “mirror image” of Mari. Where Mari acted as the intermediary between the newly forming “States” of the North, Kish may have done the same for the “States” in the South. In fact, Kish’s importance for formulating the overall identity, as it has already been seen (above, this chapter; also see Chapter 5), cannot be overestimated. Kish was designated as the centre. Mari was not interacting with the same sort of city-states as was Kish, though, so Mari’s role would have been undoubtedly very different than that of Kish. In particular, Ebla began to establish itself as its own entity, with its own legitimate set of identifiers.

\textit{Ebla}

While Ebla (Tell Mardikh) remains one of the most important and illuminating sites for 3rd millennium Syria, the dating of the archives written in the distinct Eblaitic Northwest Semitic script is enigmatic. There is still much fervor over an early or a late date for the Ebla tablets. Some, such as G. Pettinato maintain an early date for the dynasty of Ebla, correlating it to Dynasty I of Kish, based on paleographic, textual and archaeological evidence (see Pettinato 1977). This correlation would put the dating of the texts as far back as \textit{circa} 2600-2500 BC. Matthiae (see Archi 1987, p.132) puts the dating of Mardikh IIB 1 as contemporary with Amuq I, Hama J 8-5 and as corresponding to the first part of the reign of Naram-Sin, the well-known ruler of Agade. An Egyptian unguent jar lid with the

\textsuperscript{17} At Mari there is, “...evidence for military equipment virtually identical to that in southern Mesopotamia [...]; and the stylistic parallels in statuary from there and the site of Ashur with the south Mesopotamian material are striking” (Kuhrt 1995, p.41).
cartouche of Pepi I found in stratified contexts at Ebla support this later date. Archi
would like to put the dating of the archive at the early part of the reign of Sargon;
while conceding that the Ebla texts are pre-Sargonic, Archi points out that pre-
Sargonic texts could actually include texts that were written in the reign of Sargon
(Archi 1987, p.135).

What is more important than an early or late date for the Ebla archives is the
fact that when writing did exist at Ebla, it was in a distinct local system. As we shall
see, the more textual evidence that is excavated, the more we understand that even in
terms of writing, the North was not the cultural backwater as has often be ascribed.
Eblaitic represents a distinct form of writing of language that represented an
expression of state-level identity specific to Ebla.

Tell Beydar

This discussion on the Semitic scripts of the 3rd millennium is not intended to
be an attempt to reverse the notion that Sumerian cuneiform predates the texts found
in the North. The archaeological evidence revealed to date does not support such a
supposition. There are simply two ideas being put forth in the discussion of the
North v. South scripts:

1. Any attempt to explain the evolution of scripts in either the North or the
South must be described in terms of co-evolution, involving both Semitic and
Sumerian speakers/writers. The Sumerian script did not develop in an
isolated South, or even a homogenous South for that matter. The same can be
said for the Semitic of the North. Whether we see scripts develop first in the
South or the North is irrelevant; the fact remains that the development of
cuneiform must be seen as interdependent, and responding to the socio-
economic system in place. Similar (and possibly stronger) statements will be
said for proto-Elamite (see below, this chapter).

2. When writing of spoken language does come about in the both the South
and the North, the expressions contained therein are sentiments of identity,
whether real or imagined. The more we understand about Mesopotamia, the
more we realise that it was comprised of various linguistic and “ethnic”
entities. Because the writing system and the language it represented was
prescribed by the local authoritative body, the 3rd millennium scripts must be viewed as an expression of power and identity. This identity helped to consolidate the intentions and institutions of the ruling body; it was not necessarily an accurate representation of the local population. Therefore, the same concepts of emulative and emblemic style hold true just as much in a discussion of early scripts as they do in the stylistic analysis of glyptics.

It is not argued that every social institution or expression of identity had to start in Phase 2. The proposal being made here is that everything that one sees after Phase 2 follows the system set in motion during this period of transition. Therefore, any region that adopts writing at any time in Phase 3 must be evaluated in terms of emblemic and assertive styles.

It is here where the "more-or-less-peer" argument becomes important in the 3rd millennium. Emulation, it can be certain, was still occurring but only inasmuch as the emulation could actually assert or reinforce consolidation of power. Therefore, in the 3rd millennium, there existed a new type of cultural development where increasing returns on those powerful cultural traits became agglomerated and more powerful. The weaker traits became abandoned for symbols of identity that were able to effectively consolidate power (although this may not, in every instance, have been a conscious selection – see Memes in Chapter 2).

In the case of the North (Syria, northern Euphrates and northern Mesopotamia), it seems as though the graphemes of cuneiform were appealing enough to adopt by the ruling bodies who in turn prescribed the system to the scribal class to execute. But, apparently, there was not a strong enough draw on the Sumerian language itself, even though a strong case can be made for widespread bilingualism in Mesopotamia. Therefore, emulation and co-evolution of cuneiform script occurred, but the Semitic language served as emblemic of the inhabitants of the North. Although, a permeable linguistic and ethnic boundary between the North and the South probably existed, a virtual divide was established to differentiate the identities of the two regions. At a site such as Tell Beydar, it is clear that from very early on this differentiation had already been made.

While Tell Beydar does appear to have been a regional centre, it certainly
was not the only city of importance in the region. Texts have been recovered from Tell Beydar indicating that a fully developed regional dialect of Akkadian was being written in the northern Jezira by at least *circa* 2400 BC (Sallaberger 1999, p.115).

There are both similarities with scripts with southern Mesopotamia and characteristics that set the Tell Beydar tablets apart as singularly unique. Furthermore, one can track what appears to be an evolution of the script style *within* the repertory of these typical Tell Beydar style tablets.

![Fig. 91 These Examples of northern script signs from Tell Beydar, Mari and Ebla show how representation of similar words in Semitic take on distinct local forms (Sallaberger 1999, p.115).](image-url)
Elamite in Iran

If the 3rd millennium shows evidence for multilingualism in the greater Near East, nowhere has this idea been asserted more than in Iran. Perhaps the reason for this is the fact that the proto-Elamite script is largely undeciphered. Or maybe even more important is the fact that outside of a few major sites, we still know very little archaeologically about Iran and Central Asia.

Arguments for bilingualism have been proposed from both the East and the West: Amiet maintains that a significant constituency of Mesopotamians made up the population of Susiana (Amiet 1979); there may also be links between proto-Elamite script and Harappan scripts (see footnote below). What concerns us here is the fact that archaeologically speaking, we lack a great deal of information. It seems evident, however, that the two directions from which interaction with Iran could have taken place are not mutually exclusive. The fact that much of eastern Iran remains terra incognita underscores the fact that much more work still needs to be done. Until then, or until a breakthrough decipherment of proto-Elamite occurs, the commentary will necessarily entail archaeological and only very general linguistic observations.

The apparent dispute over which “duality” (i.e. duality between proto-Elamite and Indus Valley culture, or duality between proto-Elamite and Mesopotamian culture) existed, is not really a problem. These concepts are not mutually exclusive, and it may very well be that Elam served as cultural “melting pot” of sorts. In Phase 1, Susa and other Iranian urban centres show evidence for having been heavily involved in long-distance exchanges (Weiss and Young 1975). This economic emphasis on inter-regional exchange relations may have something to do with the idea that, in the 3rd millennium, Elam tended to fluctuate dramatically in what cultural representations were expressed.

Parallel with the Ubaid period in Mesopotamia, the early Susian material cultural remained distinct. In the 4th millennium, increasing contact with the Uruk “phenomenon”, that is to say the Uruk ideology (Collins 2000), blurred the lines

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18 The proto-Elamite script is presumed, however, to be the precursor for the later Elamite script based on the fact that, “The first [script] was in use from the fourth millennium BC (shortly after the beginning of writing in Sumer) to around 2200 BC. It has not been deciphered and is assumed to be Elamite due to its distribution and undisturbed overlap with the later [cuneiform] Elamite script. In form this older script is very similar to the Indus Valley script” (McAlpin 1979, p.175-189).

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between what was Mesopotamian and what was Iranian. But after Phase 2, the proto-Elamite culture re-established itself as distinct with Mesopotamia. There was effort made to establish a new centre at Tall-i Malyan, away from the Uruk-influenced Susa Acropolis (although Susa still remained a centre - Potts 1999). This "new" proto-Elamite culture showed more affinity in the 3rd millennium with the East, rather than with Mesopotamia in the West. Iran exhibited a common style as seen through various aspects of material culture in the 3rd millennium. This is especially true when one considers the eastern Iranian sites such as Tepe Yahya (see Lamberg-Karlovsky 1971; Lamberg-Karlovsky and Tosi 1973; Lamberg-Karlovsky et al. 1976). These eastern Iranian sites may provide us with the link between the Indus Valley culture and Elam, but much more work needs to be done in this area.

Elam in the 3rd millennium looks eastward in order to establish a cultural distinction. This apparent fact may be exhibited by the linguistic traits as well, although many of the thoughts on this subject are contentious due to the fact that full-interpretation of the Indus Valley script and the proto-Elamite script do not yet exist. Therefore, this brief overview of the current theories on this subject will suffice to show that there may very well have been an emphasis on a strong Elam/Indus Valley relationship in the 3rd millennium. Relationships between Elam and Mesopotamia in Period 3 becomes one of cultural bias, exemplified through a preference of a different script and language, even though it is very likely that Mesopotamians (non-Elamite speaking) also co-existed in Elam. Perhaps the increasing affinity with the cultures to the East was indeed influenced by the fact that it was both very distant and in the opposite direction as Mesopotamia.
Fig. 92 Large sealed proto-elamite tablet from Susa Acropolis; Susa III period (proto-elamite – circa 3100-2850 BC). Unbaked clay (Potts 1999, p.74). The script is distinct from that of southern Mesopotamia although the numerical expressions from Elam and Mesopotamia possibly come from a common prehistoric ancestry in the Near Eastern Network (see description of tokens in Chapter 4).

Indus Valley Script

In Chapter 3, it was mentioned that the 4th millennium Ravi Phase at Harappa has revealed early forms of what later in the 3rd millennium would be known as a fully developed Indus Valley script. The evidence, although scanty, also shows a continuous development in the use of the script through the 3rd millennium. Dating to the Kot Diji Phase at Harappa (early in the first half of the 3rd millennium), we have the use of recognisable signs grouped together in a way that would later be considered standard. In the particular example given here (Fig. 93) the two signs grouped on the sherd can be seen as a grouping comparable to those on later seals, such as the Unicorn seal in Fig. 94 (Kenoyer 2000).
Fig. 93 This Harappan sherd dating to early in the first half of the 3rd millennium is inscribed with signs that grouped and arranged in a manner similar to the arrangement of the characters on seals (see Fig. 103) from the second half of the 3rd millennium (Kenoyer 2000).

Fig. 94 This “Unicorn Seal” from Harappa Mound E dates to Period 3B or early 3C, around 2450-2200 BC. The area highlighted in blue shows the characters that correspond to those on the sherd in Fig. 102. If this seal were used to impress onto clay (which is attested at Harappa), the impressed characters would be in the same order as those seen on the sherd (Kenoyer 2000, photo has been altered to highlight the script).
Glyptic Styles in Literate Cultures

Glyptics have already been approached more extensively in Chapter 5, but a recapitulation for the benefit of formulating an overview of 3rd millennium literate cultures is useful. The approach here will be simply to provide general comments on how glyptics in the 3rd millennium represented cultural traits. Symbolic representations came to display emblems of “self” and “other” as well as exhibiting emulative traits during Phases 2 and 3. There is no evidence, statistical or stylistically, that these qualities are present for a state-level identity in the 4th millennium.

Egypt

Eagerly adopting cylinder seals as a borrowed form of object in the 4th millennium, Egypt abandoned both importation and imitation in glyptics very soon after the onset of a unified pharaonic kingdom. The Egyptians seemed to like the technological qualities of cylinder seals initially, but even this versatile form was more-or-less abandoned in favour of the scarab stamp seal by the middle of the 3rd millennium, although cylinder seals continued to be used in an official capacity. Likewise, styles that were originally used as an emulative boost to pharaonic power (such as depictions of intertwined beasts’ necks as on the Narmer Palette, and also imported Jemdet Nasr style seals) were abandoned in favour of iconography that had more applicability to the socio-religious milieu in Egypt.

There may be some relationship between the development of writing used as a display of identity and the way in which cylinder seals rolled a continuous frieze. It can be speculated that even the cartouche itself is meant to represent the royal name as it would have been engraved on a cylinder seal. This relationship can be explored through one interesting aspect of hieroglyphic writing. Of the cylinder seals from Archaic Egypt housed in the Ashmolean Museum, for example, the vast majority of those with decipherable hieroglyphic writing are most likely meant to be looked at rather than rolled onto clay. This can be assumed because almost invariably the hieroglyphic characters read from right to left when looking at the seal itself, whereas when rolled the impression would be read from left to right. The ‘normal’ (i.e. all things being equal) way of reading and writing hieroglyphic writing,
as known from later periods, is from right to left. This is further substantiated by the fact that almost every tag found with proto-hieroglyphic engravings from the tomb of Scorpion at Abydos also displays this right to left characteristic. Therefore, the preference of reading from right to left was probably present from very early on.

This writing/glyptic association is important because despite the initial 4th millennium emulation that had occurred, an endogenous development of writing and glyptics can be traced. This development is one of Egyptian state-level identity that finds its roots in Phase 2 and undergoes solidification in Phase 3.

South and North Mesopotamia

In the early part of the Ninevite V period in northern Mesopotamia/Syria, a common glyptic style was the Piedmont Jemdet Nasr style. While this was clearly emulative and North and South Mesopotamia have demonstrable ties, even this emulation was limited and short-lived. In the overall cultural repertoire of North Mesopotamia, the glyptics in the Piedmont Jemdet Nasr style were virtually the only material that appears externally derived (Schwartz 1994, p.162).

Later on in the Ninevite V period, near the middle of the 3rd millennium, figurative style glyptics become common. While these figurative seals display some influence from southern Mesopotamia, indicating a continuation of strong cultural ties between the North and the South, the late Ninevite V figurative style glyptics display pronounced local character. In fact, “no artifact of undiluted southern Mesopotamian character has yet been identified in a Ninevite V context” (Schwartz 1994, p.167; Rova 1988).

In southern Mesopotamia, designs such as the ‘Fara’ style or possibly a ‘Kish’ style display the establishment of a canon of signification in glyptics. Rigid standardisation shows the close ties between the city-states in the southern alluvium. Additionally, the Sumerian script solidifies the identity agglomeration that can be seen, especially at the centre of Kish. Uruk, however, as important as it was in the 4th millennium is not as important for the 3rd millennium identity as were sites such as Kish and Nippur. This further supports the discontinuity in the social structures between the 4th and 3rd millennia in southern Mesopotamia.
Although Jemdet Nasr ‘schematic’ style seals have been found in many different regions, at Susa this type of seal was almost never used to impress tablets. On the contrary, sumptuous seals with animal forms and with human elements systematically absent were by far the predominant style used. This figurative style has been designated “proto-Elamite” and has entirely nothing to do with Mesopotamian culture (Amiet 1979, p.197). The proto-Elamite style glyptic, which first appeared during Phase 2 and developed in the 3rd millennium, displays the characteristics of being emblemic of the newly forming state-level identity in Elam.

The Phase 2 and early Phase 3 glyptics from Susa exhibit this divergence from its earlier ties with Mesopotamia in Phase 1. In Phase 1, the glyptic styles in Mesopotamia and Susiana, although distinct and distinguishable, were so similar that many have come to equate the two styles. In fact, the entire cultural repertory of Susa has been equated to that of Mesopotamia (see Algaze 2001). From Jemdet Nasr through Early Dynastic I periods (in southern Mesopotamia), the proto-Elamite glyptic, as with much of the rest of the material culture of Susiana, appears distinctly non-Mesopotamian. The proto-Elamite seals have more in common with seals from the East, indicating a strong sense of cultural hegemony within Iran. By Early Dynastic III period, the predominant role that Susa had in establishing the proto-Elamite identity had broken down and Susa had once again become a city of Mesopotamian type. But the proto-Elamite “ethnic” element (as seen through the glyptic and other material culture traits – see Amiet 1979) continued on in the rest of Elam, now centred in Luristan and the Fars province. By this time, the true Elamite culture, fully developed and literate, had taken its hold and would continue to develop as an Iranian culture.
Section III
Exchange Relations

Previous studies (Crawford 1974; Oppenheim, 1954) have dealt with various aspects of exchange relations between states in the 3rd millennium. The difference between the studies of the 3rd millennium and 4th millennium in this regard is that in the 3rd millennium, academic disciplines are more clearly defined according to linguistic categories, and there is much more information available to help explain the intricacies of dynamic exchange relations. In the 4th millennium and earlier, our sources of information come almost entirely from archaeological and artefactual evidence (Moorey 1987).

The result of the departmentalisation of the study of this time period is that academic disciplines have traditionally been divided according to 3rd millennium and later designations, e.g. Assyriology deals with the geographical region that would later become Assyria, even if the State of Assyria did not exist in the prehistoric periods. Within this framework, it is easy to see how materials in prehistory can be misinterpreted due to their later, and better-known, characteristics.

Misinterpretation of the 4th millennium exchange relations in the greater Near East is at the heart of the overall problem in the interpretation of the origins of civilisation. In Chapter 4, the artefactual evidence from the 4th millennium showed that there did not exist a simple asymmetrical system of exploitation of a “periphery” by a “core”; rather, there was every indication that reciprocal and dynamic exchanges were occurring among more-or-less peers from within an open Network. It was not until the 3rd millennium that we begin to see exchanges between competing state-level socio-economies.

“Self” and “Other”

This chapter sought to highlight the idea that that the amazing achievements of the 3rd millennium civilisations took place under the umbrella of regionally defined state-level identities. One fact cannot be overstated: in order to identify with a group, there must be something to identify with and something to identify against.
It is not until Phases 2 and 3 that we actually see any evidence for either of these aspects of identity.

In Chapter 5, and above in the section on glyptic evidence, it has been argued that stylistic and statistical analyses support the supposition that regional state-level identities were formulating at the turn of the 3rd millennium. In Phase 1, there is no evidence for this level of identity. Of course, in the 4th millennium there were identities that existed, but they were much different than the new state-level identities that we find in the 3rd millennium.

Social institutions changed to take into account this greater level of identity. With a "state", new institutions were set up (including kingship) that looked after the interest of this consolidation of power. But the old identities were never abandoned, thus accounting for the continuation of earlier styles. One could still have a 'kinship-identity' at the same time as being a member of a "state". Identities were not necessarily mutually exclusive.

But some groups and individuals were clearly not of the same identity. These were the 'others'. Some of the definition may have had to do with language, or region, or subsistence strategy (for example, nomadic herders may or may not have been regarded as part of the "state", even if they lived in the same region), etc. What defined each state was no doubt particular to each instance; but what absolutely must have happened in each formation of identity was a definition of who was "Us" and who was "Them". This is an unequivocal fact.

Symbolic representations and their corresponding memes (see Chapter 2) both reflected the new social organisation and helped to ground this organisation in physical reality. Through the natural course of human interaction with the material world, and in particular with increasing Network relations, the material culture began to take on active and passive roles in the construction of identities. Material culture was active in the sense that the social structures being developed were cognitive, and these memes were aided by physical mnemonic devices, or signs of shared complexity. Once created, this material culture served as a static referent (passive), from which people could trace their various levels of identity. This passive symbolic element was a powerful tool in the construction of social structures, for example:
linguistic and ethnic norms, power structures like kingship, economic relations like redistribution, and religious doctrines.

Beside all of the facts that have been presented showing how chronology, style, social institutions, material remains, etc. in the 3rd millennium support a simultaneous change, the idea simply makes sense. In fact, no other model seems to come close to accurately representing all levels of the human condition at this time: from the individual person all the way through to the large-scale consciousness.
Summary

Chapter 6 has sought to provide a brief outline of the accomplishments of the 3rd millennium, especially as the archaeological and linguistic evidence shows state-level identity. This evidence as been presented through an analysis of artefacts that show how information relating to this new identity was stored, retrieved and transferred. Power agglomeration especially benefited from these symbols of identity because these particular forms of material culture helped to define the social structure itself. In particular, symbols that reinforce linguistic and ethnic solidarity and material expressions of regional identity have been shown to represent the way in which societies organised themselves according to the new social structures of the 3rd millennium.
Chapter 7

Conclusion and Modelling

The thesis statements and questions raised in Chapter 1 will be addressed in this chapter in light of the evidence presented in the body of this thesis. A summary of the conclusions given throughout this thesis will be recapitulated and an overall statement will be made about the social transformations of the “Urban Revolution”. Specific references will be made to conclusions drawn from the data shown in the preceding chapters.

A general model will be outlined in Section II which takes into account all of the information that has been approached herein. It has been intended to give an integrated material/cognitive approach to the subject of the social transformations at the turn of the 3rd millennium. Therefore, all aspects of analysis will be presented in a unified model. The interdependent information included both material and cognitive analyses. The material information will include geography, chronology, artefactual and archaeological generalisations, statistical and spatial analyses, economic and exchange systems, and technological achievements. The cognitive information included culture transmission, identity formation processes, meme-theory, dynamic systems theory, chaos theory, complex adaptive systems theory, and external symbolic storage. The model will attempt to put all of this information and all of these approaches in the most easily digestible format.

Finally, in Section III, the advantages and drawbacks to the theory and methodology taken in this thesis will be considered. Possible areas for further investigation and scholarship on this subject will be delineated, and a case will be made for the value of this thesis in the subject of archaeology in general. The benefits of this analysis on both an interpretative and theoretical level will be weighed; this will be done for the primary spatial-temporal subject herein, for other analyses of this and similar time periods elsewhere in the world, for studies conducted at other time periods in this part of the world, and for archaeological historiography in general.
Section I

Thesis Statement

In Chapter 1, a tripartite thesis statement was given:

1) There was a long development of a network of interactions between humans, their communities and their environments.

2) This development was occurring throughout the greater Near East among more-or-less peers.

3) The development of the Network accumulated in complexity especially in the 4th millennium, and at the end of the 4th millennium simultaneous social changes occurred resulting in a multiplicity of state-level identities and expressions thereof.

Chapter 2 presented a methodology to approach the way in which information exchange occurs, specifically by using meme-theory. Chapter 3 showed how long the development of the network was and also how widespread it was. Chapter 4 presented, through various archaeological and artefactual means, the materials that have been recovered from Phase 1 and how they substantiate this network hypothesis. These relate to thesis statement 1 above.

Also in Chapter 4, it was shown that development of the same kind was occurring throughout the Near East. In Chapter 5, Phase 2 was shown, through an analysis of the Glyptic Corpus (Appendix 1), to exist as expressions of communities’ assertions of their identities. These expressions were not created through a core-periphery situation, rather as legitimate assertions of identity among more-or-less peers. These relate to thesis statement 2 above.

Chapter 3 showed though calibrated radiocarbon dating that the long development of the Network resulted in simultaneous changes. In Chapters 4 and 5, the material evidence was shown to display a trend of increasing complexity in Phases 1 and 2, coupled with a lack of a cultural opposition to blending of regional styles. This has been argued to mean that in Phases 1 and 2 there were no state-level identities. In Chapters 5 and 6 the result of the social transformations was
approached artefactually. In Chapter 5 the transformation itself was observed through the Glyptic Corpus. In Chapter 6, the result of the transformation was examined through an analysis of the material expressions of the Phase 3 state-level identities.

Section II

Fully Incorporated Model

The model created for the purposes undertaken in this thesis has been one that incorporates an integrated mind-material approach. Chapters 1 and 2 set up the presentation of the material data as approachable through this integrated model, but it may be that in the presentation of so much material data the mind may have been lost (sic). Therefore, in this section a brief recapitulation is given regarding the importance and relevance of the model used. Specifically, the concept of signification will be approached. The Signs of Shared Complexity that have been presented in this thesis will be looked at from a general point of view of how material objects relate to identity and social meaning. Writing, numeracy, sealing practices and other forms of external symbolic storage will be approached specifically.

External Symbolic Storage

What is writing? This is not an easy question to answer and it will not be attempted to any great length here. It is sufficient to say that writing is a form of representation (Harris 1986). The attribution of 'true' writing over 'proto-writing' is a fallacy, however, and it should be understood that the 'origin' or writing should not be sought in antiquity, but in our definition of the word 'origin' (Harris 1986). Systems of representation existed before c.3000 BC and it is not necessary to discuss whether these earlier forms of representation were 'true' writing or not.

What is clear, however, is that representations that existed before c.3000 BC were meant to be interpreted. In this sense, they were every bit as good as post-3000 BC representations: they served the purpose they were created for, representation and interpretation. After c.3000 BC, it is being argued in this thesis, a new social system
was created with a new layer (state-level) of identity. Therefore, the representations created after c.3000 BC were meant to be interpreted within this new system.

As a technology, two-dimensional scripts allowed for something remarkable: precision in representation and interpretation. The ideas being transferred or stored in writing left little room for re-interpretation by those retrieving the information. This is different from the abstract three-dimensional token system, which may have served as a *lingua franca*. Likewise, pictorial representations require a great deal of flexibility in interpretation (see Chapter 2).

Perhaps this is why seals reflect such a tight clustering of styles in Phases 2 and 3. These clusters are defined by both similarities with 'like' seals and differences with the 'others'. Because these similarities can be seen on a regional level where there had previously been no such distinctions, we can conclude that there was the formation of a new identity on this level.

Writing in the 3rd millennium also reinforced these differences (and indeed tells a great deal about them). Because writing was used by and for an elite (political or religious), power was agglomerated by this class. Power agglomeration and expressions of it were essential to 3rd millennium state-level identity.

**Memes**

Humans have a predisposition to try to understand things. This is especially true when it comes to understanding meaning in material culture. This disposition may very well be genetically encoded into the 'hard-wiring' of our brains, tapping a non-algorithmic portion of our 'mind'. Our brains and minds, however, cannot limitlessly relate to complex problems.

For instance, when we come to grasp a particularly complex mathematical concept, at the final 'Eureka!' moment we are relieved to have finished the mental steps it took to reach understanding. Then we file this information away categorically into our 'memory bank' as an understood mathematical concept. When we are next called to recall this concept, it is important that we remember the *instructions* of how we can reach the end of the mathematical process. In other words, we must undergo the same logical steps to reach the same 'Eureka!' conclusion all over again.
What happens in the scenario explained above is related to signification in material culture. What takes place when a person recalls instructions for how to make our way through complexity does not actually amount to recalling the complexity itself. We do not directly access or grasp the complexity because our minds cannot comprehend all of this information at once; instead, we access a ‘meme’ in the form of instructions that can help us to deal with the complexity.

What we see emerging in the 3rd millennium material culture are material expressions of memes that enable to the human mind to deal with the enormous complexity that had been developing in the 4th millennium. These memes were easier to understand, store and transmit because they were instructions for how to deal with social complexity. These memes may have taken the form of symbols of power, identity or social stratification: all ways in which complexity became simplified.

These memes (and memeplexes) and their corresponding expressions created a new system under which the huge amount of complexity that rose in the 4th millennium became organised. Every material culture expression in the 3rd millennium fell under this new set of rules. For example, when a city was built in the 3rd millennium, it had fortification walls, whether it really needed them or not.

Seals also reflect this new organisation and agglomeration of identity as a way to deal with complexity. It is in this sense that the way in which people ‘filed away’ memes was becoming more sophisticated. Humans were developing more reliable ways to externally store important ideas outside of the brain. These symbols were external to the brain, often permanent and monumental and would have been readily understood by those who were privy to that society’s structure. It is in this way that Phase 2 may very well the transformative phase that Renfrew (1998) refers to as (Donald’s missing) ‘theoretic culture’ of human evolution. (see Renfrew, and Donald in Chapter 1).

Social reality in the 3rd millennium was both cognitive and material (refer to the Mind/Material Loop, Fig. 1, Chapter 1), and its construction was the result of an interplay between the two parts of reality. In Chapter 6, what this new system looks like in the historical record has been described, but so far little explanation has been
given as to how this social reality was constructed. This is an area that still needs work, and this thesis does not intend to provide the final answers.

It is difficult to describe the formation of social reality because, as we have seen in the Mind/Material Loop (Fig. 1, Chapter 1), only a portion of this constructed social reality actually lies in the observable material world. These are the symbols that we have devoted so much attention to in this thesis. In order to describe the way in which social reality actually forms, however, we must understand the way in which the mind works. The more we understand about the interplay between the mind and the material world, the closer we can come to description of the processes involved in the construction of social reality.

The ‘integrated approach’ taken in this thesis is, in essence, what Renfrew (2001) describes as self-referentiality, or in other words, the material symbols do not simply represent social reality, they actually serve to constitute this reality (Renfrew 2001, p.98). Searle takes the mirror-image viewpoint (1995) and states that institutional facts (concepts) go to actually constitute the social reality that they describe (Searle 1995, p.27). These are both sides of the same coin, and we cannot understand social reality without understanding the way in which the mind and the material world interact.

This interaction is important to understand when we seek to describe the process of constructing social reality. For instance, what were the organisational principles behind the construction of state-level identities in the 3rd millennium? To approach this question we cannot think in terms of monocausality in the sense of strictly cognitive, or strictly material, but we can think in terms of self-organisation.

Self-organisation is difficult for many to accept because it seems deterministic and lacking in ‘free will’. While this is a legitimate concern, a description based on this concept need not include this concession. Rather, our minds actually work in a way that ‘self-organises’ according to (it is being argued here) a sense of scale. Power agglomeration in particular centralises both material reality (resources) and symbolic reflections of this social reality around what can be called ‘attractors’. This is roughly analogous to ‘strange attractors’ seen in complex systems theory (Gleick 1988). These ‘strange social attractors’ are not strictly
mechanical, but operate in a way in which the mechanics of our mind can easily grasp.

Language and writing are very successful media in which to produce social attractors (see Bordieu 1991), but they are by no means the only ones. It is argued here that seals not only reflect the social reality that was developing according to a state-level scale, they also went to constitute the social identity itself. Seals symbolised the control of resources manifested through an organisation of power, but they also served to institute the organisation itself. Through an analysis of the way in which seals developed signified values of identity, we are able to actually track both the material and cognitive formation of this new social reality.

Section III
Validity of Approach

The approach taken in this thesis attempted to integrate the most recent data available into a model that more accurately represents the way the social transformations of the 'Urban Revolution' took place. Ignoring either the mental or the material aspects of this process would not do justice to the complexity of these important changes. In this sense the approach taken here does achieve a better descriptive resolution due to the fact that the situation is not simplified into unilinear, monocausal or deterministic interpretations.

At the same time, we still know very little about the way that both the mind works and the way in which information transfers from one mind to the other. While this thesis may be a step in the right direction, there is still a long way to go in our understanding of these complex issues.

Areas for Further Study

The issue of scale has been a particular focus in this thesis. The scale of analysis taken here has been one of very large scale. Just because the scale is large, however, it does not mean that the information presented here is not accurate on
different scales too. For instance, it would very interesting to examine how early state-level identities were being formed within the states themselves. In this thesis, these changes were only being observed in opposition to one another due to the large scale of observation. A smaller scale approach that analyses a particular early state and its identity amalgamation in the 3rd millennium would be useful way to make this thesis applicable to more conventional smaller-scale regional studies. A similar approach could even be used.

In particular, the site of Kish in southern Mesopotamia seems to emerge in the 3rd millennium as the centre of identity for the region. Taking the concepts put forth in this thesis, it would be interesting to explore the dynamics of a created identity as seen in the symbols and signification strategies from the site that was identified as the centre.

Furthermore, regions that have been often thought to be ‘peripheral’ can now be looked at as more active participants in the Near Eastern Network. Perhaps now the contributions that places like Palestine and northern Mesopotamia have made to history and prehistory can be appreciated. Before, models such as Algaze’s World System did not allow for these regions to make any contributions to the achievements of the 4th and 3rd millennia. As “more-or-less peers”, even smaller scale societies can be shown to have contributed at least something (other than slaves or mindless and externally controlled resource acquisition) to the developments that were occurring at this time. The inhabitants of these regions can at last be viewed as real people with real minds and identities, and not just as pawns in the game played by southern Mesopotamia alone.

Finally, the Corpus of Glyptic Artefacts presented in Appendix 1 is incomplete and it will always be incomplete. The observations presented in this thesis make sense, but as we grow in knowledge, understanding and scholarly pursuit, augmentations and alterations to these conclusions may occur. This is especially true in regard to the data that we have recovered. In spite of the conclusions made in the body of this thesis, it would be a shame to abandon the Corpus of Glyptic Artefacts. There are always more seals and seal impressions being found, and it is proposed here that this corpus could be expanded into an updatable database into which information on newly found or published glyptic artefacts can be
archived. Hopefully, with an ever-expanding archive that has full access to scholars, more use can be gained from both this Corpus and the important artefactual resource we have in seals.
Appendix 1

The Corpus of Glyptic Artefacts that is mentioned throughout the text of this thesis is included in Appendix 1 in electronic form. The Corpus only includes seals of known provenance. It exists on a 3 ¼ inch floppy disk as a Microsoft Excel (Corpus1a.xls) file. The file is approximately 1.2 megabytes in size. The disk is included in a jacket at the rear of this thesis. The database on the Excel file consists of 17 columns, listed as A-Q. There are 4588 rows, each providing information for a separate cylinder seal, seal impression, or other such glyptic object dating from Phases 1, 2 and 3. The first row does not contain not data, rather the title fields. These fields are as follows:

A - Region - Refers to the general region where the site that the seal was found is located.
B - Ref. No. (Reference Number) - Refers to the Museum or catalogue number that specifically refers to this seal; figure numbers or plate numbers are given where no individual number has been given in the text.
C - Site - The name of the site where the seal was found.
D - Date of Findspot (when available, information has been given - note- this is often different than the date of the seal's production and hence its style).
E - Date of Style - The general time period from which the seal is believed to have come. These terms tend to be regionally biased, so look to field Q - Phase 1, 2 or 3 - for terminology specific to this thesis.
F - Description - This field is used for the description of the seal designs. For the vast majority of seals, the descriptions of the designs have been copied directly from where they were published, and therefore, many are not in English. It would have been too time-consuming to attempt to translate or to provide new descriptions for all of these seals. For some seals where no description was provided in publication, but was necessary for this thesis, the present author has described them.
G - Remarks - This field has been used for further description of the seals, but the information here is usually limited to physical characteristics. Examples are: to tell whether it is an impression rather than an actual seal, condition of the artefact, indicating breaks or incomplete objects. In some instances these are the actual comments in the published volumes, sometimes they are mnemonic comments and parallels to other seals.
H - Diameter - Measurements here used for cylinder seals or impressions only. Listed in centimeters.
I - Height - Measurements here used for cylinder seals or impressions only. Listed in centimeters.
J - Material - Describes that material from which the actual seals were made (note - not seal impressions). This nomenclature is also often listed in non-English languages as per reference.
K - Reference - Parenthetical references with name and date of author(s); refers to Bibliography in this thesis.
L - Detailed Periodisation - When given, additional information as to the specific date of the style or findspot (for seal impressions) has been included here. These terms tend to be regionally biased, so look to field **Q - Phase 1, 2 or 3** - for terminology specific to this thesis.

M - S or C - This field lists whether and object is (or is derived from) a stamp seal (S) or a cylinder seal (C). The vast majority of entries are one of these two types. In some instances, however, information has been included (in particular from the Seal Impression Stratum at Ur) for objects that do not fit neatly into either of these two categories. **C-Butt**, refers to an impression of the butt of a cylinder seal. **G** refers to a general sealing usually with some “general” characteristics that are difficult to classify, such as scratchings, written inscriptions or pictures drawn.

N - Length - Measurements here used for stamp seals or impressions only. Listed in centimeters.

O - Width - Measurements here used for stamp seals or impressions only. Listed in centimeters.

P - Thickness - Measurements here used for stamp seals or impressions only. Listed in centimeters.

Q - Phase 1, 2 or 3 - Number given in this field refers to the date from which the **style** of the seal or impression belongs, according to the descriptions of Phases 1, 2 and 3 referred to in the text. For a full understanding of what is meant by Phases 1, 2 and 3, the text of this thesis must be read, particularly Chapter 3. Generally, because statistical analyses of stamp seals was not attempted in this thesis, this column refers mainly to cylinder seals to be used in statistical differentiation. Therefore, there can be blank fields expected for many stamp seal entries.

It must be remembered that this Corpus is incomplete and will always be incomplete. For the purposes of completing this thesis, analyses are given in the text based on the sample size at completion of this thesis. There are objects, however, that are unpublished, unavailable to be studied, or simply out-of-reach for the scope of this thesis. Because of this, there are highlighted portions of the Corpus that indicate that some information was not able to be obtained within the time-frame of the completion of this thesis. It is argued in the text (Chapter 5) that while it would be interesting to have this additional information, the additions would not seriously alter the general conclusions presented in this thesis. In essence, the Corpus, as included as Appendix 1 for this thesis, is a ‘snapshot image’ of a constantly expanding archive.

It is intended that this Corpus be made available in electronic format in an easily updatable form (possibly through Internet access). Therefore, the incomplete data was also included, underscoring both the importance of the future use of an expandable database of glyptic artefacts, and its essentially changeable nature.
Appendix Addendum

Geography of Glyptic Corpus

Listed here are the names of the sites that have revealed evidence for glyptic artefacts from the time periods of interest in this thesis. Included are sites that had evidence for seals (stamp or cylinder) or seal impressions, or a combination of these. Because the scale of observation in this thesis was so large, it was difficult to devise a single map that would at once indicate the locations of the various sites, and also convey the immense area in which this artefactual type is found. Therefore, a combination of techniques was used in order to show both of these aspects. The map shows the whole area in which seals and seal impressions can be found in the late 4\textsuperscript{th} - early 3\textsuperscript{rd} millennia. Indicated on the map are regions (defined by numbers) that correspond to groups of sites that are listed in tabular form on a separate page. It was decided to arrange the map this way because, in regions such as southern Mesopotamia, the sites are so heavily clustered that the resolution would need to be very high to show anything other than a great mass of sites in a small area. On the other hand, eastern Iran has very sparse information on the archaeology, and the number indicating this region encompasses sites that are quite far apart. It was the attempt to give a general feel of how vast the spread of the Network was, as well as giving more detailed indications of the number and placement of the sites in the tabulated information.

The numbers on the map correspond to the following regions:

1  Cyclades
2  Cyprus
3  Egypt
4  Nubia
5  Palestine
6  North Levant
7  Amuq
8  Cilicia
9  Syria
10  Middle Euphrates
11  Anatolia
12  Azerbaijan
13  Northern Mesopotamia
14  Northeastern Mesopotamia
15  Diyala
16  Southern Mesopotamia
17  Susiana (Khuzistan)
18  Iran
19  Indus Valley
Alphabetical list of sites in Glyptic Corpus with total number of seals or seal impressions

| 1 | Abu Kimba | 1 | Kalenaq | 1 |
| 1 | Abu Hatab | 4 | 13 | Tell Madkur |
| 166 | Abydos | 1 | Khafajah | 4 |
| 1 | Afis | 6 | Khatab | 4 |
| 100 | Agrab | 10 | Kheit Qasim | 2 |
| 2 | Ahmad al Hattu | 1 | Kish | 1 |
| 1 | Al Mina | 15 | Kissonerga-Mosphilia | 1 |
| 5 | Al 'Ubaid | 8 | Korutepe | 70 |
| 7 | Alalakh | 9 | Kutan | 6 |
| 30 | Alishar Hüyük | 1 | Kuyunjik | 205 |
| 1 | Amorgos | 16 | Lahav | 4 |
| 17 | Apamea | 1 | Larsa | 2 |
| 93 | Arad | 18 | Leilan | 15 |
| 52 | Asmar | 2 | Lemba-Lakkous | 6 |
| 5 | Aššur | 13 | Mari | 2 |
| 2 | Atchana | 1 | Mattmar | 1 |
| 5 | Bab edh-Dhrā | 84 | Meggido | 2 |
| 1 | Babylon | 4 | Memphis | 1 |
| 1 | Baghous | 2 | Mersin | 4 |
| 2 | Beth Yerah | 32 | Mohammad Arab | 3 |
| 10 | Byblos | 2 | Moussian | 5 |
| 1 | Carchemish | 1 | Mozan | 1 |
| 7 | Chagar Bazar | 1 | Munbaqa | 742 |
| 1 | Dayr Qiqub | 5 | Naga ed Dër | 190 |
| 1 | Diospolis | 1 | Naqada | 190 |
| 1 | Ebla | 1 | Neirab (near Aleppo) | 8 |
| 1 | El Amrah | 1 | Nineveh | 8 |
| 2 | El Farah (N) | 6 | Nippur | 4 |
| 1 | En Besor | 2 | Norašuntepe | 8 |
| 1 | En Shadud | 1 | Nuzi | 4 |
| 235 | Fara | 6 | Persepolis | 21 |
| 1 | Faras (Nubia) | 1 | Pulur (Sakyol) | 190 |
| 1 | Geoy Tepe | 1204 | Rajeibe | 29 |
| 2 | Gezer | 1 | Rimah | 190 |
| 3 | Godin Tepe | 23 | Salankhahiyya | 89 |
| 2 | Graf Resh | 5 | Šamseddin | 89 |
| 20 | Habuba Kabira | 2 | Iran - Sassanian Fill | 190 |
| 3 | Halawa | 2 | Sendschirli | 190 |
| 3 | Hama | 1 | Shahr-i-Sokhta | 190 |
| 2 | Hamman et-Turkman | 1 | Sharon Plain | 190 |
| 1 | Harran | 8 | Suleimeh | 190 |
| 15 | Hassek Hüyük | 2 | Surgul | 190 |
| 1 | Hazor | 6 | Susa | 190 |
| 2 | Ishaifa | 3 | Tabor dry river | 190 |
| 3 | Ishchali | 189 | Tall-e-Malyan | 190 |
| 8 | Jebel Aruda | 7 | Tarsus | 190 |
| 114 | Jemdet Nasr | 2 | Taşkun Mekvii | 190 |
| 4 | Jerablus Tahtani | 3 | Tell Afis | 190 |
| 2 | Jericho | 139 | Tell Arbit | 190 |
| 4 | Jigan | 1 | Tell Asmar | 190 |
| 3 | Jemdet Nasr or Kish | 4 | Tell Basher | 190 |
| 1 | Jeyhan | 1 | Tell Bderi | 190 |
| 2 | Kilana | 9 | Tell Beydar | 190 |
| 1 | Korutepe | 70 | Tell Billa | 190 |
| 1 | Kut | 6 | Tell Brak | 190 |
| 5 | Kuyunjik | 205 | Tell Chuera | 190 |
| 4 | Lahav | 2 | Tell Dardar | 190 |
| 2 | Larsa | 15 | Tell Dinar | 190 |
| 1 | Leilan | 2 | Tell Fisna | 190 |
| 2 | Limman | 1 | Tell Gubba | 190 |
| 6 | Limman | 1 | Tell Harmal | 190 |
| 2 | Liesons | 1 | Tell Karana | 190 |
Sites within each region with total number of seals (in bold) and number of seals per site.

<table>
<thead>
<tr>
<th>Region</th>
<th>Sites</th>
<th>Seals</th>
</tr>
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<tbody>
<tr>
<td>Amuq</td>
<td>66</td>
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<tr>
<td>?</td>
<td>29</td>
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<tr>
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<td>Egypt</td>
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<td>208</td>
</tr>
<tr>
<td>?</td>
<td>5</td>
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<td>Abydos</td>
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<tr>
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<tr>
<td>El Amrah</td>
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</tr>
<tr>
<td>Matmar</td>
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<td></td>
</tr>
<tr>
<td>Memphis</td>
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</tr>
<tr>
<td>Naga ed Dîr</td>
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</tr>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
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<td>Tomb of Narmer</td>
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</tr>
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</tr>
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<tr>
<td>Al 'Ubaid</td>
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<td>Babylon</td>
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<td>Godin Tepe 3</td>
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The following drawings were made while studying a selection of cylinder seals and seal impressions in the Ashmolean museum in Oxford in 2000. The study was made possible by a generous grant from the Abercromby Fund, Archaeology, the University of Edinburgh. The drawings were made because it was felt that some depictions were insufficient in conveying the way the seals and their corresponding impressions actually looked to the observer. Therefore, an unconventional method of depiction was used in order to convey the sense of how a seal or a seal object would have appeared, rather than a drawing of exclusively the artistic depiction on the seal or on the impression. In other words, the whole artefact is being observed in these drawings. This is important for the methodology used in this thesis. A preference for tall, skinny seals, for example, might have had something to do with the fact that abstract designs are clearer on taller and skinny seals than deep naturalistic designs. A limited number of seals were drawn, but hopefully these examples provide an example of how glyptic artefacts were approached in this thesis.

These drawings here are not 1:1. The scale is 1mm for each square on the graph paper, 1cm for each of the larger squares.
Appendix 1a

One graph (Fig. 45) depicted in Chapter 5 is derived from information not included in Appendix 1 (the Corpus of Glyptic Artefacts). Appendix 1a includes the metric data from seals that know to have come from Kish that are currently housed in the Field Museum in Chicago. Work regarding this collection is still in progress, so much information has purposefully been left out here. There are 175 cylinder seals that have been recorded from this collection and used to create the graph in Fig. 45. Aside from the object’s number and the height and diameter are the only details included. The only exception to this is the indication that eight of the cylinder seals are most likely Neo-Babylonian in date, and have therefore been removed from consideration in this thesis. Only seals that are likely to have come from the 3rd or 2nd millennium have been used to create the graph. The only important information for the current purposes is the measurements and the proper concordance of these seals.

Appendix 1a exists on a 3 1/4 inch floppy disk as a Microsoft Excel (Corpus1a.xls) file. The file is approximately 32 kilobytes in size. The disk is included in a jacket at the rear of this thesis. The database on the Excel file consists of 9 columns, listed as A-I. There are 175 rows, each providing information for a separate cylinder seal, seal impression, or other such glyptic object dating from Phases 1, 2 and 3. The first row does not contain not data, rather the title fields. These fields are as follows:

A - Museum Number - Refers to the reference number used to represent each individual seal at the Field Museum in Chicago.
B - Cylinder or Stamp - Only cylinder seals have been included in the Appendix 1a, and all are indicated as such by a ‘C’ in this column.
C - Period - Field not used, with the exception of seals that are most likely from the Neo-Babylonian period, and are therefore not used in the analysis in this thesis.
D - Material - Field not used.
E - Height - Measurements here used for cylinder seals only. Listed in centimeters.
F - Diameter - Measurements here used for cylinder seals only. Listed in centimeters.
G - Length - Field not used; for the purpose of recording metrics from stamp seals not included here.
H - Width - Field not used; for the purpose of recording metrics from stamp seals not included here.
I - Description - Field not used.
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