ECONOMIC STRUCTURES OF ANTIQUITY

Morris Silver

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To my wife Sandy,
who made everything possible

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Author's Notes

TRANSCRIPTIONS AND PHONETICS

General Notes

Certain conventions have been accepted for representing ancient languages in romanized script. For example, Sumerian words are indicated in Roman type with a widening of the spaces between letters. There are, more importantly, conventions for representing the signs for phonetic values, distinguishing (usually by means of subscript numbers) among signs with the same phonetic value, representing word signs (logograms), and representing unpronounced phonetic or semantic indicators (determinatives). These conventions permit specialists in ancient languages to restore the original signs from transliterations and to be alerted to uncertainties concerning their value.

These conventions will not be observed in this book because it has been written by a professional economist for a wide audience consisting of all those (including nonspecialists in ancient languages) who are fascinated by ancient economies. *All foreign words, with only a handful of exceptions, are transcribed in italic type, in the lower case, on the line, and with normal spacing between the letters. The use of brackets within quotations indicates that the transcription is my own, not that of the cited authority.*

Proper names are not italicized and are usually transcribed without diacritics.

Notes on Individual Languages

1. **Greek (Alphabetic).** The transcription of Greek letters is standard. *Eta,* long e, and *omega,* long o, are written with the circumflex. *Upsilon* is written

as *y* or as *u* when it follows *alpha, eta,* or *omicron.* The transcription of Greek words is according to the ancient orthography; individual letters are not accented and no attempt is made to reproduce the ancient pronunciation of words.

Many of the familiar names are given in their Latin form. Less-known names are transliterated from the Greek.

2. **Mycenaean Greek (Linear B).** Transliterations of Linear B words employ dashes to divide one group of letters representing one syllabic sign from another. Normalized transcriptions are not sign-by-sign transliterations and are not written with dashes.

3. **Egyptian.** The Egyptian system of writing was a consonontal script; as in old Semitic languages such as Ugaritic, Hebrew, Phoenician, and Arabic, the vowels of the words were not written. Personal and place names are written in this book in their familiar vocalized form. As an aid in the pronunciation of Egyptian words, I have (following a conventional procedure) mechanically intercalated an *e* between consonants except when a *3* (double aleph) or a ʿ (ayin), which may be read *a,* are present. (There does seem to be a correspondence between Egyptian *3* and Semitic *r.*) Note also that *l* and *r* are interchangeable in ancient Egyptian.

4. **Sumerian.** Sumerian words have been transcribed without diacritics.

5. **Semitic Languages.** Personal and place names are written in their familiar vocalized form. Transliterations of vowel signs are retained when provided in my sources. The macron or the circumflex are placed over a vowel to show that it is long. The breve is placed over a vowel to show that it is short. In a few instances the value of the vowel is indicated by raising it over the line. Vocalization is not supplied for words given in my sources in an unvocalized form.

6. **Near Eastern Languages.** The following table shows the standard diacritical marks for consonants and how each is transcribed in this book.

Standard Diacritical Mark	**Nontechnical Transcription**
ʾ aleph; smooth breathing or glottal stop	Not rendered at the beginning or end of a word; otherwise ʾ
ʿ ayin; rough breathing	Semitic: ʿ ; Egyptian: *a*
3 Egyptian vulture or double aleph	*a*
ỉ Egyptian semivowel or vowel indicator	*a*
ḏ Egyptian	*dj*
g Egyptian	*g*
ḥ Semitic rough h	*ch* [*(c)h* at beginning of word]
ḥ Egyptian intensified h	*h*
ḫ Semitic hard h	*ch* [*(c)h* at beginning of word]
ḫ Egyptian	*kh* [*(k)h* at beginning of word]

ẖ Egyptian	*kh* [*(k)h* at beginning of word]
ḳ Egyptian like q in queen	*k*
ś	*s*
š	*sh*; *ssh* for double occurrence
ṣ emphatic s	*ts* [*(t)s* at beginning of word]
ṭ emphatic t	*t*
ṯ Egyptian	*tj*

SYMBOLS

Translations enclosed in brackets—[ ]—are restorations by the translator of material that is obliterated in the original or an explanatory comment by the present author. Translations enclosed in parentheses—( )—indicate words necessary for English idiom or clarity but are not present verbatim in the original. An asterisk (*) before an ancient word means that the word is reconstructed—that is, the form cited is not directly attested to in the ancient sources.

ABBREVIATIONS

AHw.: W. von Soden, *Akkadisches Handwörterbuch*

A.P.: Athenaion Politeia (Athenian Constitution) of Aristotle

Boisacq: Emile Boisacq, *Dictionnaire Étymologique de la Langue Grecque*

CAD: I.G. Gelb et al., *The Assyrian Dictionary of the Oriental Institute* (University of Chicago)

Chantraine: Pierre Chantraine, *Dictionnaire Étymologique de la Langue Grecque*

D.S.: Diodorus Siculus

Hdt.: Herodotus

Hes.: Hesiod

Hom.: Homer

Il.: Iliad of Homer

LSJ: Lidell, Scott, Jones, *Greek-English Lexicon*

Od.: Odyssey of Homer

OLD: P.G.W. Glare, *Oxford Latin Dictionary*

Pa.: Pausanias

S.: Solon in *Lives* of Plutarch

Str.: Strabo

Th.: Theogony of Hesiod

Works: Works and Days of Hesiod

REFERENCES

Many of the sources used in the preparation of this book are not cited in the notes at the end of each chapter and in the Selected Bibliography. The omissions resulted from the desire to make this work readable and were dictated by the economics of publishing. A complete list of sources utilized for the various topical divisions of the book and a complete bibliography are available from the author. All sources listed in the text are cited in the Selected Bibliography. A few additional valuable works are also included in the Selected Bibliography.

Chronological Table

PERIOD	DATES
Mesopotamia	
Early Dynastic I	*ca.* 2900–*ca.* 2700
Early Dynastic II	*ca.* 2700–*ca.* 2500
Fara	26th or 25th century
Early Dynastic III	*ca.* 2500–*ca.* 2300
Lagash	2570–2342
Urukagina	2351–2342
Akkadian (Sargonid)	2334–2154
Sargon	2334–2279
Post-Akkadian (Gutian)	2154–2112
Neo-Sumerian (Ur III)	2112–2004
Ibbi-Sin	2028–2004
Old Babylonian	*ca.* 2000–*ca.* 1600
Isin-Larsa	2000–1800
First Dynasty of Babylon	1894–1595
Hammurabi	1792–1750
Middle Babylonian and Middle Assyrian	*ca.* 1600–*ca.* 1000
Kassite Dynasty	1570–1157
Second Dynasty of Isin	1158–1027

Neo-Assyrian	*ca.* 1000–626
Neo-Babylonian	626–539
Persian (Achaemenid)	539–351
Western Iran, Elam	
Kings of Awan	*ca.* 2350–*ca.* 2150
Kings of Shimashki	*ca.* 2100–1900
Kings of Sukkalmah	*ca.* 1900–1500
Middle Elamite	*ca.* 1450–1100
Later Elamite Kings	*ca.* 760–644(?)
Achaemenid	539–351
Asiatic Turkey (Anatolia)	
Assyrian trade with Cappadocia	*ca.* 1940–*ca.* 1800
Hittite Old Kingdom	1740–1460
Hittite Empire	1460–*ca.* 1215
Syria	
Ebla	Mid-third millennium
Mari	*ca.* 1825–*ca.* 1759
Alalakh	18th and 15th centuries
Ugarit	*ca.* 1400–*ca.* 1200
Israel	
Early Canaanite (Early Bronze Age)	*ca.* 3150–*ca.* 2200
Middle Canaanite (Middle Bronze Age)	*ca.* 2200–*ca.* 1550
Late Canaanite (Late Bronze Age)	*ca.* 1550–*ca.* 1200
Israelite (Iron Age)	*ca.* 1200–*ca.* 586
United Monarchy	*ca.* 1000–*ca.* 925
Divided Kingdoms (Israel and Judah)	925–721
Judah alone	721–586
Egypt	
Predynastic	Before *ca.* 3000
Archaic Period (1st and 2nd Dynasties)	*ca.* 3000–*ca.* 2780
Old Kingdom (3rd to 6th Dynasties)	*ca.* 2780–2260
	Alternative: 2686–2181
First Intermediate Period (7th to 10th Dynasties)	2260–2040
Middle Kingdom (11th to 12th Dynasties)	2160–1785

Second Intermediate Period (13th to 14th Dynasties and 17th Dynasty)	1785–1580
Hyksos (15th to 16th Dynasties)	1730–1580
New Kingdom (18th to 20th Dynasties)	1580–1085
Ramessids	1314–1085
Divided Kingdom and Libyan Period (21st to 24th Dynasties)	1085–715
Late Period	730–656
Assyrian domination	671–669
	666–660(?)
26th Dynasty (Saite)	663–525
Persian	525–333
Alexander and Ptolemies	332–30

Greece

Mycenaean civilization (Linear B)	*ca.* 1700–*ca.* 1200
Sub-Mycenaean	*ca.* 1200–*ca.* 1100
Dark Age	*ca.* 1100–*ca.* 900
Orientalizing and Geometric	*ca.* 900–800
Archaic	800–500
Classical	500–300
Hellenistic	300–0

Crete

Minoan civilization (Linear A)	*ca.* 3000–*ca.* 1450
First Cretan Palaces	*ca.* 2000
Second Cretan Palaces	*ca.* 1550
Destruction of Minoan sites	*ca.* 1450
Mycenaean Crete (Linear B)	*ca.* 1450–*ca.* 1400

Italy

Mycenaean imports at Etruria and contacts with Pithecusae, Vivara, Lipara	12th century
Greek colony at Pithecusae	*ca.* 775
Foundation of Rome	Traditional date 753

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Introduction

In 1977, and many times since then, historical economist Douglass C. North suggested that an analysis of transaction costs—that is, the resources used up in exchanging ownership powers, including costs of communication, acquiring and disseminating information, and designing and enforcing contracts—provides a useful framework for comparing ancient and modern economies. This proposal remains attractive. Within such a research agenda, the terms *ancient* and *modern* acquire substantive content instead of serving to disguise, as is so often the case, the trivial contrast between *long ago* and *now.* The ancient economy emerges as a class of economies with its own laws of motion shaped by transaction costs. Indeed, illumination of private microchoices of institutions is the major task of neoclassical institutional economics. This branch of economics applies choice-theoretic models to transform structural characteristics from noneconomic givens into endogenous variables. Thus, to illustrate the meaning of the economist's jargon, instead of *explaining* ancient economic behavior in terms of the peculiar mindsets that, supposedly, characterize the ancients, the mindsets themselves become variables to be explained by economic theory. Sociologist Mark Granovetter (1985: 504) properly calls for researchers to "pay careful and systematic attention to the actual patterns of personal relations by which economic transactions are carried out." But again the social relations of economic life must themselves be explained, not merely assumed or described.

More concretely, relatively high costs of communication would have operated to reduce one's control over trading partners, agents, and employees while increasing the danger of monopolistic exploitation (reducing production to raise prices and profits). Similarly, the technological level of ancient society probably operated to raise the relative cost of defining and enforcing claims to property ownership. Clearly these costs discouraged division of labor and encouraged self-sufficiency and storage. On the other hand, an important role for the sacred in the making of contracts; the performance of magical technology; the substitution of memory, recitation, and symbolic gestures for general literacy; the emphasis on professional standards and maintaining a good name; the prominence of women in entrepreneurial roles; and, more generally, the elevation or extension of familial ties and other departures from impersonal economics in the markets for both consumer goods and productive factors must be understood as major structural adaptations permitting cooperation in ancient economic life (see, e.g., Ben-Porath 1980 and Landa 1981). These peculiar behavior patterns of ancient economic man must be understood not as social constraints on an otherwise autonomous economy, but as facilitators of economic growth and well-being in a world of otherwise high transaction costs. The examples cited and many other institutional characteristics of the ancient economy are explored in Part I of this book.

However (and here is the central question examined in Part II), is North (1977: 710) correct in stating that transaction costs ''would have been an insuperable barrier to price-making markets throughout most of history''? Later North (1984: 262) maintained that ''in the premodern world, economies were simple, uncomplicated organizational structures. Exchange was, for most individuals, a supplement to a largely self-sufficient life.'' In his premise we may detect the influence of the economic historian Karl Polanyi (1981), who believed that markets became important only in the eighteenth and nineteenth centuries of the present era. Polanyi continues to enjoy major support among anthropologists, archaeologists, prehistorians, ethnohistorians, economic historians, adherents of the older tradition of institutional economics, and other social scientists (see, e.g., Millett 1991: 221; Ortiz 1983: Part I; Zagarell 1986). Even Marxists find value in Polanyi's theories. Thus, classical scholar Paul Cartledge (1983: 6–7) concludes that

> there seem to me several flaws in ''Polyanyism'' as a self-sufficient theory of economic history, principally the absence of a concept of exploitation, an economic analysis based on patterns of allocation rather than relations of production, and the stress on integration at the cost of disregarding conflict and competition. . . .Yet, so far as ''trade and politics'' in archaic Greece is concerned, Polanyi's work does share a signal merit of Hasebroek's: it compels us to rethink or rather to think away concepts appropriate only to the capitalist market economy. Moreover, unlike Hasebroek, Polanyi did also develop a detailed set of alternative concepts specifically designed to account for the peculiar features of non-market exchange.

When Purcell (1990: 49–54) persistently refers to ancient Greece's international trade as ''redistribution,'' he obviously has one cautious eye fixed on the critical reaction of Polanyi's intellectual axis.

Although Polanyi is never quoted or even cited, his influence is ubiquitous in economist Raymond Goldsmith's (1987) discussion of ancient financial institutions. My conclusion from an extensive review of this literature is that Polanyi's influence among ancient Near Eastern and Greco-Roman specialists is far more pervasive than they admit or, sometimes, are aware of. As Liverani (1990: 19) well notes, "Polanyi's influence in economic and political anthropology has now become so pervasive as to make use of many indirect channels—so that an essay could easily be written about 'The impact of Polanyi's theory upon scholars who never read it.' " Polanyi's influence becomes obvious in discussions of the markets for land and labor power or, rather, in the assertion that antiquity lacked these markets. Sometimes the validity of one or another of Polanyi's positions is shifted to times and places outside the scholar's main area of expertise, most often to third-millennium Sumer or Pharaonic Egypt or to Minoans and Mycenaeans in the second millennium. This temptation to rescue Polanyi's hypotheses by safely displacing them in time and space provides one good reason for a study treating the entire ancient world.

Presently it is not possible to write a textbook titled *The Ancient Economy.* Instead, Part II carefully compares Polanyi's empirical propositions or assertions with the available evidence. In the case of Polanyi, the form of a polemic contributes a sharp focus on the key technical and operative mechanisms of ancient markets—Polanyi deserves credit for this—while providing ample scope for an overall evaluation of what is known about the ancient economy. As Gledhill and Larsen (1982: 198) pointed out,

> The investigation of Polanyi's theories is ultimately of more fundamental significance than proving Polanyi right or wrong in a special case. Advancing alternative accounts of the empirical data of necessity leads to problems of theory and conceptualization, and our observation must both underpin and be selected by an alternative analytical framework.

In the course of providing this alternative analytical framework, critical attention is given to the economic views of the Assyriologists I.M. Diakonoff, W.F. Leemans, Mario Liverani, and J.N. Postgate; of the Egyptologists Jacob J. Janssen and Wolfgang Helck; and of the numerous disciples of the distinguished classical scholar Moses Finley. In-depth consideration is given to several key questions, including whether ports of trade served to economize on costs of tax collection, the part played by contractual slavery in credit markets, adverse selection in the slave market, individual versus communal land ownership, the importance of trade and capital accumulation, markets versus temple and palace hierarchies, the presence of coinage and token money, and the resort to legal fictions to circumvent government regulations.

An analysis of the ancient economy must comprehend a great deal of material in terms of both space and time. Apparently disparate data must be placed side by side on account of their inner *analytical* unity. The analytical perspective is unfamiliar to and often disturbs conventional linguistic scholars and specialized ancient historians. It should be noted, however, that despite their manifold differences, all ancient societies had to cope with the problem of relatively high transaction costs. Common problems tend to provoke common solutions. Beyond the commonality induced by a shared technological challenge, we may safely assume a common Mediterranean substratum shared by Greeks, Romans, Israelites, Babylonians, Sumerians, Egyptians, Canaanites, and other peoples of the ancient world. Cultural transfers resulted from junkets of cultic personnel, officials, soldiers, merchants, artisans, and ordinary people looking for a better life. There is ample evidence, both archaeological and literary, of significant cross-culturation in the ancient Mediterranean world (Silver 1992: 19–21). Thus there is a sound basis for pooling the often sporadic evidence from a wide spectrum of ancient societies. The gains in understanding from this empirical approach are, as I hope to show, large.

Nevertheless, a danger of the most inclusive perspective is that the resulting picture may be misleadingly static and uniform in composition. A contributory factor is, of course, the sporadic nature of the surviving evidence, which forces Assyriologists to comprehend the workings of ancient Near Eastern institutions by means of case studies. Such objections are real, but to give in to them would make progress toward a scientific synthesis impossible. A deliberate effort has been made to avoid a telescoped image by calling attention to the causes and effects of changes in living standards and by taking account of geographic diversity, including differences in natural resource endowments and proximity to trade routes. More important, Part III copes with the impact on ancient economies (Near Eastern and Archaic Greek) of changes in economic incentives and of changes in economic policy. It takes a major step toward lifting the veil over the variety of concrete historical situations and correcting an image of outstanding uniformity. Ancient economies, we learn, were capable of making profound alterations to take advantage of new economic opportunities. The reader is invited to compare the comments of economist Raymond W. Goldsmith (1987: 10) on the alleged "stability" of these economies. We also see that the ancient Near East experienced periods of pervasive economic regulation by the state interspersed with lengthy periods of relatively unfettered market activity. There were also "Dark Ages," in which household economy increased in importance relative to both markets and hierarchies. Of course, the final test of my ambitious pudding is in the eating.

Economic Structures of Antiquity builds on my earlier *Economic Structures of the Ancient Near East,* published in 1985. The present work provides an extended examination of Egypt and the Greek world while incoporating research findings on the ancient Near East that were not available earlier.

I

Structural Characteristics of the Ancient Economy

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1

Gods as Inputs and Outputs of the Ancient Economy

A. THE CONTRIBUTION OF GODS TO ECONOMIC GROWTH

The relationship between a city's deity and the economic prosperity of a town is easily illustrated. Thus, in Mesopotamia's (the location of ancient Mesopotamia corresponds roughly to contemporary Iraq) Enki and the World Order, a myth of the later third millennium B.C.E. from Sumer (southern Mesopotamia), we find this invitation: "Let the boats from Magan [probably the Oman peninsula] carry a treasure, the *magillu*-boats from Meluhha [probably the region of the Indus civilization] trade in gold and silver. Let them bring (all that) to (the city of) Nippur, to (the god) Enlil" (Civil 1983: 236). Kramer (1977: 59–60) surmises that the deliveries named might be responses to certain acts performed by the god Enki during a prior voyage. This is reasonable, for in the myth the report of Enki's visit to Magan, Meluhha, and Tilmun (generally identified with Bahrain) is followed immediately by the loading of precious cargo for Nippur (Kramer and Maier 1989: 43). Interestingly, the cultic *murub*-festival, which apparently featured a sacred ship, coincided with the falling due of debts.

Indeed, gods might explicitly be perceived as merchants. Enlil, the chief god of the Sumerian city of Nippur, was noted for his scales, which bore the epithet "Merchant (*damkar*) of the Wide World"; whereas his wife Ninlil, consistent with the entrepreneurial role played by many upper-class Near Eastern women (see chapter 2), was also "Merchant of the World." In Akkadian language texts of the Old Babylonian period (earlier second millennium B.C.E.), the gods Enlil and Shamash (the sun-god) are called *tamkāru*, "merchant." Other Old Babylonian texts refer to a god and goddess named ^{d}*sagan.la.lu.kar.kar* "Merchant of the Bazaars" (W.G. Lambert 1989: 5). Given that the gods are merchants, it is not surprising that archaeological excavations at several Near Eastern sites reveal the presence, beginning in the second half of the fourth millennium, of large-scale storage facilities within or in close proximity to what are believed to be temple precincts (these are discussed in detail later in this chapter and in chapter 4.C).

A similar mythological theme is found far removed in space and time in a myth from Ugarit (a major western Syrian port in the fourteenth to thirteenth centuries), in which the god Baal is to "call a caravan into his house (temple)," or "calls out a trade route in his house" (Albright 1934: 124–25; van Zijl 1972: 120). The point is somewhat doubtful, however, because Gibson (1977: 61) understands the "wares" to be brought to Baal merely as building materials for his new temple.

At Athens the Noumenia, or first day of the month, was given over to worship of the gods and an active market for slaves and donkeys (Aristophanes *Knights* 43–44; *Wasps* 169–71). Mikalson (1972: 292) explains, calling to mind Sumer's *murub,* that "a market for major items such as these was naturally held on this day because on the previous day, the *enê kai nea,* debts were collected" (cf. Aristophanes *Clouds* 1131–41). Revealingly, the Greek word *panêgyris* came to mean "religious festival" and "market" (Nilsson 1949: 259). With respect to the Roman Empire MacMullen (1970: 336–37) is struck by the coincidence of holy days of the gods with market days.

Further, the importance of any god's guiding hand and his bestowal of proprietary knowledge (discussed in detail shortly) is evident in the concept of patron deities for artisans and merchants.

According to Ugaritic mythology, the divine craftsman Kothar-and-Hasis constructed the ornaments of the high god El's tent and built an innovative temple for Baal (more on this later). In the Bible, the master craftsmen responsible for the construction of the Tabernacle and its furnishings were chosen by Yahweh and were "filled with the spirit of God" (Exodus 35.31, 34–35).

A high priest of Egypt's Ptah, a god identified with Sokaris, was "Greatest of the Directors of Craftsmen" and his "sisters" were *(k)herpet kat,* "Directors of Works." In the Pyramid Texts (2350–2175), the goddess Nepthys is identified with the goddess Seshat and called "Lady of Builders" (Mercer 1952, I: 124; II: 301). Apparently, the Egyptians saw craftsmen, or at least their overseers, as priests of their patron gods, so that their work took on the character of a sacred act.

In Greece, Hephaestus (fashioner of Achilles' armor) and Athena Ergane "Worker" were the patron god and goddess of the crafts. The Hephaisteion, their joint temple in Athens, was decorated with the "labors" or "commissions" of the great venturers Herakles and Theseus (Silver 1992: chap. 4). Bronze workers positioned images of Hephaestus before or on their kilns so that the god might oversee their technological process (Faraone 1992: 55). Hesiod (*Works* 430) makes Athena the patron of carpenters. Several Greek gods were ascribed the function of patron of potters. In Athens, Athena had this role, and at Corinth Poseidon was probably the patron god of potters (judging by the many scenes on clay tablets of the making and shipment of pottery from his temple). Prometheus was also considered a god of potters.

The economic role of the gods found important expression in their function as protectors of honest business practices. Some deities openly combated opportunism (self-interest pursued with guile) and lowered transaction costs by actively inculcating and enforcing professional standards. This role, of course, is well known in later times. For example, in medieval Europe the money changers who wished to set up shop in the square of the cathedral of San Martino in Lucca had to swear to commit "no theft, nor trick, not falsification" (Blomquist 1979: 55).

In an Egyptian tomb scene of the mid-third millennium, a smelter admonishes his partner that "sloth is abominable to Sokaris," the god of metal smelting and protector of metal-workers (Hodjash and Berlev 1980: 36–37). In a work generally dated to the Ramessid period (although extant copies are of a later date), the sage Amenemope taught:

> Do not make the scale uneven or render the weights false or reduce the parts of the grain measure. . . . Do not make a measure of dual capacity for yourself; then will you descend to the depths. *The measure is the eye of (the god) Re; one who defrauds is its abomination.* He who uses a measure, making many its inaccuracies, his (Re's) eye will shut against him. (James 1984: 267; italics added; cf. Lichtheim 1976, II: 157)

A Hittite literary tablet of the mid-second millennium portrays the merchant holding the scales before the sun-god, with whom he had a special relationship, but the document adds (according to Puhvel's [1983: 222] translation) that he "falsifies the scales." We may nevertheless assume that in practice merchants often heeded their patron gods and gave honest weights.

A poorly preserved inscription of the fifth century B.C.E. from the island of Thasos, a center for wine production located off the coast of Thrace, deals with an offense involving trade in wine and vinegar. It was probably directed at sellers who misrepresented vinegar as wine. Osborne (1987: 104) notes that "the penalty had to be paid to the two gods, whose sanctuaries on the acropolis dominated the town of Thasos."

Again, Rome's first temple of Mercury was probably dedicated in the early fifth century B.C.E. by a college of merchants. The god's birthday was celebrated on May 15:

> Thus the *Ides* of May became a festival for traders (*mercatores*) and Mercury's temple the centre of their guild (*collegium*). Ovid [43 B.C.E.–17 C.E.] . . . refers to an *aqua Mercurii* . . . a spring or fountain . . . from which a merchant would draw water in fumigated jars; with this water he wetted a laurel bough and then with this he sprinkled the goods he had on sale as well as his own hair. (Scullard 1981: 122)

We may surmise that this curious rite constituted a pledge of honest dealing by the merchant in the name of his patron Mercury. It may well be added that the name of Mercury (Mercurius) is generally understood to be derived from Latin *mercēs (merx)* "payment, wage, rent, price, article put up for sale" (Grimal 1986: s.v. Mercury; *OLD* s.v.; but compare Puhvel 1987: 150).

The relationship between the gods and the economy is further exemplified by the actual deification of real or mythic master merchant adventurers, technologists, and important productive resources. Herakles, originally a god of merchants, was later admitted to Olympus (Silver 1992: chap. 4). Egypt's great builder Imhotep received a cult, as did Icarius and Triptolemus (who, respectively, taught the Greeks the culture of grain and the technology of vine and wine) and the Levantine Kothar (called Chousôr by the Greeks), the discoverer of iron and its working. Indeed, metals and metal ores, especially iron, were themselves deified. This aspect is illustrated at Enkomi in Cyprus, a center for the production of copper, by the presence in a twelfth-century B.C.E. cultic locus of a statue of the "Ingot God," a male figure standing on a base in the form of an ox-hide ingot.

In the Ugaritic and Akkadian languages, we actually find an intimate relationship between "skill" and "magical/supernatural power" (see M.S. Smith 1985: 92). An Akkadian text reports that "the sorceress is a metalworker" (*CAD* s.v. *gurgurratu*). Similarly, we find links between divination and the metallurgical activities of miners and blacksmiths (for example, the Greek Telchines and Dactyls and the Roman Cacus).

Ancient man's personification of natural forces may have contributed to a reluctance to seek private gain and economic growth by harnessing nature (Oleson 1984: 403). Conversely, if the so-called "animistic conception of nature" inhibited technical progress, then an animistic conception of technology would have exerted a countervailing influence. It cannot be denied, of course, that the very religious and superstitious imperatives binding craftsmen and merchants to performance standards and thereby contributing to the production of the public capital good "trust" simultaneously lowered their costs of collusion (joint action) and facilitated monopolistic business practices (i.e., restricting production to raise prices and profits). Note the colophon to a Mesopotamian technical text: "Let the initiate show the initiate; the non-initiate shall not see it. It belongs to the things of the great gods" (Saggs 1962: 471). Similarly, the Hippocratic rules mandate that "Holy things are shown to holy men; such things are not permitted to the profane until they are initiated through the rites of knowledge" (Burkert 1992: 44). These taboos did not constitute a conflict between the gods and technical innovation, but obviously they slowed the diffusion of technical knowledge (Suchman 1989: 1292). Further, careful screening of applicants for membership in crafts and the employment by guilds of solemn rituals of initiation and apprenticeship simultaneously had the proeconomic development effect of discouraging opportunistic behavior and the antidevelopment effect of promoting monopoly by retarding entry.

The idea that restriction of access to economically valuable information by gods to whom it was holy contributed to monopolistic exploitation of the consuming public is reasonably convincing. On the other hand, it also seems reasonable that the esotericism mandated by gods may on balance have promoted technical progress by anticipating patent laws (see chapter 2.E). Suchman (1989: 1283) depicts

> magic as a barrier to reverse engineering—that is, as a device for preventing the imitation of otherwise simple technologies. Magic, however, serves as more than a mere diversionary additive. It also forms the core of a culturally validated complex of intellectual property rights. . . . Within a supportive cultural context, magic creates a monopoly approximating modern patent law's grant to an inventor of "the right to exclude others from making, using or selling" an invention. . . . In addition to . . . cognitive biases, magical property rights draw strength from more elaborate cultural constructs as well. In particular, a "mythology of risk" chills infringement of magic in much the same way that the threat of litigation chills infringement of Western intellectual property rights.

Thus the magical/holy component associated with new technologies served (like modern patent laws) to reserve them and their economic gains for the innovator and, thereby, encouraged profit-seeking individuals to invest in intellectual capital and consequently to benefit society at large.

B. SYNCRETISM AS AN INVESTMENT IN TRUST

Nakata (1971: 97) has stressed the importance of the "patronage of an impartial deity who was not limited to any locality or any interest group" in smoothing the path of trade between distant communities. In 1948, Rose (1959a: 239–40), a scholar of Greek and Roman religion, made the same point more concretely in explaining the importation of the Greek god Herakles into Rome's *Forum boarium.*

> The Cattle Market (*Forum boarium*) is on the side towards the river, a natural place for traders coming up or down stream to meet the early inhabitants of Rome and exchange their wares for such things as living cattle or their meat, tallow and hides. But for foreigners to meet peacefully in this way is under early conditions of society, not a light thing; to insure the safety of all concerned, it is well that the spot should be under the protection of a god whom buyers and sellers alike will recognize. Heracles' adventures had won him the reputation of a great traveller, and it seems to have been thought that he would have a fellow feeling even for less warlike and powerful wanderers than himself, the merchants who went up and down the country in early times.

This is an excellent statement with the exception that it probably underestimates the warlike capacities of ancient traders (see "Productive Activity versus Plunder" under Assertion 1 in chapter 5).

Indeed, it is possible, without reducing worship of the gods to the status of an economic epiphenomenon, to find in Nakata's and Rose's observations a positive incentive for individuals or communities to reduce transaction costs by *investing* in the creation of common gods. This would include, for example, the devising of new gods, the identification of one group's god with that of another, the invention of myths and rituals, and the forming of pantheons. Rose (1958: 31) has spoken of antiquity's habit of making identifications between deities "on the flimsiest of chance resemblance." Behind these admittedly flimsy similarities, however, it is often possible to discern weighty motives. To illustrate, texts of the mid-third millennium B.C.E. from Ebla in northern Syria mention about 500 gods and include lists equating Ebla's gods with those of Mesopotamia, a region with which Ebla enjoyed extensive trade relations (Pettinato 1981: 226, 245–59).

The invention or constructive elaboration of myths was facilitated in the first instance by what might be called occupational specialization of gods. As Thorkild Jacobsen (1976: 25–26) explains,

> The various city gods in whom the early [Mesopotamian] settlers trusted appear to be powers in the basic economic characteristics of the region in which their cities were situated. . . . It is understandable that numinous experience in situations connected with basic life-sustaining situations would assume special significance and call for special allegiance. Thus the earliest form of Mesopotamian religion was the worship of fertility and yield. . . . In actual fact [the] full pattern is not to be found in any single cult; rather the figure of the god tends on closer view to divide into different aspects, each with the power in a particular basic economy emphasized.

The applicability of Jacobsen's argument is not confined to Mesopotamia, as is easily illustrated. Lower Egypt's agricultural development was retarded by thickets of reeds and papyrus rush whereas, on the other hand, its stockraising industry was stimulated by the wide pastures on its eastern and western borders. Aldred (1984: 54) notes in this connection that "the cattle economy of the Delta was evident in the cult of the sacred Mnevis bull at Heliopolis, as it was in the Apis bull of Memphis. A quarter of the Lower Egyptian nomes [*sepat;* local district] had images of cattle upon their standards, whereas Upper Egypt could not boast of even one." We might also recall the (copper) ingot god of Cyprus. A clear Greek example is provided by the goat-footed Arcadian god Pan. It is not farfetched to view Pan as the "product of Arcadian mountains and pastures, the divine projection of their shepherds and goatherds" (Borgeaud 1988: 3).

The syncretistic process—that is, the process by means of which religious practices from separate peoples are unified—so often noted and condemned both in the Bible and by modern commentators may, at least in part, be understood in terms of the production of a new public capital good, "trust." This effort probably is the underlying theme of Genesis 34, which raises the possibility of mutually beneficial exchange relations between the hill-dwelling "Israelites" with their herds and flocks and the grain-growing "Canaanites" in the plain.

The local ruler (of Shechem) tells his townspeople that the patriarch Jacob is peaceable, "therefore let him dwell in the land and trade therein" (34.21).[1] To elicit a consciousness of shared values with the Israelites, it is decided that all the Canaanites will be circumcised.

As early as the middle of the third millennium, the elaborate myth of the god Osiris and the accompanying rituals served to solidify a trade pattern in which Egypt exported grain and linen to Byblos in the Levant in return for good lumber (Silver 1991b). According to the myth, Osiris, a god identified with both grain and linen, was shut up by his brother Seth in a (linen) chest, which was searched for by the goddess Isis and found at Byblos within a "cedar" tree. It appears that the Egyptians Osiris, Seth, and Isis were identified with the "Phoenicians" Adonis (the Greek name), Baal, and Astarte. There is evidence, albeit from classical times, that Byblos marked the opening of navigation in early March with laments for the dead god Adonis, who was "born of the fir tree," and the launching of a boat on which Isis, the patroness of navigation, had placed the chest containing the body of Osiris. It appears that a papyrus "head" of Osiris voyaged annually from Egypt to Byblos.[2]

Another interesting example of syncretistic investment is provided by the Sumerian epic Enmerkar and the Lord of Aratta (cf. chapter 7). This myth is set in the earlier third millennium, when "the mountain land (of) Tilmun was not yet," when "traffic was not engaged in," when "the commissioning of merchants was not practiced" (S. Cohen 1973, especially lines 16–19).[3] Enmerkar, the ruler of Uruk in Sumer, took grain from the storehouse and poured it into sacks, which were then loaded onto "transporting donkeys" and forwarded to Aratta, probably in Afghanistan. After various tests of will and tribulations, Aratta agreed to export semiprecious stones (and tin? see chapter 4) in return for Sumer's grain. The central core of historical truth in the explanation of this trade pattern is that both cities worshipped or came to worship the same goddess, Inanna.[4]

In the earlier second millennium, the god Enki and, most probably, the sun-god Shamash were worshipped or came to be worshipped in southern Mesopotamia and by their trading partners on the island of Tilmun. The god Enki is explicitly linked to primordial Tilmun by a Sumerian epic (Alster 1983: 52), and the impetus for the spread of his worship may have come in the late third millennium from the southern Mesopotamian commercial centers of Eridu and Ur (Howard-Carter 1987: 104–5). Again in Kanesh, Anatolia's cosmopolitan trading center in the earlier second millennium, there is evidence of a single god of weather worshipped by Anatolians and Syrians.

A similar syncretistic process is evident in Egypt. For example, in the Old Kingdom we encounter the title "Youth of Upper Egypt Who Came Out of Nubia (Sudan)." This Dedwen, "Lord of Nubia," who bore incense, a southern product, became assimilated to Horus. Later, and more concretely, during the flourishing nineteenth-century trade with Upper Nubia, Pharaoh Sesostris III founded in this region a well-endowed temple dedicated to the Nubian god

Dedwen. Reportedly, the latter was incorporated into the Egyptian pantheon and received the standard worship. Similarly, Sopdu, another god identified with Horus, may have originated during the third millennium in the mining areas of the Sinai or, possibly, in the Eastern Delta (judging by his Asiatic-style beard and dress). A stela of the early second millennium calls him "Lord of the Land of Eye-Paint." Or perhaps Sopdu was a native Egyptian who changed his image to meet the needs of the region's Asiatic inhabitants. In the second half of the second millennium, Gaza and Ashkelon, two Levantine ports trading with Egypt, hosted temples for the Egyptian gods Amun and Ptah, respectively. Much later, the special trading relationship between the "Dorians of Rhodes" and Egypt was reinforced by the myth that Athena's temple at Rhodes had been established by a daughter of Danaos, the eponymous ancestor of the Danaans and brother of Aegyptus, the epononymous ancestor of the Pharaoh Amasis' kingdom (cf. Assertion 1 in chapter 5 for Naucratis). A primary piece of evidence, for which I am indebted to an anonymous referee, is that the Pyrgi Tablets, from north of Rome on the coast of Etruria and dating to about 500 B.C.E., show Carthaginians and Etruscans worshipping the goddess Astarte in connection with trade.

The evidence hints that religious syncretism facilitated the transfer of technology as well as the exchange of goods. The close connection or even identification of several gods with technology has already been noted. There is also evidence that gods made "business trips." Now it may be added that references in ancient documents to the foreign origin of a god may signify the import of a new technology. For example, Ugarit's mythological literature tells that Baal was urged to have a window in his temple by the divine craftsman Kothar-and-Hasis (who, we are also told, originated in Kaphthor, probably Crete). Perhaps, then, the myth refers to a conflict in architectural tastes and moods—the open Cretan construction versus the relatively closed Canaanite. In any event, it does seem that a "window house" was coming into vogue in the second half of the second millennium. Kothar-and-Hasis, however, is also linked with Egypt's Memphis, the city of the craftsman-god Ptah (who, as noted earlier, had a cult in the Philistine port of Ashkelon). The question of whether the cults of the various craftsman-gods were branches of a multinational firm with a central office in Crete (or Memphis?) or were independent cultic enterprises cannot be settled by appeal to the evidence.

C. OATHS AND THE GODS

The role played by oaths in international commerce is well illustrated by an agreement between two Syrian states, Carchemish and Ugarit, providing that if a merchant of one king were to be murdered in the territory of the other (who then failed to apprehend the perpetrators), the latter would dispatch representatives, who would swear an oath: "We do not know their killers, and their goods, their chattels, of these merchants have been lost" (Yaron 1969: 75). The rulers bound themselves to all the provisions of the treaty by means of mutual oaths naming several gods.

In nineteenth-century Anatolia, transporters from Assyria (basically, the land along the Tigris in northern Mesopotamia) who claimed to be exempt from transit taxes might be made to swear an oath to the dagger of the god Assur. Paragraph 103 of Hammurabi's Code insists that a merchant claiming to have been robbed on the road must so affirm "by god," and those whose merchandise he was carrying would have no claim against him. Along the same line, Paragraph 37 of the somewhat earlier Laws of Eshnunna requires that if a depository claimed that his house had been burglarized, he would be free of responsibility toward the depositors only after swearing an oath in the name of Eshnunna's main god. Again, in Exodus 22.6–7 we find this formula: "If a man deliver to his neighbor money or stuff to keep, and it is stolen out of the man's house . . . [i]f the thief is not found, then the master of the house shall come near unto God to see whether he has not put his hand unto his neighbor's property" (cf. Exodus 22.10). For the Greek world we have Herodotus' (6.86) report that the Spartan Glaucus was tempted to swear falsely before the gods and so keep the money deposited with him by a certain Milesian.

In Mesopotamia the sun-god was viewed as the divine judge of the Land of the Living as well as the netherworld, whence he journeyed every night—through his wide-reaching light he saw all and was capable, therefore, of rendering a just verdict. Concerning the Greek perspective and speaking of the Greek sun-god, Allen, Halliday, and Sikes (1936: 139) explain, "It is because nothing is hid from his eye that Helios is involved in oaths. . . , and as a witness to covenants. . . , and thus acquires an ethical character as the guardian of right dealing. . . ." M.L. West (1978: 223) observes that Zeus, a god with an all-seeing "eye" (Hes. *Works* 267) who is served by countless "watchers of mortal men" (Hes. *Works* 249ff.), is invoked together with the sun in swearing an oath (Hom. *Il.* 3.276ff.), and he notes that

> we know that Zeus was originally the sky, like his Indian counterpart Dyāus, who is also "all-knowing." . . . It is another god of celestial nature, Varuna or Mitra-Varuna, who in India supervises justice, oaths, and contracts. . . . He sends his countless spies down to earth. . . . The sun is his eye.

During the earlier second millennium, it was standard practice for the merchants of Babylonia (the southern part of today's Iraq) to settle accounts in the temple of the sun-god Shamash. This is attested in a series of legal formulas, including "when they have returned from the safely completed journey, they shall render their accounts in the presence of Shamash." One international merchant wrote to another accusing him of violating the terms of the contract ("sealed document") they had deposited in Shamash's temple. We also know that partnerships were dissolved and slaves manumitted in Shamash's temple. Less formally, a letter urges its recipient to appease Shamash by taking good care of a field in his trust.

Other Mesopotamian deities functioned in this capacity. In late third- and early second-millennium Eshnunna, a city approximately 50 miles northeast of Baghdad, its chief-god Tishpak served as guarantor of oaths. In Assyria, there are references to ''Assur of the city house/hall'' (*bīt āli*), an institution involved in lending, ''tablets of the gate of the god,'' and merchants taking oaths in a temple area called *(c)hamru.* A business dispute in the earlier second millennium led one merchant to summon another to ''the gate of the god,'' where the latter ''seized the sword of (the god) Assur'' to indicate that he would abide by the terms of a mediated agreement.

Paragraph 98 of Hammurabi's Code, which dates to the eighteenth century, calls simply for partners to divide the profit or loss ''in the presence of god.'' If a shepherd claimed that losses of animals entrusted to him were due to lions or disease, a suspicious owner might, in accordance with Paragraph 266 of Hammurabi's Code, call upon the shepherd to ''prove himself innocent in the presence of god.'' There are loan contracts of the Old Babylonian and Neo-Assyrian periods listing various gods as witnesses. Moreover, gods figured as witnesses and might offer testimony at trials in Elam (western Iran) during the earlier second millennium.

Among the Hittites of Anatolia, the goddess Ishara could sicken oath-breakers. Similarly, Mesopotamia enjoyed the services of several specialized oath-goddesses. Eighteenth-century Ur, a southern city, boasted a ''house of (the goddess) Truth''—reminiscent of third-millennium Egypt with its goddess Maat ''Truth,'' whose priests were judges and viziers. Seleucid Babylonia (312–64 B.C.E.) knew deified oaths (*adê,* singular *adû*) called the Adêshu, whose gender is uncertain. Along the same line, the Greeks introduced a god named Horkos ''Oath,'' who punished perjurers (Hes. *Th.* 231). In *ca.* 254 B.C.E., the Romans erected a temple of Fides ''Good Faith.'' As Dius Fidius (from *fides*), Jupiter looked after hospitality, international transactions, and the safety of roads (York 1986: 77–78). We may add that the masculine of *mithra* in Vedic is the name of a god (Mithras), and the neuter *mithram* means ''friendship, contract'' (Benveniste 1973: 37–38, 80).

In Babylonia, Canaan, Ugarit, Hittite Anatolia, New Kingdom Egypt, and the Aegean, contracts might be drawn up and settled in proximity to the statue of a god. Babylonian documents recording the manumission of slaves include the statement that the master ''has turned the slave's face toward the rising sun''—that is, possibly toward the statue of Shamash (Dandamayev 1984: 445–46). Similarly, in Old Babylonian Elam, when the original contract relating to the ownership of a sum of silver was unavailable, the accused was questioned *machar ilim* ''before the god'' (van der Toorn 1985: 46). Similar practices are known in the Greek world with respect to the god Apollo.

Although the evidence is circumstantial, it is likely that on occasion contracts were formed in front of a temple gate or window through which the statue of a god or goddess was visible. Architecturally similar Bronze Age cult structures in which the image of the deity or its emblem was visible from the doorway have been found in Canaan, Syria, and the Aegean. Some of these structures—for example, at Phylakopi on Melos in the Cyclades, on the western slope of Mycenae, at Philistine Tell Qasile, at Tell Mevorakh in a small site to the south of Haifa on Israel's coastal plain, and outside the mound of Lachish (the Fosse temples)—were obviously meant for public use and, indeed, have been termed "road" or "popular" temples by scholars (Negbi 1988: 350–53). The buildings in question, usually of small or midsize, are positioned beside roads, highways, and in maritime trading posts. Again, in some instances at least, Babylonian temples had doors on their short sides through which the statue of a god was visible from the courtyard. In the eighth century, the Phoenicians constructed a temple at the port of Kition in Cyprus whose "holy of holies" was visible from the courtyard.

In a Hittite text, probably of the Old Kingdom, the temple personnel record that "formerly the (image of) the deity was back in the inner chamber, so that the *p.* could not see it, but now it stands on a pedest[al]" (Beckman 1982: 437). Beckman (1982: 436) explains that in this context the noun *panku* "seems to have the meaning 'all present, congregation.' " The Hittite temple at Hattusas (Bogazkoy, some 100 miles east of Ankara) was in fact entered by a gateway that had large windows with low sills opening onto the outer paved area. A Neo-Hittite inscription of the earlier first millennium from Carchemish reports on the installation of the god Atarsuha (a seated statue) in a gatehouse; a pictograph illustrates a gatehouse with a second-floor window. Significantly, the bilingual inscriptions from Karatepe (southern Turkey) represent a similar structure by a pictograph described as a "fence." A spectacular illustration of the specific architectural arrangement that I have in mind is the (probably) eighth-century "Midas Monument" in the Phrygian highlands (present-day Turkey's Mount Turkmen). Haspels (1971: 73) explains that the monument chiseled on the surface of a tall rock "represents the front of a building, with low-pitched roof, a temple. The most important part of the building is the central door niche, for here the statue of the goddess [of the Phrygians, probably Cybele] stood, appearing as if from within her shrine."

Note should also be taken of the temple, although much later in date, at Didyma in Asia Minor. As described by Parke (1986: 121),

> the worshipper entering the building found himself faced with a blank wall 1.495 m high with above it a colossal opening 5.63 m wide. . . . Consequently the worshipper in the *pronaos* could not even look directly into the sanctuary. Instead, just above his eye level beyond the embrasure of this "window" stretched the floor of a large room. . . . Through this room's central door (which was opposite the window) the spectator on ground level outside could catch a glimpse of the upper part of the *naiskos* in the inner court (the *adyton*).

As in the archaic period in Greece, the cult statue stood in the *naiskos*.

Egyptian temples of the New Kingdom had a sacred public area called *weba* in front of an entrance. People came here to petition the gods. The presence of scribes, a storehouse, and merchants in these areas is attested (Spencer 1984: 10–13). It does not seem crucial whether the statue of the god (say, Amun) stood outside the temple in the *weba* itself or was visible from there through a window of the shrine located at the rear of the temple (Spencer 1984: 99).

At Thoricos on the northeast coast of Attica, a natural landing-place for traffic from Crete, Richardson (1974: 188–89) reports the remains of an early fifth-century B.C.E. temple possibly dedicated to Demeter and Persephone whose "side-entrances . . . suggest comparison with the temples of Lycosura, Tegea, and Bassae, where they were perhaps used in order to display the rituals inside the temple to spectators outside."

A small, round model of a temple with a removable door from Archanes in Crete is also of great interest. Schweitzer's (1969: 220) description of the model is as follows:

> On opening the door, one sees a goddess sitting inside the temple—the great Minoan goddess, with both arms in the air. This little clay piece is in the style and technique typical of the sub-Minoan period, between 1100 and 1000 B.C. It is a curved building with a slightly arched roof. On top are a jackal or a dog (?) and two guards, Kuretes or Dioscuri, with their right hands raised to their turban-like head coverings in a gesture of adoration.

Attention should also be called to the related aspidal-plan temple models found by the excavators of the Argive Heraeum and the Hera temple at Perachora.

A clay relief of the fifth century B.C.E. from Locri in southern Italy shows a temple with open doors through which the statues of Aphrodite and Hermes can be seen. The status of Hermes as an oath-god is attested in his designation as *pylêdokon* "watcher at the (double) gates" (LSJ s.v.). It will be noted that Hermes, the god of commerce, is credited in the Homeric *Hymn to Hermes* (4.516–17), a document of perhaps the mid-seventh century, with the "Zeus-given office of tending to deeds of exchange amongst men throughout the nourishing earth" (Evelyn-White 1936: 401). The Greek literature mentions the presence in Egypt and in Greece (the Acropolis of Athens, Eleusis, and Epidauros) of *propylaia,* or "gates," where there were statues of the gods—for example, "Hermes of the Porch and the Graces" (Pa. 1.22.8)—and where, in Ephesus at least, one might find *proplites,* "one who pursues his trade in a *propylon* 'gate' " (LSJ s.vv.). Hermes, an oath-god himself, swears an oath "by (before) the *prothyraia* ('gates, porticoes') of the immortals" that he did not steal the cattle of Apollo (*Hymn to Hermes* 4.384; LSJ s.v.).

The virgin goddess Hestia is closely linked with Hermes, with whom a *Homeric Hymn to Hestia* (29.9) has her sharing "a house of friendship" from which vantage they "look at the labors [*ergonata*] of men" (29.12; Allen, Halliday, and Sikes 1936: 430; Evelyn-White 1936). Hestia was in fact an oath-goddess and bore the title Tamia, a word with the nuance "treasurer" (LSJ s.v.

tamias; Vernant 1983: 150). Nemesis "retribution, indignation" also "gazes at the deeds of men" and shares the title "Watcher" with Artemis of Troezen (Farnell 1896, II: 87–93). The lending and other commercial activities of the Nemesis temple in Rhamnous, at Attic deme, are relatively well documented beginning in the mid-fifth century B.C.E. (Fornara 1977: 88–89; Jameson 1982).

It is not improbable that Canaanite incense stands of the mid-second millennium in the form of "towers" or multistoried shrines whose large windows frame idols are representative of the so-called *migdal*-temple, examples of which have been discovered at Ugarit, Alalakh, Ebla, Byblos, and elsewhere. Recall that the Cretan Kothar-and-Hasis wished to equip Baal's temple with a *(c)hln* "window" and an *urbt* "fence, lattice."

In Babylonia we hear of the "oath (*māmīt*) of the goddess Kililu (looking out) the windows" (*CAD* s.v. *aptu* 1c). Babylonian loan contracts of the Old Babylonian period call for repayment to a *nadītu*-priestess "at the gate of the cloister" or *ina pī aptim* "at the opening of the lattice" (R. Harris 1964: 130–31). Standard scholarship is inclined to view the "lady-in-the-window" theme as evidence for a kind of advertisement for houses of prostitution. This perspective is difficult to accept, not least because the "moral" Greek oath-goddesses Hestia and Nemesis are almost certainly stationed at windows. An alternative hypothesis is that the "lady-in-the-window" is a manifestation of a widely diffused practice, the taking of commercial oaths before windows framing the image of a goddess.

Perhaps our discussion has also provided a clue to the nature of Israel's mysterious asherah. Some biblical passages seem to refer to a goddess Asherah. (Ugaritic and other Canaanite texts mention a goddess named Asherah.) Indeed, 2 Kings 21.7 probably mentions "an image of Asherah" (cf. 1 Kings 15.1; 2 Kings 23.7). Other biblical texts seem to refer to Asherah as a cultic construction (e.g., 1 Kings 14.15, 23, 16.33; 2 Kings 13.16). The Bible on numerous occasions links the asherah with cultic pillars (Exodus 34.13; Deut. 7.5, 16.21–22; 1 Kings 14.23; 2 Kings 17.10, 23.14) and it adds the information that while the accompanying pillars must be "shattered," the Asherahs are to be "cut down" and "burnt" (Exodus 34.13; Deut. 7.5; Judg. 6.25–26; 2 Kings 23.14–15).

It is consistent with the cult-object perspective that a number of Near Eastern words cognate to asherah denote a cultic place. For example, according to *CAD* (*ashirtu* A), Akkadian *ashirtu* has such meanings as sanctuary and, significantly, "socle (in the form of a sanctuary, for images, symbols, etc.)."

It may tentatively be suggested that basically an asherah is a lattice or window between two upright pillars (e.g., the Bible's Jachin and Boaz [1 Kings 7.21]). Sitting or standing behind the lattice is an oath-goddess. The goddess in the asherah, whatever her specific name, might be called "Asherah" after the shrine itself. Witness, for example, "Dictynna," a word related to Greek *diktyon* "net," as an epithet of the goddess Artemis (Silver 1992: 289). This line of interpretation finds support, I believe, in a Phoenician dedication of the third century B.C. "to (the goddess) Ashtart in the asherah of (the god) Baal Hammon'' (McCarter 1987: 145). Several scholars have reasonably concluded that the goddess Asherah was represented by a wooden idol (see McCarter 1987: 153, n.53).[5]

There is reason to believe that oaths were sworn at Israel's asherah. Amos (8.14) scornfully notes that oaths were sworn ''by the sin of Samaria'' (*shmt shmrn*). This has frequently been emended to read ''by the asherah of Samaria'' (*shrt shmrn*), which is mentioned in 2 Kings 13.6 (McCarter 1987: 154, n.54; Tigay 1986: 26, n.31). Was business conducted at Israel's asherah? There is no direct evidence for it. However, ''a Phoenician inscription of the early Persian period from Acco, published by M. Dothan, records a tariff of goods deposited with a certain Ben-hodesh by a certain Baalsh[']alti, 'who is over [in charge of] the asherah'. . . '' (McCarter 1987: 145).

Oaths were sworn in contact with or before divine symbols, as noted by the aforementioned reference to Assur's ''sword.'' There is reason to believe that Zeus' thunderbolt played a similar role. In the manumission of slaves, ''*Hoi keraunōthentes* (the 'lightning struck'), according to a tradition reported by Artemidoros the Daldian [2.9; second century C.E.], were synonymous with *hoi eleutherōthentes* (the 'liberated'): slaves who survived a lightning stroke were, in fact, assimilated to liberated slaves, dressed in white and thought of as honored by Zeus'' (Borgeaud 1988: 37). Sometimes the oath-symbol was itself deified, as is indicated by the writing of the name with a divine determinative (see Dalley [1986: 92] for Mesopotamian examples). One is permitted to think here of ''Nehushtan,'' the ''brazen serpent'' made by Moses during the Exodus (Numbers 21.6–9) and destroyed by Hezekiah in *ca.* 716/15 because the Israelites ''made offerings to it'' (2 Kings 18.4). The use of oath-symbols in ninth-century Judah is also hinted in 2 Kings 11.12, wherein king Joash had the *ʿedût* ''put over'' him. Dalley (1986: 92) suggests that this Hebrew word, usually translated ''testimonial,'' is cognate to Akkadian *adêshu* and possibly refers to the ''winged disk.''

It was not always necessary for litigants to undertake a costly journey to a distant temple to gain access to an oath-symbol. In the earlier second millennium, duplicate divine emblems were available at various locations from which, upon payment of a fee, they might be carried by priests. Thus, as Postgate (1992: 186) notes, landlords in northern Babylonia might resort to ''an oath by a peripatetic divine symbol to guarantee the tenants' claim of honesty.'' One suggestive legal text translated by R. Harris (1965: 218–20) shows that an individual ''circumambulated the orchard, carrying the axe of the god . . . and established his ownership and regained possession of it.'' The act of encircling by the litigants in real estate disputes is also attested somewhat later in the second millennium at Nuzi in eastern Assyria. One is reminded that the Lord gave Jericho to the Israelites after the priests had carried the ark of the Lord around the city (Joshua 6.12–16).

The gods did not tolerate liars. Several Sumerian hymns to gods denounce contract violators (Kramer 1963: 120, 125). In a text from the Assyrian commercial station in Kanish, Erishum, a ruler of Assur in the Old Assyrian period, warns (in lines 39–52) that

> The one who lies (literally "talks too much") in the Step Gate, *the demon* of ruins will seize his mouth and his hind-quarters; he will smash his head like a shattered pot; he will *fall* like a *broken* reed and water will flow from his mouth. The one who lies (literally "talks too much") in the Step Gate, his house will become a house of ruin. He who rises to give false testimony, may the [Seven] judges who decide legal cases in [the Step Gate give a false] decision [against him]; [may Assur], Adad, and Bel, [my god, pluck his seed]; a place [. . .] may they not give to him. (Grayson 1987: 21)

At earlier second-millennium Mari (Tell Hariri), a north Syrian center of the east-west transit trade located on the middle Euphrates, legal documents go so far as to equate the failure to honor a contract for the sale of land with "eating the *asakku*"—that is, violating sacred property (Malamat 1966: 40–41).

In Old Babylonian Elam, those who violated contracts might forfeit the god's protective power or *kiten* (Akkadian *kidinnu, CAD* s.v.). This is expressed by the formula, "He has touched the *kiten* of (the god)" Inshuhinak, meaning, apparently, that the defaulter was brought into contact with an emblem of the god (Hinz 1973: 49–50, 104–5).

Neo-Assyrian contracts invoke gods (e.g., Assur and Shamash) as prosecutors in the case of breach of contract (Oppenheim and Reiner 1977: 120–25).

The efficacy of oaths sworn in property transfers and litigations (as well as in criminal matters, of course) was enhanced by reliance on standard and, therefore, potent rituals and formulas.

The seriousness with which divine oaths might be taken is attested by the stela of an Egyptian draftsman named Neferabu, who lived in the second half of the second millennium: "I am a man who swore falsely by Ptah the Lord of Truth, and he caused me to behold darkness by day" (Sandman-Holmberg 1946: 70–71).

The Greek evidence exhibits a similar pattern. Homer (*Il.* 3.279, 19.260) refers to the punishment meted out to the deceased oath-breaker, and Hesiod (*Th.* 231–32) maintains that the god Horkos "Oath" "brings pain to mortals who knowingly swear false oaths." Also in the *Iliad* (3.278–79), Agamemnon is perhaps invoking Hades, king of the underworld, and Persephone when he refers to "those two who underneath (the earth) punish the dead, whoever swears a false oath" (Richardson 1974: 272).

Among the Romans, Jupiter had the reputation of punishing oath-breakers with his bolt (Puhvel 1987: 149).

The chief sanction was, of course, implicit within the oath, which "called upon the name of a god or upon the god-king [in Egypt], and which, therefore assumed very serious obligations vis-à-vis a force of far-reaching intelligence and penalizing power. An age which took its gods seriously would not be likely to treat the oath lightly" (Wilson 1948: 156). As a Sumerian proverb nicely put it, "An (unfavorable) legal verdict is acceptable, (but) a curse is not acceptable" (van der Toorn 1985: 47). G. Murray (1934: 328) saw the problem in a different and, I believe, more profound way:

> In general covenant by oath belongs to a form of society which cannot enforce its judgements. It is ultimately an appeal to Honour, to Aidôs. Of course priests and prophets may thunder about the vengeance which the gods will exact for the breach of the covenant which they witnessed; but that sort of vengeance has in all ages of the world remained a little remote or even problematical. The real point of importance is that there is no vengeance by men, and no available human witness. The man who has sworn is really face to face with nothing but his own sense of Aidôs, *plus* a vague fear of gods and spirits. . . . The thing that makes the perjury especially base . . . is precisely his security from danger.

The oath-curse mechanism provided antiquity with a measure of social control otherwise prohibitively expensive or unavailable.

D. THE CONTRIBUTION OF TEMPLES TO ECONOMIC GROWTH

1. Temples as Centers, Guarantors, and Protectors of Trade

The symbiotic relationship between a god and the economic well-being of his town involved the god's "house" (i.e., the temple as a commercial center). Obviously, economic activity (especially craft activity) was situated near the temple to provide many of the material needs of the god's cult and his temple's maintenance. In many instances, commerce occurred in the temple environs as a means of providing a dependable, easily accessible source of cult sacrifices, as observed in the New Testament scene between Jesus and the money-changers. However, another factor for conducting economic activity in or near temple precincts was the desire to conduct these business dealings under the benevolent aegis of the gods, who could ensure success and protect participants from opportunistic exploitation.

Excavations of the Athenian Agora reveal that during the prosperous, trade-oriented classical period there was a significant development of craftsmanship and small industrial establishments (including pits for bronze- and iron-working) in the immediate vicinity of the Hephaisteion (see Mattusch 1977). The Hephaisteion was the temple shared by the patron god and goddess of the crafts, Hephaestus (fashioner of Achilles' armor) and Athena Ergane "Worker."

In the fifth century at Memphis, a major port located at the junction of Upper and Lower Egypt, the Phoenician trading colony from Tyre surrounded the temple of Aphrodite the Stranger, which lay close to Hephaestus' temple. Much later, in the second century C.E., all manner of traders ranging from bakers to purveyors of sexual services conducted business in a marketplace in close proximity to the precincts of the temple of Serapis in the Egyptian town of Oxyrhynchus.

The late second century B.C.E. dedication of the so-called "Temple of Foreign Gods" on the island of Delos, an international cult center and grain market, refers to *chrêstêria,* which, upon exploration, turned out to be "not oracle-chambers, as the name seems to indicate, but the equivalent of shops, or possibly store rooms" (Laidlaw 1933: 213). Note here that *chrêstês* means "one who gives oracles" and "creditor, usurer" (LSJ s.v.).

MacMullen (1970: 336–37) is struck by the coincidence in the Roman Empire of holy days of the gods with market days and the conjunction of the archaeological remains of shrines and temples with those of shops: "Pilgrims first paid homage to the god and then silver to the shopkeeper, all in the sacred precincts of Jove in Damascus, of Dionysus in Troy, of Venus in Rome."

This symbiosis between temple and commerce was not restricted to the major metropolitan centers. Temple sites and shrines at which economic activity occurred were located at other economically strategic locations (i.e., ports, international boundaries, and along trade routes—sites at which the oversight and favor of the gods would be in great demand).

The protection enjoyed by visitors to marketplaces was extended to Greek, Italian, and Philistine harbors by means of a nearby temple. For example, the temple of Apollo at Delos, the central market and sanctuary of the Cyclades, linked Greece with Lycia (southwest Asia Minor). Cults of Astarte/Aphrodite, "the foam-born goddess" (Hes. *Th.* 191ff.), flourished in Greek ports frequented by Syrian and Phoenician merchants. The religious precincts established by the Greeks in Etruscan ports functioned as *emporia.* The commercial participation of Hera's temple at Gravisca (590–480 B.C.E.) is well attested. Indeed, the very name of the Roman harbor-god Portunus is built on the Latin words *portus* "harbor, refuge, warehouse, door" and *porta* "door, gate" (York 1986: 83; *OLD* s.vv.). Again, the excavations at Kition, a major port on the south coast of Cyprus, uncovered metalworking shops of the later second or earlier first millennium that communicated directly with a nearby temple. A wall of this temple, and a "table of offerings" at another, were covered with graffiti of ships. Also at Kition, as at Ugarit and Byblos in the Levant and Wadi Gewasis on the shore of the Red Sea, anchors were incorporated into temple walls. Ugarit's harbor was called Mihd/Mahd, a name Astour (1981: 17) links with Akkadian *machāzu,* meaning "harbor, market, temple, city in which a temple stands" (*CAD* s.v.; cf. Assertion 8 [see chapter 6]). The Bible makes no reference to a Yahwistic temple at Dor, the main port of Israel in the eighth century, but the presence of one is hinted at by the finding of a seal whose inscription identifies the owner, an individual with the Yahwistic name Zekharyau, as "Priest of Dor." In the earlier second millennium the Mesopotamian goddess Ninsikila, the spouse of Enki, had a "city" in the trading center of Tilmun, probably the island of Bahrain in the Persian Gulf, whose name is rendered "House-neck(?)-on-the-Wharf-of-the-land" by Heimpel (1991: 188). As a final example, a temple of the craftsman-god Ptah and the worship of the Syrian gods Baal and Astarte are attested at Memphis in the mid-second millennium; and in the fourteenth century, the Egyptian ruler Amenophis III noted that his mortuary temple was "surrounded by the settlements of Syrians" (Redford 1970: 198).

Commerce was also facilitated by the construction of temples at international borders, especially where (like islands and ports) they were well demarcated geographically. A most impressive example of the fourth and earlier third millennia is the stacking of a series of temples, including the "Eye Temple," on the Khabur River at Tell Brak, a site on Mesopotamia's northern frontier at the terminus of the caravan routes to southern Anatolia. According to Sumerian inscriptions from the middle of the third millennium, the rulers of Lagash had constructed shrines along its border with Umma, as noted in an inscription of Entemena's: "On the boundary levee of Ningirsu, (called) Namnundakigara, he (Eanatum) built a chapel of Enlil, a chapel of Ninhursag, a chapel of Ningirsu, and a chapel of Utu" (Cooper 1986: 55). Ur-Nanshe of Lagash built the temple of Tirasha on the border with the neighboring Sumerian state Umma. Somewhat later a text of Sargon (2334–2279), the founder of the Akkadian empire, described the relationship with the northwestern neighbor Syria in the following manner: "He (Sargon) went to Tuttul (the border town), prayed to Dagan (the principal god of Syria). He (Dagan) gave him the Upper Country (Syria) as a gift including the cedar mountains and the metal mines" (Heimpel 1991: 191).

Naram-Sin (2254–2218), another Old Akkadian ruler, mentions a temple at a point where three states met. Larsen (1979: 349) considers it "reasonably clear" that the Assyrian city Assur, with its temple dedicated to a god of the same name, "had its origin as a marketplace or entrepot, and that its location made it a kind of border station between southern and northern Mesopotamia." The city was a natural choke-point for traffic along the Tigris. At the border between Assyria and Urartu, there was a temple in which copper and bronze were stored. The name "Carchemish," a city located on the major crossing point of the Upper Euphrates near the present Turko-Syrian frontier that appears in the Eblaite commercial texts of the mid-third millennium and possibly was founded by that north-Syrian state, means "the trading center of the god Chamish/Chemosh" (Dahood 1981a: 307; Pettinato 1981: 226; cf. Assertion 8). For the Hittites in the fifteenth to thirteenth centuries, hints of the location of temples at international borders may be found in the obligation of "border lords" to see that temples were maintained in good order and in mentions of "cities of god," one of which at least was situated on a river.

The towns of the temples of the goddesses Nekhbet and Wadjet, El-Kab and Buto, were located very near to the southern and northern borders of Egypt proper. Buto was close to the Mediterranean coast, and a wadi behind El-Kab led to the eastern desert's gold mines. One of the names taken by the Egyptian ruler (the *nebty*-name) emphasized his fond relationship with the "Two Ladies."

Parallels to Early Dynastic Egypt's "From Buto to El-Kab," or perhaps (by the later Sixth Dynasty) "to Elephantine" (the renowned cult center of the great potter Khnum), may be found in Sumer and Israel. Ur III texts dealing with Lagash's entire territory employ the formula "From Girsu to Gu'aba." Each area had its own main temple household. The Bible informs us that the kingdom of Israel established a temple at its extreme north in Dan, the city closest to the border with Damascus, while another royal temple was located in the south at Bethel near the border with Judah (Amos 8.14 *et passim*). Dan was linked to Hazor in the south and the Orontes River in the north and, to the west, to Tyre. "Numerous crucibles and bronze slag, tuyéres, circular stone installations, hearths with ashes and a wide repertoire of pottery vessels" reveal that Dan hosted an extensive metal industry in the twelfth to eleventh centuries (Biran 1989). Bethel lay on an important north-south road linking, for instance, Bethlehem, Jerusalem, Shechem, and Samaria. Note also the classic formula of Israelite settlement "From Dan to Beer-Sheba." The latter was situated in the northern Negev and was the main southern border town of Judah (2 Samuel 24.2 and elsewhere). Beer-Sheba sat astride the main road connecting the Trunk Road or Via Maris and the King's Highway, Israel's two main north-south highways. Aharoni (1982: 223, 237–38) reports the finding at Beer-Sheba (Tell es-Saba) of a major water project as well as "blocks of contiguous storehouses . . . and . . . a Hebrew ostracon recording the shipment of a certain commodity (wine?) from two places near Beer-sheba." An altar of the eighth century was excavated at Beer-Sheba, and the Bible (2 Kings 23.8) mentions a "high place" that was destroyed by King Josiah.

In the Greco-Roman sphere, another clear example of the preference for boundaries is provided by the temple of Demeter at Anthela near Thermopylai "Warm Gates," the narrow pass providing entrance to Greece from the north. As Farnell (1907, III: 73) explains, the temple was situated "at a spot especially convenient for the border market-meetings." Thermopylai, not surprisingly, hosted a cult of artisans called the Kerkopes, apparently a form of the Kabeiroi (Grimal 1986: s.vv. Cabiri, Cercopes). In one of the labors of Herakles, the Kerkopes are portrayed as dwarves, figures linked in myth with metallurgy (Dieterle 1987: 4–6). Herodotus (7.216) places their *edrai* ("seat, place") *Kerkôpôn* at the narrowest point of the pass. The reality and commercial significance of this "place" is underlined by the presence in Athens of a *Kerkôpôn agora* "marketplace" (LSJ s.v. *Kerkops* 2). The Argive Heraeum was constructed in the later eighth century at a point where it might serve Argos, Sparta, Mycenae, and, possibly, Tiryns (Strabo 8.6.2). Similarly, the altar of Zeus Meilichios was located at Skiron near the boundary between Athens and Eleusis. Here, according to legend, Theseus the unifier of Attica was "purified" after defeating assorted highwaymen and monsters on his way to Athens from Troezen via Epidauros. More generally, Zeus' sanctuaries were typically well positioned to serve travelers. Thus "Olympia and Dodona, for example, both lie in valleys, rural settings but close to the routes of communication. . . " (C. Morgan 1990: 27). A testimony, albeit indirect, to the importance of trade in the late eighth century is that the Greek polis might define itself as much by means of a major temple placed at its boundary as by the cult in the city itself (de Polignac cited by Snodgrass 1991: 18).

Soracte (in the grove of Feronia) with its ancient shrines hosted Italy's most important fair. Mommsen (1900, I: 251) notes the exceptionally favored geographic position of this site for commercial intercourse: "That high isolated mountain, which appears to have been set down by nature herself in the midst of the plain of the Tiber as a goal for the traveller, lay on the boundary which separated the Etruscan and Sabine lands . . . and it is likewise easily accessible from Latium and Umbria."

Kearns (1985: 203) suspects that "the earliest religious organizations to cross the boundaries of the pre-Cleisthenic village [in Attica] was the type of group exemplified by the Marathonian Tetrapolis, or the Tetrakomoi of the Peiraeus area, where several villages had a cult or several cults in common." Gernet (1981: 28) offers the insightful observation that Greek *telos* means "terminus, end" and "payment," while *telein* means both "to pay" and "to perform a rite" (cf. LSJ s.v. *telos*). It seems clear that among the early Greeks and Latins, the stone heaps and pillars that served villagers as boundary markers and ominous warnings against trespass became sacred sites of intercommunity gatherings and commercial contacts. At late sixth-century Athens, the stone pillars (*horoi*) inscribed "I am the boundary of the Agora" were apparently distributed around this central marketplace, especially at points where streets entered. No doubt the *horoi* served to warn transactors that they were entering a sacred area in which shady commercial practices could have no place. The Greek Hermes and the Romans Janus and Silvanus, who were closely associated with boundaries, became gods of trade and the crafts. The transactional role of the boundary pillar in the Near East is hinted at in the Bible. Isaiah (19.19) tells that a "pillar" dedicated to Yahweh would be set up at Egypt's border, and his oracle continues in verse 23 as follows: "In that day there shall be a highway out of Egypt to Assyria, the Assyrian shall come into Egypt, and the Egyptian shall worship with the Assyrians." But to judge by the Greek evidence, the pillar was a place to trade as well as to worship.

No later than the beginning of the second millennium, the Egyptians erected a temple in the eastern Delta at the "mouth of the two ways," meaning, no doubt, the fork in the roads to Israel and the mines of Sinai. Seti I (1302–1290), reflecting upon his parched route to the Red Sea mines, discovered a source of water and then resolved to found a town "in whose august midst shall be a resting-place, a settlement with a temple" (Badawy 1967: 107). All the god Seth's cult places were located, it appears, at the origin of caravan routes—for example, Newbet "gold-town" (prehistoric Naqada, later Ombos) in Upper Egypt.

The discovery of loom weights and numerous textile fragments (linen, wool, and a linen-wool mixture) at the ninth- to eighth-century Israelite *caravanserai* "shrine" at Kuntillet Ajrud in eastern Sinai at the intersection of three trade routes is interesting. Further, by recording the seizure of "vessels of YHWH," the stele of the Moabite ruler Mesha points to the presence in the mid-ninth century of a Yahweh temple in Nebo, probably located at the edge of the Transjordan plateau near the northern end of the Dead Sea (see Tigay 1986: 34). Moses was permitted to see the Promised Land from Nebo prior to his death (Deuteronomy 32.49). More generally, note the archaeological phenomenon of "temples with no cities"—that is, "solitary shrines outside the town walls or even far away from any major settlement" (Kochavi 1992: 9).[6]

2. Storage of Valuables and Safekeeping of Documents at Temples

A letter of the early second millennium demonstrates that Assyrian merchants stored valuables in the temple under the care of a category of priest: "Take the bundle of gold with my seal into the Assur temple in the capital and ask the *kumrum*-priest for the sack which is deposited together with the bundles under my seal" (Larsen 1977b: 95).[7] Excavation of a Hittite temple at Hattusas revealed extensive storage facilities, including multistoried warehouses. The latter contained several hundred large jars with a combined capacity of 62,000 or 119,000 gallons (Klengel 1975). In the early first millennium, the god Enlil dwelt in the *bīt (c)hurshi* "warehouse"; possibly this designation is descended from *bīt (c)hubūrī,* whose meaning probably is "public warehouse," literally "house of the community" or even "house of the trading companies." Hattusas is hardly unique in providing examples of multistoried structures in and around temples: Multistoried temple adjuncts are found in mid-third millennium Egypt, and Solomon's temple in Jerusalem had three floors. Indeed, Kitchen (1989: 110*) concludes from his survey of temples in Egypt, Anatolia, Mesopotamia, and Syria-Israel that "the overall evidence shows with all desirable clarity that there was quite commonly a great disparity between 'worship space' and 'storage/service space' in ancient temples and temple-complexes, vastly in favour of storage/service space." Of course, the finding that temples had large storage spaces demonstrates commercial potential, not commercial practice. A frequent phrase in Assyrian contracts of the earlier first millennium calling for a price or gift to be "bound to the foot" of a god may well refer to a registration fee or, alternatively, an escrow deposit (cf. chap. 2F). A letter to one of Hammurabi's officials refers to the finding in the archives of the temple of the goddess Nidaba of a tablet listing the individuals responsible for the *ilku,* a type of land tax. The finder of the document proposed that it was proof of a "field of his father's household" (Reviv 1989: 163). Later, in fourteenth-century Babylonia, the *kudurru*'s "boundary stones" recording royal land grants were sometimes stored in temples.

Similarly, a round-topped stela of the nineteenth century excavated within a temple in Egypt's eastern Delta apparently records the grant of royal land to a town. In the eleventh century, a legally validated marriage settlement was duly recorded on the roll of the temple of Rameses III. Again, the gods of Thebes decided in the mid-tenth century to uphold the proprietary rights of two women, and a record of their verdict was inscribed at the temple of Karnak. Two demotic papyri of 516 B.C.E. that transfer a woman's property to her son and daughter mention that each is to receive "half of everything which belongs to me in the field, *in the temple,* and in the town: houses, field, servants, silver, copper, clothing, wheat, emmer, ass(es), place in the mountain and anything of property in the land" (Cruz-Uribe 1979: 34; emphasis added).

Temples played a similar role in the Greco-Roman world, as indicated by a bronze plaque inscribed in the later sixth century with a "covenant about the land" among a group of Locrian colonists. After carefully setting forth the settlers' right of pasturage and inheritance, the inscription warns that "this covenant shall be sacred to Pythian Apollo *and the gods sharing his sanctuary.* [May there be for the man] who transgresses *these conditions* destruction for himself and his posterity and his *possessions,* but may (the god) be propitious to the man who piously observes them" (Fornara 1977: 34). Further, the first public record office of which we know at Athens was housed in the Metroon, which also was the shrine of the Mother (*mêtêr*) of the gods.[8]

The evidence for the repository role of Roman temples is plentiful. Ancient sources recalling the fifth through third centuries credit the temples of Saturn, the *aerarium,* and of Ceres with housing important documents. Documents of various sorts were also deposited in the temple of Jupiter Capitolinus, and Culham (1989: 111) adds that "regulations governing the distribution of land may have been posted at the temple of Diana on the Aventine, because that was a site of great symbolic importance for all Latin-speaking peoples, not just the Romans; the laws posted there were apparently widely influential (Dion. Hal. *Ant. Rom.* 10.32.4)."

We may also assume that the Titaness Mnemosyne "Memory, Remembrance" (Hes. *Th.* 45ff.) presided in temple "chapels" that served as repositories for legal documents. Surely, the goddess was not merely a literary creation devoid of cultic and social significance. In support of this hypothesis, we may offer a law of the fifth century in Halicarnassus, located in Asia Minor opposite the island of Cos, that mentions *mnêmones* "recorders": The jurors were required to swear that "what the *mnêmones* know shall be binding" (LSJ s.v. *mnêmôn* 3; W.V. Harris 1989: 74). There is also a reference in Crete's Gortynian Code to the *mnêmôn* as "registrar (of titles and conveyances)" (Gernet 1981: 234–35). The concern of these functionaries with documents is, lastly, reflected in Aristotle (*Politics* vi.8. 1321b38–40, cited by W.V. Harris 1989: 74). Possibly the Roman craft-goddess Minerva also played the role of registrar of documents and archivist. Arnobius, a scholar of the later third century C.E., recorded the form Meminerva and related it to *memini* "remembrance" (*OLD* s.v.). Henry (1989: 214), adds, referring to an inscription, that "the dedication Minervae Memori . . . suggests some association with remembering, which perhaps made such a derivation seem plausible. The link between Minerva and the Muses (e.g., on the frieze of Nerva's forum Transitorium) also connects her with the function of memory.'' Culham (1989: 111), citing R.E.A. Palmer, observes along the same line that Juno Moneta, whose epithet is usually translated ''Who Warns,'' may actually mean ''Who Records.'' All this is consistent with a Sumerian hymn of the early second millennium that identifies the goddess of the city of Isin by the epithet ''the exalted land registrar'' (M. Cohen 1981: 100).

In addition to standardizing weights and measures (see, e.g., Exodus 30.13, Numbers 3.47), serving as notaries-public, mitigating shirking/opportunism problems, and providing a sanctuary for private traders and their goods, valuables, and contracts, it appears that Near Eastern temples—including, for example, the ''House of (the goddess) Truth'' in Ur—lowered transaction costs by issuing letters of credit and coins (cf. Assertion 9). In return for these manifold services, the merchants often tithed the gods.

3. Temples as Repositories of Geographic Information

A number of accounts of early Greek colonial foundations begin with the consultation of the oracle of Apollo at Delphi (see, e.g., Hdt. 5.42.2). Thus, we are told that Delphi guided Myskellos of Rhypes to Kroton in southern Italy in the late eighth century (Dunbabin 1948: 26; cf. Malkin 1987: 43–47). Cicero (106–64 B.C.E.) asks ''Indeed, what colony did Greece ever send into Aeolia, Ionia, Asia, Sicily, or Italy without first consulting the oracle at Delphi, Dodona, or Ammon?'' (*Div.* i, I.3, cited by Londey 1990: 122). More specifically, Plutarch (*Moralia* 407f–408a) explains that Delphi prepared the founder of the colony with ''signs for recognizing places, the times for activities, the shrines of gods across the sea, the secret burial-places of heroes, hard to find for men setting forth on a distant voyage from Greece'' (Babbitt 1928). Obviously, the fact that Greeks went to oracles before setting out on voyages of discovery or colonization does not prove that the oracles were conscious repositories of geographical information or even overseas investment centers. But the fact of consultation and the tradition that the god gave the colonists precise geographical directions leads Snodgrass (1981: 63) to theorize that Delphi was or became a repository of geographic knowledge. He remarks that ''it was [not] only colonial voyages for which divine approval was sought and thank offerings made in the event of success, we hear of several commercial undertakings that had such backing.'' Dunbabin (1948: 38–39) also finds it reasonable that the ''priests of Apollo must have known a good deal about overseas conditions,'' and he entertains the possibility that ''by sending bands of emigrants and exiles from all over the Peloponnese and central Greece to the best sites in south Italy,'' the oracle ''insured the rational development of that area.'' Many scholars would consider this persepective to be too rationalizing. However, the views of Dunbabin and Snodgrass find some support in the excavations at Delphi and other internationally oriented cult centers. Turfa (1986: 69) notes that ''just before the foundation of Pithekoussai,'' the earliest Greek colony in the West (cf. Assertion 10), ''Greeks (probably Euboeans) were apparently prospecting the Tyrrhenian

Sea; souvenirs of these trips [ornaments, arms, and armor] appear in the votive deposits of the famous international sanctuaries at Delphi, Olympia, Dodona, and Samos, centers which thrived on commerce and international patronage in the Archaic period.''

We do not hear of geographical guidance in Mesopotamian *historical* documents. However, in Cylinder A of Gudea there is mention of the ''House of Understanding'' of the goddess of writing Nidaba. Jacobsen (1987: 409, n.77) comments that ''the reference would seem to be to use of written sources, and Nidaba's house of understanding may mean 'library' or 'archive.' ''

In the Sumerian version of the Gilgamesh myth, prior to embarking from Uruk on his expedition to the Cedar Forest (probably in Syria-Lebanon), Gilgamesh and his friend Enkidu received geographic or astronomical guidance from the Sebitti ''Seven,'' who were apparently under the sun-god Utu's jurisdiction (Silver 1992: chap. 10.5). Again, the Sumerian myth cited earlier (in chapter 1) tells that the obscure god Nimgirsig is the *ensi* ''chief, manager'' of the god Enki's *magur*-boats ''deep-going boats'' (*CAD* s.v. *makurru* 1), which he ''instructs, commissions'' (*a-ag;* Kramer and Maier 1989: 43, n.41).

The Egyptian evidence is more definite. To begin with, there is the god Amun's oracle to Queen Hatshepsut concerning the status of Egypt's incense trade in the early fifteenth century:

> (Formerly) the God's Land had never been trodden (and?) the [*anetyew*]-terraces (possibly frankincense) were not known to the people (of Egypt). It had been heard of from mouth to mouth in the accounts of ancestors. . . .The marvels brought thence under thy fathers, the Kings of Lower Egypt, were transmitted from one another, and since the age of the forefathers of the Kings of Upper Egypt who were before, in return for heavy expenses. Nobody had reached them save the [*sementyew*] (uncertain, possibly meaning overland carriers). Henceforth I will cause your troops to tread (on them). (Saleh 1973: 370)

The presence in a temple at Luxor (ancient Thebes) of a list of the thirteenth century naming twenty-seven mining regions is also suggestive of a repository role. Cyprus, for instance, is described as producing copper ''in millions'' (Holmes 1975: 91). Again, according to Bleeker (1973: 73), Hathor's temple at Dendera included a room in which ''twelve heads are portrayed which carry the hieroglyphic symbol of 'mountain.' They represent territories mentioned by name where Egyptians could find the precious minerals so much desired by them.'' Hathor is closely associated with the mining areas of the Sinai. But are the images of mountains geographic information or sympathetic magic? More directly relevant is the Dakhleh Stela's reference in the first millennium to a dispute concerning the ownership of a well that was settled by resort to the cadastral register of wells and orchards in the temple of Setekh (Gardiner 1933: 22). As a final example, the ''Famine Stela,'' purporting to be a decree of a Third Dynasty ruler but dated by most scholars to the Ptolemaic period (323–

330), portrays the king, distressed over Egypt's seven-year famine, consulting a priest of Imhotep, who then departs to consult the sacred books (the "Souls of Re," in the temple's "House of Life," where the clergy received their higher education) and returns to deliver a detailed lesson on economic geography.

4. Temples as Business Enterprises

Ancient temples often played an important role in agricultural and industrial production and trade. The agricultural role of Sumerian temples, for example, is illustrated in chapter 7. It is amply attested that Near Eastern cults (including the Israelite) often owned, besides land, large herds of cattle. That this also was the case in Greece is demonstrated in the *Hymn to Hermes* (70–74) wherein Hermes "reached the shaded mountains of Pieria, where the divine cattle of the blessed gods [the 'cattle of Apollo' in verses 18 and 22] had their stalls and grazed upon the pleasant, unmown meadows" (Evelyn-White 1936). The cattle of Helios are mentioned in the *Odyssey* (1.8, 12.127ff.). No doubt many of these cattle were sold to worshippers desiring to make sacrifices to the gods. Apollo in Delos earned an income in the fourth century B.C.E. by selling the wool of his sacred sheep.

Industrial production was another facet of the temple economy. Egyptian temples of the second half of the second millennium are known to have sold garments that may well have been produced in their own workshops, and, more generally, the temples are not infrequently linked with merchants (e.g., in the Bankes Papyri I). Partnerships between the god Assur and merchants participating in the Old Assyrian trade with Anatolia are attested to in the texts from Kanesh. A document of the second millennium from Susa in Elam notes that "In town and country, for business in silver and gold, Nahhunte (the sun-god) and Lord Arad-Kubi are partners, just as his father before him" (Hinz 1973: 61). An excavated Hittite temple possessed a "House of Work Achievement." "Large buildings with specialized industries" were "attached to the shrine of the goddess" in third-millennium Myrtos in Crete (Tegyey 1984: 77–78), and workshops were associated with shrines in second-millennium Mycenae, at Kition in Cyprus and in Crete. These industrial facilities may have participated in commercial industrial production, but there is no direct evidence of this. Again, Linear B tablets designate various gods as "owner" of a *wo-ko* (*oikos*) "house" with a work force involved in the production of various goods, including textiles (Hiller cited by Hägg 1992: 30).

Trust in the gods permitted temples to function as relatively efficient financial intermediaries or (possibly) banks and thereby to improve the allocation of resources in their societies. On the one hand, the temples were able to supplement tithes, donations, land-rents, fees for safekeeping valuables, and other sources of income by attracting private deposits at relatively low (possibly zero or negative) interest cost. On the other hand, the natural reluctance of debtors to default on loans given by gods or priests operated to lower both contracting costs and interest rates. In the third century B.C.E., Apollo at Delos gave loans at 10 percent to the city of Delos and private citizens there (Linders 1992: 11).[9] In addition to making loans, standardizing weights and measures (see, e.g., Exodus 30.13, Numbers 3.47), serving as notaries-public, and providing a sanctuary for private traders and their goods, valuables, and contracts, it appears that Near Eastern temples—including, for example, the "House of (the goddess) Truth" in Ur—lowered transaction costs by issuing letters of credit and even "coins." In return for these manifold services, the merchants often tithed the gods. The evidence regarding the loan business and banking and coinage is presented in chapters 5 and 6.

The economic importance of temples also owed much to a factor familiar to economists concerned with contemporary economies—namely, tax exemptions and exclusive franchises. Most famous in this connection is Genesis 47.26, wherein Joseph, the royal advisor, "made a statue concerning the land of Egypt . . . that Pharaoh should have a fifth (of the harvest); only the land of the priests alone became not Pharaoh's." In fact, royal decrees granting tax exemption to this or another temple or priest are known from all periods of Egyptian history. An outstanding illustration is provided by a decree of Pepi II (2275–2185) from the temple of Min at Coptos. Pepi's decree not only exempted "Min-makes-the-foundation-of-Neferkare-to-flourish" from various requisitions and corvées but even forbade officials to issue or receive orders referring to the personnel or activities of this foundation (Hayes 1946: 3–11). A later example is the Nauri decree of Seti I, which richly endowed a "House" of Osiris in Nubia (where it might collect the coveted southern products) and also prohibited "interference" with its people, goods, and land. Its personnel might not be transported outside the district for corvée, and its ships might not be "stopped" by patrols, probably to collect duties. Note that in his lawcode the Sumerian ruler Ur-Nammu mentions in the context of taxation that he "detained" ships of Magan traders at the "registry place" (cf. Assertion 1). Helck (1987: 18) suggests that "the temples were allowed to send their ships to foreign countries, especially to Phoenician ports, to sell the goods they had bought . . . at Egyptian market-places for foreign articles," and in explanation he notes (citing the Nauri decree) that the ships of the temples "were exempt from customs and did not pay duties." Temple-owned goods were likewise exempted from certain transit taxes in the nineteenth-century Assyrian trade with Cappadocia. That Babylonian rulers in the second half of the second millennium favored selected priests with tax exemptions is confirmed by the *kudurru*'s. The goddesses Arinna and Shamaha were exempted from taxes and corvée in the seventeenth and thirteenth centuries by Hittite rulers. Documents of ninth-century Assyria likewise allude to royal decrees granting tax exemptions to temples. Much later, in 189 B.C.E., the Roman praetor Spurius Postumius wrote to the Delphian League of Amphictiones as follows:

Know . . . that it has been decreed by the senate that the temple of the Pythian Apollo [is to be inviolate, and] the city of Delphi and its territory and the D[elphian]s are to be autonomous and free and [living] *by themselves* and having domain over the sacred territory [and the sacred] *harbor*, just as [was] their inherited right from the beginning. (Sherk 1984: 15)[10]

The bias in governmental tax policies in favor of cults gave them a competitive advantage over those who did not enjoy exemptions. Economic theory indicates that the special exemptions would have operated to increase the share of temple- (or priest-)operated enterprises in total production either by raising their marginal revenue curves (or lowering their marginal cost curves) relative to independent firms when taxes varied with output or by driving marginal private competitors out of business in the case of lump-sum taxes. Both types of tax were employed in the ancient Near East.[11]

In addition, it seems likely that the use of temples as tax shelters operated to increase their share in total asset ownership and income. The evidence is fullest in the second century B.C.E., when, as is well known, selected Egyptian temples enjoyed exemptions from various taxes, including compulsory labor. During this period, Egyptian temples enjoyed income from directly operated or rented lands and owned industrial enterprises such as breweries, weaving mills, and dyeing works (Bowman 1986: 96). Interestingly, there are contracts from this period, the Tebtynis Papyri of 195 to 137, wherein individuals dedicate themselves and their families to the gods (see e.g., H. Thompson 1941). These "slaves, servants" of gods agreed to pay the god a monthly fee in return for protection against assorted supernatural dangers. It has been suggested that the main demon they sought to evade was the royal tax collector. The Rosetta Stone of 196 B.C.E. shows Ptolemy Epiphanes "freeing the temples of (the tax of) the artaba for every aroura of sacred land" (Gardiner 1948: 303). The Tebtynis decrees, issued in 118 B.C.E. by Euergetes II after a lengthy period of civil war, confirmed temple revenues, including tax exemptions for property dedicated to the gods.[12] Presumably, these fee-paying servants went about their private business activities in much the same way as previously, although technically they belonged to the gods. The force of this line of analysis is made manifest, as Garlan (1988: 113, citing Debord) notes, by an inscription of the mid-first century B.C.E. from Nimrud Dag, in which Antiochus I of Commagnene (northeastern Syria) orders,

Let nobody, neither king nor dynast nor priest nor magistrate, be permitted to reduce these *hierodouloi* whom I have consecrated to the gods and to my ancestors according to the will of the gods, nor their children nor their descendants, who belong for all time to this class, nor to alienate them in any other way, nor to maltreat them in any fashion, nor to constrain them to enforced labor; but let the priests take them in their charge and let kings, magistrates and all private individuals protect them.

In the Egypt of the Pharaohs and Ptolemies, there are hints that temples were granted exclusive franchises for the production of fine linen and oil. Prostitution may, perhaps, be added to the list of legal monopolies.

5. Cults as a Business Opportunity

Although cults were frequently founded by public authorities, entrepreneurs also played a central role in cultic innovation. The frequently encountered view that temples must be understood as manifestations of public labor should be viewed with a critical eye (see, e.g., Howard-Carter 1987: 68). The importance of the participation of private entrepreneurs is demonstrated indirectly by Plato's (*Laws* 909–10) reactionary denunciation of private cults and directly by the ownership of many cults by certain families (Greek *gennêtai*). Typically, each such *genos,* as Kearns (1985: 206) explains, maintained a "tradition of an eponymous heroic *archêgetês,* (originally perhaps "leader" or "founder" rather than "ancestral") who had instituted the observances of the divine cult." For example,

> In Athens it is the Eteoboutadai who provide both the priest of Erechtheus-Poseidon and the Priestess of Athena Polias, so administering the central cults on the Acropolis. Their eponymous ancestor [is] Boutes—whose name points to the sacrifice of oxen. . . . The family of the Praxiergidai provide the priest of Zeus at the Palladion. The Mysteries of Eleusis remained until the end of antiquity in the hands of the Eumolpidai and the Kerykes. (Burkert 1985: 96; see also Burkert 1986: 36–37)

A member of the Eumolpidai family designed the syncretistic Serapis cult at Alexandria in Ptolemaic Egypt, and another was said to have founded the mysteries of Demeter Eleusina at the Arcadian city of Pheneos (Farnell 1907, III: 199).

Burkert (1985: 96) observes that the priesthoods, with their revenues, went to the founders of sanctuaries. This point is underlined by the stiff price paid to the Potiti when the Roman authorities acquired ownership of Hercules' main cult center, the Ara Maxima. Garland (1992: 4–5) observes that "Greek religion offered profits and emoluments to its organisers and managers. . . . Inevitably, too, it is easier to identify the worldly motives for introducing new gods than it is the 'religious' ones." The innovative role of private entrepreneurs in the process of attracting and planting foreign cults at Delos is attested to by an inscription on a marble pillar engraved near the end of the third century B.C.E. The content of this inscription, termed the "Serapis aretalogy," is summarized by Laidlaw (1933: 129) as follows:

> Apollonius, an Egyptian of the priestly class, came [to Delos] from Egypt, bringing the image of his god [Serapis], whose worship he duly conducted in his own house. His son succeeded him. The grandson (who relates the story) then succeeded to the priesthood,

and the god announced to him in a dream that he deserved a new sanctuary, and he gave instruction where and how it was to be built. All came to pass as the god directed. In six months the temple was built.

Economic success breeds imitation, of course, and other Sarapieia were built in the section known as the "terrace of the foreign gods," one of which came under the ownership of the Delian authorities at the beginning of the second century. This is far from the only instance in which emigrant Egyptians spread the cults of their homeland. L.M. White (1990: 39) notes the frequency in the Greek east of new or imported cults being housed in private quarters with an evolution "toward a more public or even monumental form of building." Just this kind of evolution, led by one family, is observed in the cult of the Palmyrene deity Gadde at the caravan city of Dura Europos in Roman times (L.M. White 1990: 40–43).

Pausanias (1.2.5) notes a building at Athens behind the Dionysus temple that contained a statue of one "Pegasus of Eleutherae," a missionary priest, who, aided by the Delphic oracle, introduced a new cult image of Dionysus into the city, possibly in the sixth century. Again, the worship of Meter was introduced into the Greek world by itinerants called *metragyrtai* "beggars of Mother," who "unabashedly made their living from their craft" (Burkert 1986: 35). Citing Livy's (39.8–19) account, Burkert (1986: 33) points out that the Roman Bacchanalia of the earlier second century B.C.E. are traced to some *sarificulus et vates* or " 'petty sacrificer and seer,' a Greek probably from Magna Graecia who migrated to Etruria, whence the practice spread to Rome. One priestess from Campania gained special influence, claiming direct inspiration from the god and altering the traditions accordingly."

An inscription of 79 C.E. records that the cult of Helios Saraptenos (Baal of Sarapta) was brought to the Roman port of Puteoli by a certain Elim on divine command (L.M. White 1990: 32).

The Greeks were prone to accuse religious entrepreneurs of venality. For example, in Euripides' *Bacchae* (255–57), the Theban king Pentheus tells the seer Teiresias that "by introducing (*espherôn*) yet another new *daimôn* or divinity to the human race you hope to make a profit by examining flights of birds and interpreting burnt offerings" (Garland 1992: 5). Garland (1992: 6) adds that "a seer like Teiresias who provided mantic support for a new cult presumably commanded fees which were commensurate with his own reputation." The sky, so to speak, was his limit.

For Greece's "Orientalizing" period in the eighth to seventh centuries, M.L. West (1986: 234), after noting the importance played by small entrepreneurs, goes on to explain that

Hepatoscopy is a clear case of an imported technique of Babylonian provenance, and there are various other religious and magical practices of which the same may be true. . . . A wandering iatromantis seems to have brought the Babylonian goddess Gula "the great healer'' . . . to Thera and Anaphe, leaving her commemorated in the cult of Apollo Asgelatis. The Delphic Apollo particularly, with his possessed priestesses and his birthday on the seventh, has connections with the Semitic orient.

The Bible tells that an itinerant ''Levite'' agreed to serve as priest for one Micah in return for ''ten pieces of silver per year, and a suit of apparel, and his victuals'' (Judges 17.10). However, this Levite later joined the migrating Danites and founded the important cult at Dan on Israel's northern border (Judges 18). Another biblical example of private cultic enterprise is provided by David's erection of an altar on a ''threshing floor'' (*goren*) that he *purchased,* on the advice of the prophet Gad, from ''Araunah the Jebusite'' (2 Samuel 24.18–25) or from ''Ornan the Jebusite'' (1 Chronicles 21.18–27). In 1 Chronicles 22, David charged Solomon to build the Temple at this site. These facts alone are more than sufficient to make us suspect that David had purchased a privately owned cult place, not a mere ''threshing floor'' (cf. McCarter 1980: 238–39). These suspicions are strongly reinforced by the fact that in the Ugaritic texts the *grn* is a place of theophany. Further, elsewhere in the Bible, Saul consults with the priest of Yahweh in the *goren* (1 Samuel 14.2, 18–19) and Yahweh proves himself to Gideon in the *goren* (Judges 6.37). The Greek data also suggest that the ''threshing floor'' is a cult place. At Delphi, Eleusis, and other sanctuaries, the circular assembly area was called a ''threshing floor'' (*halôa, halôê;* note Attica's Haloa festival).

6. Industrial Organization of Cults

Unfortunately, not a great deal is known about the administrative and financial relationships among temples and cults. The importance of these interconnections is beyond doubt, however. In the Old Kingdom, for example, we find inscriptions identifying women as ''priestess of Hathor in all her places'' or as ''priestess of Hathor Mistress of (the city) Dendera in all her places.'' Dendera, ancient Tentere/Greek Tenyris, was located about 40 miles north of Luxor on the west bank of the Nile. Now ''Hathor of Dendera'' was worshipped not only in that city but as far north as Heimamiya (Upper Egyptian nome ten) and as far south as Thebes. In later-third and second-millennium Mesopotamia, similarly, ''Ishtar of (the city) Arbela'' had branch temples in several cities, and priests designated ''of Enki of Eridu'' are observed in Ur. The Bible also provides evidence of branch cults. Ahlström (1986: 7–8) observes that ''Yahweh came [to Israel] from Seir, Paran, and Teman, which are all biblical names for Edomite territories,'' and he calls attention to writings discovered at Kuntillet Ajrud (see p. 22) mentioning ''Yahweh of Teman and his Asherah.'' ''Yahweh of Samaria and his Asherah'' are mentioned as well. Again, in first-millennium Greece, the local sanctuaries of the Delian or Pythian Apollo were regularly in communication with their respective main centers. Artemis of Brauron, Apollo Pythios, and the cult of Eleusis had branches in Athens.

The pervasive financial connections of one temple to another in Ramessid times have been noted by Gardiner (1941: 50). Relatively large amounts of grain were transferred among various constituent temples of the House of Amun. Katary (1989: 188) explains that it is not surprising "that a part of the [tax/rent?] consignment of one institution should have been derived from another . . ."; indeed, the house of Amun "was involved in financial transactions with eight other temples, two of which were royal funerary foundations. . . ." The financial connections within the Artemis cult are attested to in an inscription of the fourth century B.C.E. from Ephesus. Hanfmann and Waldbaum (1969: 265) report that this text deals with the execution of residents of Sardis who attacked a sacred embassy, which according to the "custom (law?) of the Fathers" went from the Artemis sanctuary at Ephesus "to Sardis and (to) the *treasury* of the temple" (emphasis added). In the early third century B.C.E. at Miletus, the itinerant women who performed initiations for Dionysus were required to report to Dionysus' official priestess and to pay a regular fee.

David (1982: 125) notes that the temples of the gods Mut, Khonsu, Ptah, and Montu erected next to Amun's sanctuary at Karnak "were originally separate sanctuaries, but either because the deities were members of Amen-Re's triad or because their own significance might otherwise have threatened Amen-Re's supremacy at Thebes, they were incorporated into his complex, and thus brought under the supervision of Amun's priesthood." It is interesting to consider the meaning of "Hathor" in a financial perspective. Hathor, meaning "House of Horus," is understood as a metaphor for the enclosing of Horus in his mother's (Hathor's) womb. This interpretation is doubtlessly valid. On the cultic level, as distinct from the mythical, however, the name may signify that Horus "the child" occupied a chamber in the Hathor temple.

Near the end of the third century B.C.E., the cult of Mater Magna was imported from Pessinus in Anatolia to Rome's Palatine; and, thereafter, priests appointed outside Rome had to be approved by this central sanctuary. Burkert (1986: 48–49, 150, n.99) testifies for the Greco-Roman world that

> the pagan gods, even the gods of the mysteries, are not jealous of one another; they form, as it were, an open society. If Mithras is somehow a stranger, he still keeps good company with familiar divinities such as Helios, Kronos, and Zeus. . . . It is quite common in sanctuaries of Sarapis and Isis, as well as those of Meter and Mithras, to dedicate statues of other gods or to make vows to them.

In explaining financial connections among cults or administrative controls of one cult by another or the sharing of temples or the merger of cults or temple complexes, the economist would of course be inclined to stress explanations in terms of efficient organization or the exercise by mother cults of quality controls over franchiser cults or economies of scale or scope. Standard explanations stress battles over supremacy and cultic imperialism or mere "friendly connections" between sites worshipping the same deity.

E. CONTRIBUTION OF ECONOMIC GROWTH TO THE GODS: AN APPLICATION OF BEHAVIORAL ECONOMICS

If it is true that by lowering transaction costs the gods served economic growth, it is also the case that economic growth reciprocated by permitting worshippers to better serve the gods. There is much to be said in favor of an observation made by the late Assyriologist I.J. Gelb (1965b: 62) that "as all man's ideas about the divine are human, it is my firm belief that we shall never know what was the nectar of the gods until we learn what was the daily bread of the people." In the first place, this "nectar" or service took the form of what I called cultic luxury consumption in *Prophets and Markets* (1983c). The relationship between the affluence enjoyed by the Israelites and the demand for cultic consumption is well summarized by the eighth-century prophet Hosea (10.1): "When his fruit was plentiful, he made altars aplenty; when his land was bountiful, cult pillars abounded." A similar pattern has been noted among the Greeks during the period when they were experiencing what Chester Starr (1977: 4) describes with a great deal of justification as "the most remarkable example of economic growth and structural alteration in western history" (cf. Silver 1980: chap. 7). Starr's conservative estimate of about 3:1 for the physical resources committed to material cultic consumption (new temples, bronze tripods, figurines, and large-sized statues) in the sixth as against the seventh century greatly exceeds the most optimistic estimates of population growth during the sixth century. There was also a proliferation of new cults in the sixth century, Kearns (1985: 199) adds.

There are hints that Egypt followed the same path during the era of affluence culminating in the reign of Rameses III in the later twelfth century. The monuments he erected across Egypt found their epitome in the magnificent temple at Medinet Habu and, like his immediate predecessors, Rameses III endowed temples liberally. At this time, Bleeker (1967: 32) reports, "The religious festivals became . . . more and more numerous. The temple at Medinet Habu provides definite evidence for this phenomenon. During the reign of Rameses III celebrations were held on 162 days, in other words the number of days which together covered nearly six months of the year." Bleeker adds that the records of a group of workmen in the cemetery at Thebes reveal as many holidays as working days. In this connection, C.J. Eyre (personal communication) cautions me that many temple holidays were of little economic significance and that one-quarter is a better estimate of the number of holidays than one-half. The main point still stands, however.

Israel's prophet Isaiah (1.11) knew that the Lord was "sated with the burnt offerings of rams" and Amos (5.21–24), speaking for the Lord, told them in no uncertain terms, "I loath, I spurn your festivals, I am not appeased by your solemn assemblies. If you offer Me burnt offerings—or your meal offerings—I will not accept them. . . . Spare me the sound of your hymns. . . . *But let justice well up like an unfailing stream*" (emphasis added). What the Lord desired from the affluent Israelites, Hosea (6.6) was sure, was "*goodness not sacrifice*" (emphasis added). For Amos, Hosea, Isaiah, Micah, Jeremiah, Zephaniah, and Ezekiel, Yahweh is no longer the national god and protector of the Israelites but a god of social justice who threatens personal and national destruction primarily because the poor are being oppressed. This prophetic revolution is reflected in the "Admission Torah" (Psalms 15): "Lord, who shall sojourn in Your Tabernacle? . . . He that walks uprightly, works righteousness, and speaks truth in his heart . . . who has never lent money at interest or accepted a bribe against the innocent." But although the welfarist response of the Israelite cult to affluence is the best attested example, it is hardly unique.

A hymn dedicated to Nanshe, goddess of Lagash in Sumer, appears to deny participation in the New Year's Day ritual to persons guilty of social injustice. Heimpel (1981) dates the hymn to the later years of the Ur III Dynasty, an era of relatively high living standards. Again, during the Third and Fourth Dynasties (2780–2560) of Egypt's Old Kingdom, the rich erected splendid tombs, but in the Fifth and Sixth Dynasties they built smaller ones and inscribed them with solemn declarations that they had lived moral, socially just lives. The inscription of a certain Sheshi, for instance, maintains that he rescued the weak and gave food to the hungry. The later Ramesside age is also one of personal piety in which the deity, Amun-Re, is visualized as the protector of the poor and oppressed. de Moor (1990: 51–52) finds it

> interesting that this more personal relationship between god and man was attended by a heightened ethical consciousness. . . . Prosperity points to the god's favour and hence to piety. . . . In this period the well-known catalogue of denied sins was inserted in the Egyptian Book of the Dead as proof of the growing awareness of ethical responsibility.

When the Greeks had grown wealthier in the classical period, the term *philanthropia,* originally signifying the love of gods for men, came to mean the love of men for each other. Heraclitus called for sacrifice with a pure conscience and so did Socrates, according to Xenophon (cited by P.A. Meijer 1981). Again in affluent Rome, the number of religious festivals and games increased markedly (Bradley 1984: 41). In contrast to the earlier period of Roman affluence in the later first century B.C.E. and first century C.E., when one's chances of pleasing the gods depended primarily on the performance of traditional rituals, such characteristics as "holiness of mind," "purity of heart," and "innocence" assumed importance in the second century, when affluence had peaked.

Many gods found themselves unable to adapt to the desires of affluent worshippers. Perhaps they were overly identified with special socioeconomic groups or with physical representations and mythologies that had become obsolete or even distasteful. As an economist might put it, their fixed capital had become obsolete. In third-millennium Egypt, the rise to prominence of the god Osiris was apparently associated with a phenomenon Egyptologists refer to as the "democratization of mortuary beliefs." That is, the wealthier segment of the population appropriated texts capable of providing immortality that previously had been monopolized by Pharaoh (cf. Sorensen 1989). This phenomenon can, of course, be linked with the increased ability of Egyptians to afford tombs and elaborate coffins and to create endowments for the provision of the vital food and drink offerings on various festival days.

NOTES

1. The translation of Genesis 34.21 is disputed philologically and, more importantly, it is controversial on ideological grounds (see Silver 1983c, 8, n.3). For a complete discussion of the merchant who ''goes around,'' see Silver (1992: chap. 6). Note here that the translation ''*trade*'' is at least realistic. The Mediterranean world is well known for the importance of local differences in elevation in promoting specialization and trade. Archives of the late third millennium (Ur III), for example, show the urbanized Sumerians trading for sheep with the pastoral Mardu people. The Hymn to Ishme Dagan (1953–1935) adds, ''may the Mardu, who does not know a house, who does not know a city . . . who dwells in the steppes reach me with [*a.lum*] (sheep) and (fat-tailed) *kungal* sheep'' (S.J. Lieberman 1969: 58). Pastoralists hire themselves out to agriculturalists for loaves of bread in the myth of the god Mardu's marriage (Glassner 1989: 77).

2. In the second half of the second millennium, according to Velde (1977: 12), ''from the hieroglyphic way of writing Baal, one can already deduce that the god is a form in which Seth manifests himself. The divine name Baal is determined with the Seth animal.'' Both gods are storm-gods and controllers of the seas (Velde 1977: 122–23, 128; cf. Gardiner 1931: 26, n.3). Adonis is identical with the Phoenican word *adōn* ''lord.'' Possibly he can be identified with the god Dagan, who in Ugaritic myth is ''the father of Baal.'' Isis, the mother of Horus, overlaps with the goddess Hathor, ''Lady of Byblos.'' Bleeker (1973: 73) suggests that ''the relationship between Hathor and the goddess of Byblos indicates early trading connections between Egypt and Syria which fell under the patronage of Hathor and which led to the said identification of the two goddesses.''

Note that in the fifteenth century, Hatshepsut's ''messengers'' to Punt (probably the Somali coast) carried ''all sorts of good things . . . for Hathor, 'Lady of Punt' '' (Liverani 1979b: 24). In dismissing Hatshepsut's claim as a ''fictitious procedure'' designed to inflate the importance of Egyptian gods, Liverani (1979a: 25) overlooks the role of syncretism in reducing transaction costs. Redford (1973: 16) points out that ''not only did the Egyptians accept certain of their neighbors' gods as bona fide Egyptian deities, but they were never loath, when the god in question approximated one of their own, to use the Egyptian name (occasionally followed by the [*en hast*] 'alien.' '' In the present example, of course, the addition of ''alien'' would have been redundant as Hathor was already ''Lady of Punt.'' Hathor also accompanied Egyptian expeditions to Byblos (see p. 9) and, as is proven by inscriptions of the third and earlier second millennia (Old Kingdom) found *in situ,* to the diorite quarries in the western Nubian desert and, in the Twelfth Dynasty, to the mining areas of the Sinal peninsula (Bleeker 1973: 73; Giveon 1978: 51–53).

Related themes are observable in the Mesopotamian cults of ''Dumuzi of the Grain'' and ''Damu the Child,'' who ''seems to represent the power in the rising sap [and] appears to have had his original home among orchard growers on the lower Euphrates'' (Jacobsen 1976: 27, 63–73).

3. The word "commissioning" deserves comment. Kramer (1977: 61) renders the professional term *nam-garas-ag* as "to exercise the profession of travelling merchant." However, lexical texts equate the Sumerian term with Akkadian words having to do with collecting a share as well as with traveling (*CAD* s.v. *kaesshu, mākisu*). In this connection, note a Sumerian text of the later third millennium (Cylinder A of Lagash's Gudea) that refers, in Jacobsen's (1987: 421) translation, to "Tarsirsir, its (the temple of Ningursu's) place for giving out commissions." The Egyptian term for "commissions" is *wepwet*.

4. Actually a number of texts from Uruk dating roughly between 3200 and 3000 refer to the import of metals from Tilmun, and one text links Tilmun with the "Inanna festival" (Englund 1983).

5. Recall Greece's rudely carved wooden images (*xoana*). For example, the olive-wood image of Athena, patroness of craftsmen, in the Erectheion (Silver 1992: 290).

6. However, an anonymous referee warns that it is "all very well to cite the Argive Heraeum as an example of a Greek temple that was situated near trade routes. But (e.g.) the temple of Aphrodite at Corinth (just 15 miles away) was situated on top of an almost inaccessible mountain; and the same holds true for the famous temple at Bassae in the central Peloponnese. *No* trade route facilitation there!" Clearly many temples were not much involved in commerce. Just as clearly, many were. Indeed, in a significant number of cases a search for economic benefits provided a central raison d'être.

7. The placement of clay seals on the mouths of jars and on the knots of bundles was a major Near Eastern innovation serving to strengthen control over property and thereby encourage the intensification of trade and specialization.

8. Thomas (1989: 30) notes that "one of the earliest known prose works, that of Heraclitus, was said to have been deposited by him in a temple—like a set of laws or an inscription of public importance."

9. In the second half of the fourth century B.C.E., the regulations of Myrrhinus, a district in eastern Attica, stipulated that when the priests made a loan on the security of "land or a house or a tenement house (*sunoikia*) of adequate value," they were "to set up a *horos* [stone marker; see chapter 7.B] on which is inscribed the god to which the money belongs" (translation and transliterations from Millett 1991: 173).

10. An anonymous referee calls my attention to the Isthmian Declaration of 196 that had exempted all Greek communities from having to pay taxes. In this case, the exact nature of the benefits conferred upon Delphi would be obscure.

11. In the early second millennium, Anatolian kings levied a tax on passing Assyrian caravans called *nischātutum* that amounted to 5 percent of the textiles carried and to two minas on every standard container of tin, or 2/65 of the tin carried (Larsen 1974: 475). Somewhat later in the second millennium, a *miksu*-impost on commercial activity was levied in the city of Ur at the rate of 10 percent, and this rate was probably applied to the transit trade of Mari still later. During Hammurabi's era, it is known that a *miksu*-impost was imposed on both commercial activity in agricultural goods and agricultural production. During the second half of the second millennium, the *kudurru*'s mention proportional taxes on crops and the increase in flocks (Ellis 1976: 149–50, 162). An Assyrian text states with respect to a parcel of land, "Its corn tax is one-tenth, its straw tax a quarter" (van Driel 1970: 171). The prophet Samuel (1 Samuel 8.15) warned the Israelites that a king would take a tenth part of their grain harvest. Taxes on merchants, trade, and land are noted in 1 Kings 10.14–15 and Isaiah 33.8 (see Hillers 1971). Poll taxes were known in Israel and, according to Ellis (1976: 162–63), elsewhere in the Near

East. Compulsory labor service was commonplace. For example, the law code of Lipit-Ishtar dating from the early second millennium fixes a maximum compulsory labor for married men and single men at 70 and 120 days, respectively (Komoróczy 1976: 33). See further Silver (1992: chap. 12).

12. A document from eighth-century Assyria alludes to a royal decree establishing "freedom" (from compulsory labor?) for "servants of the goddess Ishtar" (van Driel 1970: 173). "Servants of the gods" are also encountered holding land of the *damos* (commune?, public?) in Mycenaean texts dating from the mid-second millennium (Finley 1982: 231).

In early Cambodia, land was apparently "donated" to temples in order to escape taxation. Often the family of the donor continued to manage the land and the temple received a designated share of the income (Hall 1985: 149–50). Entry into the Buddhist *sangha* as a "servant of the Religion" became a popular method for avoiding royal taxation in sixteenth-century Burma (V.B. Lieberman 1980).

2

Adaptations of Markets and Hierarchical Relationships to Transaction Costs

The most important advantage of symbolic actions and trust-based relationships (including business friendships, continuous relationships, personalized clientization, and native-place and kinship ties) and of personal economics generally is the avoidance of costs arising from periodic, detailed formal contracting. It would be difficult to overestimate the savings from these adaptations in a world of relatively high costs of communication.

A. SYMBOLIC ACTION AND RECITATION IN THE CONTRACTUAL PROCESS

Today the handshake makes a modest contribution to enhancing trust between trading partners and lowering their costs of transacting. Patterson (1991: 49) explains that "The [Greek] verb *enguan* has the basic meaning 'to pledge' or 'to promise,' with an etymological connection to a ritual gesture involving the hand or hands—either pledging by putting something into the hand or promising with the seal of a handshake" (see *Od.* 8.351). For the ancient Near Easterner, sealing a bargain with a handshake ("doing hands") and other more elaborate rituals, including mutual anointing with oil or the sharing of a meal, must have played a major role in establishing a sense of community and confidence, a "social contract," among contractors. For example, in the earlier second millennium a Mari contract for the sale of land closes with the statement, "They (the contractors) have eaten from the (same) platter, drunk from the (same) goblet, and anointed each other with oil" (quoted by Mettinger 1976: 216). The witnesses might also partake of the meal at the ratification of the agreement, and indeed one Mesopotamian contract for the sale of a house in the middle of the second half of the third millennium records that no less than eighteen witnesses shared the meal with the contracting parties.

In addition, a variety of *publicly performed, conventional* gestures operated to lower the costs of making and enforcing commercial contracts.[1] As Kaser (1968: 34) has pointed out, "early Roman law together with other early legal systems shared the conviction that legal bonds could be created by *acting* in a *formal* (ritual) manner." Some examples of these rituals follow.

1. Passing one's shoe or a coin or straw stalk (Latin *festūca*) or wooden "pestle" (Akkadian *bukānu*) to surrender a right or to bind an individual to repay a debt or to make delivery or to conclude a sale—for example, of real estate or slaves (*CAD* s.v.; *OLD* s.v.). A reflection of the shoe-passing ritual can be seen in Ruth 4.7–8 and, possibly, in the *monosandalos* theme in Greek mythology (Gernet 1981: 179). Note that the Latin term *stipulor* "to agree to (a deal)" is from *stipula* "straw" and has the basic meaning "to break a straw" (*OLD* s.vv.). Plutarch (*Cato* 21.5ff.) reports that in the second century B.C.E., Marcus Porcius Cato circumvented the ban on the participation of senators in mercantile activity (*lex Claudia*) by employing "men of straw" as his agents.
2. Setting the foot upon to take possession. At Nuzi in Assyria, deeds recording the sale of land sometimes mention that the seller raised his foot from the land and placed the buyer's foot in its place.[2] A similar practice may be detected in the Greco-Roman world. Gernet (1981: 177) explains that

> in Athenian law from the classical period, the heir is designated by the fact that he "comes into possession" (*embateuei*). The same verb is applied to the creditor who upon default takes possession of mortgaged property. A related verb, *embainein*, at times indicates (even at a late period) a "taking" possession by the purchaser. There does not seem to have been any special, solemn ceremony, one demanded on pain of voiding the contract. . . . But what are the antecedents to *embateusis?* The question may well be asked, for *etymologically the word signifies the act of "entering" or "placing the foot on."* (emphasis added)

3. Washing one's hands to renounce an inheritance.
4. Striking the forehead of the debtor by the surety or striking the hand of the creditor to enter into a suretyship arrangement (see, e.g., Proverbs 11.15; Job 17.3). In Homer, Poseidon convinces Hephaestus to release Ares from bondage by offering to be responsible for his debt; the key term representing the institution of surety is *eggyalizô* (*engyalizô*) "to put into one's hand" (*Od.* 8.351; LSJ s.v.).
5. Pouring of oil on the head or cleaning the forehead and/or breaking a pot to manumit a slave.
6. Breaking a lump of clay to dissolve an adoption. Note here also the Roman ritual of treaty-making, in which the magistrate binds Rome by handing over the *sagmen* "a bundle of grass torn up with its earth" from the *arx* (*OLD* s.v.).
7. Loosening one's hem to acknowledge the return of stored property.
8. Veiling a woman to marry; tearing off the veil to divorce her.
9. Festive toasting with beer to seal marriage, rental, and loan contracts.

10. Ceremonial driving of a peg into a wall to finalize the sale of fields, houses, and slaves in mid-third-millennium Lagash and to register a mortgage in Old Babylonian Elam. Again a similarity with the Greco-Roman world is visible. The Latin word *pignus* means "pledge, security" and "token, symbol" (*OLD* s.v.). Skiles (1940–1941: 528) proposes that the "fundamental meaning of this last word is perhaps 'something to fix the remembrance of a contract.' Thus we have a hint . . . that the primitive agreement was ratified by setting up some sort of marker."
11. Shooting an arrow to transfer landed property. This ritual is somewhat problematic, but it does find support in the evidence. An inscription of the eighth century from Urartu, a kingdom to the north of Assyria centered on Lake Van, records that the ruler shot an arrow from his orchard to the garden of another individual and so, it would seem, took possession of it. Again at a time of war with Aram, the prophet Elisha advised Joash, king of Israel, to shoot the "Lord's arrow of victory" eastward and then to smite the ground with his arrows (2 Kings 13.14–19). It is perhaps significant that in Sophocles' *Oedipus the King* (1198–1199) we find that Oedipus, "outranging everybody, shot his arrow and became the lord of wide prosperity and blessedness" (Gould 1970).
12. Snatching of the money by borrowers in Knossos (Crete). Again the ritual reported by Plutarch (1936: IV, 303) is problematic, but it possibly symbolized that the borrower had voluntarily accepted the loan and, therefore, the obligation to repay it with interest (compare Millett 1991: 42).

If all this discussion of rituals seems alien and exotic, it is well to consider our own use of the word *deed* for a legal document of conveyance.

Perhaps the most famous public ceremony combining gestures and recitations is the Roman *mancipatio.* Watson's (1970: 50–51) description speaks for itself:

> For *mancipatio,* the transferor and the transferee appeared with the thing to be transferred (unless it were land which could be mancipated at a distance) before five witnesses who had to be male Roman citizens above the age of puberty and before a sixth person who had the same qualifications and who held a bronze scale. The transferee grasped the thing, for instance a slave, with his hand, struck the scales with a bronze (or copper) ingot, and said, "I declare this man to be mine according to the law of the citizens and let him have been bought by me with this bronze and by these bronze scales."

Examples of symbolic legal acts are rare for ancient Egypt, but there is one example that seems to have something in common with *mancipatio.* In a transfer of ownership text, the owner of a donkey swears "on the back of the donkey" (Allam cited by Shupak 1992: 18, n.69).

The so-called "I" form, a legal formula in which "personal name said" is followed by the contents in direct speech in the first person, is attested to in sealed, witnessed Egyptian sale contracts beginning in the middle of the third millennium. Quite possibly, as Hammershaimb (1957: 22–23) suggests, the contractual formula with direct speech originated in the era before written contracts and formal document registration when "every kind of what we call civil cases

. . . [was] conducted orally and it was the job of witnesses, in the event of a later dispute, to testify what the agreement between the two parties had been" (cf. Assertion 6). Tucker's (1966) discussion of Abraham's purchase of a burial place for Sarah (Genesis 23) and of the seventh- to fifth-century Babylonian "dialogue documents" is also relevant here. A reasonable facsimile of this form is found in the Middle Babylonian period (1595–1155), especially at Nippur, according to Greenfield (1982a), who cites the research of Petschow. Along the same line, the formula for the Athenian marriage ceremony might be cited: "I give this woman for the procreation of legitimate children"; "I accept"; "And (e.g.) 3 talents dowry"; "I am content" (O. Murray 1986: 212). The Roman contract known as *stipulātiō* is also characterized by the conversational format, this time in a question and answer form. Notice further the Assyro-Aramaic legal "document of settlement" (*egirtu sha shulmu*) that requires, as Wiseman (1982: 325–26) explains, "a formal public statement by one party to the other before witnesses: 'Here eat bread.' The payment was then made and they 'made peace (settlement) between them.' " Quite consistently, an Aramaic legal document of the seventh century employs "word" in the sense of "settlement." It is easy to imagine that the phrase "my heart is satisfied" or "I am content" found in second- to first-millennium Egyptian contracts, in Babylonian sale documents of the earlier second millennium, and in the Greek marriage contract cited earlier was recited with accompanying gestures. This is probably also true of the promise to "be with" someone, which is found in Egyptian documents of the first millennium. Cruz-Uribe (1982: 56) believes that "the sense of this idiom suggests that some binding two-way relationship is involved whereby the slave (priest, tenant) is provided with subsistence by the master (deity, landlord)" (cf. the discussion of Psalms 91.14–16 in Section 3).[3] These brief remarks should suffice to demonstrate the richness of the problem termed "exchange semiology" by Liverani (1979a: 17).

B. CODE OF THE MERCHANT: INVESTMENT IN NAME CAPITAL

In the earlier second millennium, merchants engaged in long-distance trade made reference to the way an *awīlum* "colleague, friend"[4] was supposed to behave, thus illustrating the importance, or at least the potential, of professional standards within a secular context. For example, in a letter cited in chapter 1, one Persian Gulf merchant complains to another that the latter had shown his agent low-quality copper and adds that this not the way one *awīlum* is supposed to treat another. Similarly, two merchants in Assyria, finding themselves unable to collect a debt from three merchants in Anatolia, write that they should pay promptly or else the creditors could no longer act as an *awīlum* should. At the very least the unreliable merchant's debt would no longer be accepted by other traders at or near full face value. Elsewhere an agent is reminded that an *awīlum* carries out the instructions of his principal. Merchants are often reminded to employ an agent "who is like yourselves (and) not a source of fear" (*CAD* s.v. *shachātu* B.1 [a]).

Maintaining a good name or reputation was of central importance for a firm's success in a preindustrial world dominated by intensely personal trade relationships.[5] This is well illustrated by Klapisch-Zuber's (1985: 284, 306–7) important remarks about the behavior of Florence's rising merchant class in the early Renaissance:

> As early as the thirteenth century, in imitation of the noble lineages of the twelfth century, the great merchants and bankers of Tuscany asserted their lineage solidarity by giving themselves a family name, transmissible by the male line. . . . Thanks to his given name, the new bearer of the name participated in the collective person that was the lineage and that Florentines called the *casa* [see the discussion of ancient business houses later in this chapter]. . . . The "houses" of Florence used their symbolic or genealogical patrimony, just as they did their patrimony of houses or of lands, as trump cards in the social game: given names, and not just the family name, figure as the high cards here.

There are, of course, no statistics, but merchants' (good) names must have constituted a large fraction of antiquity's capital stock. Warnings to contract violators that they would be "discredited" or "brought into bad repute" attest that the merchants participating in the Old Assyrian trade must have thought twice before risking their "name-capital." This is perhaps best illustrated by Latin *fidēs* "financial credit, good name" (*OLD* s.v. 5).

Much more than today, outsiders in terms of kinship, ethnic affiliation, and language faced severe difficulties relative to insiders in participating in a market. As Landa (1981: 356) notes, "The higher transaction costs of outsiders constitute an entry barrier into personalistic markets." However, it is possible to lower this barrier by investing in name-capital. Evidence of such investments can be gleaned from the ancient documents. For example, the contribution of name-capital to geographic mobility and thereby to material success is illustrated by an episode in the saga of the patriarch Jacob. In Genesis 32, when Jacob, after a long sojourn with his kinsman Laban in Haran in Aram, arrived with his "acquired cattle, asses, sheep, and male and female slaves" (v.5) in Seir in Edom to meet his brother Esau, his name was miraculously changed to "Israel" (v.29). New light may be cast on the significance of this event by considering the practices of the Indians of North America's northwest coast. As Rosman and Rubel (1986: 559–60, 569) explain,

> Every descent group owns a series of names (or titles), and the group is conceived of as a store of these names, some of them held by individuals and others vacant. . . . Just as individuals claim membership in several kin groups, kin groups lay claims on individuals. They do this by bestowing a name on an infant. . . . The ability to move from one village to another on the basis of kinship links . . . is retained among the complex cognatic societies on the coast in the form of multiple names and claims to membership in several

cognatic descent groups. *Since individuals hold multiple memberships, they can move freely from one group to another at different points in their lifetimes.* (emphasis added)

In this perspective, "Israel" and "Jacob" were names owned by a single descent group, and the former name constituted a passport in Seir.[6] Along a related line, Herman (1990: 351) has called attention to an exchange mechanism in the Greek world and its relations, by means of which certain types of male names "were transferred horizontally from one family in one community to another family in another community, and then passed on vertically from one generation to the next." This veritable trade in names served to evoke kinlike patterns of behavior among nonkin. We might also mention here the use in antiquity of "substitute names" describing a new member of the family as a substitute for a deceased member and thus, simultaneously, preserving the memory of the deceased and his "name-capital."

Besides trading in names, it was possible to accumulate name-capital by means of scrupulously fair dealings and lengthy residence among the insider group. Another episode in the Jacob saga illustrates the importance of forming a good name/reputation (*shēm*). In Genesis 34 we learn that Jacob's hopes of establishing a trading relationship with the Shechemites (cf. chapter 1) were dashed when his sons pillaged that city. The outsider Jacob laments that they have ruined his reputation: "You have brought trouble on me (or, you have muddied what was clear) making me odious among the inhabitants of the land" (Genesis 34.30). The destruction of Jacob's hard-earned name-capital was tantamount to exclusion from trading with the insider group.

Again, the practice of exporting personal statues, stelae, engraved stone vessels, and the like for dedication to foreign gods and hence for display in their temples is well attested in antiquity. For example, a stela excavated in the Baal temple at Ugarit was dedicated to that deity in *ca.* 1300 by the Egyptian scribe Maimi, who calls himself "chief of the treasury" (A. Curtis 1985: 45). Quite possibly these donations were intended, in part at least, to enhance the donor's name among potential trading partners.[7] To pursue this line, let us note with Redford (1973: 16) the recovery of Egyptian statues in foreign loci—for example, at Tell el-Ajjul, Gezer, Megiddo, Qatna, Ugarit, and, especially, Byblos. Concerning these finds, Redford (1973: 16) makes the following perceptive observation:

The actual transport of statuary seems to be alluded to in the late Middle Kingdom epithet applied to a private individual, "who accompanies the monuments of the sovereign to far away lands." The same desire to have a cult statue offered, and one's reputation thus spread abroad in a foreign land, probably accounts for the private statuary as well; and it is significant that most private pieces come from the Middle Kingdom, when great provincial families enjoyed an independence of action that would make dealing with foreigners apart from royal enterprises distinctly probable.

More concretely, an Egyptian of the Middle Kingdom named Thuthotep, whose statue was found in Megiddo, is portrayed in his tomb returning to Egypt with cattle from Canaan (Retenu). "Thus," with A. Mazar (1990: 187), "we can conjecture that he was stationed in Megiddo as an Egyptian agent dealing with the shipment of cattle and other goods to Egypt." His statue was probably intended to facilitate this mission. Again, Westenholz (1977) has suggested that the offerings made by Shasha, the wife of Urukagina (section F), to various deities in Nippur were intended to advertise a main export of Lagash, saltwater fish (cf. Assertion 7).

A similar motivation—that is, to invest in name-capital in order to facilitate entry into a foreign market—is consistent with Gilgamesh's declaration, in the Sumerian version of the epic, that "I would enter the land [the Cedar Forest], I would make a name for myself. Where there are already monuments, I will set up my name. Where there are no monuments, I will set up my god's name (variant: the name of the gods)" (Shaffer 1983; 307, n.2). Gilgamesh's motive in traveling to the Cedar Forest was openly commercial: to obtain lumber for Uruk (cf. chapter 1; Silver 1992: chap. 1.D).

Turning to the Greco-Roman world, an explanation in terms of investment in reputation may be offered, for example, to the many Laconian black-figure vases dedicated in the first half of the sixth century to Hera of Samos, one of the Aegean's principal islands. Black-figure vases were, of course, export goods; and, significantly, the Heraion of Samos provides ample evidence of widespread Near Eastern connections (Strøm 1992: 48–49).

C. AN ALTERNATIVE INTERPRETATION OF "GIFT TRADE"

Breton and Wintrobe (1982: 72) explain that trust is a capital good whose stock can be increased by means of investment: "*A* has signalled his desire to produce trust jointly with *B* by offering to make a loan . . . and *B* has signalled a similar desire by repaying his loan. The asset produced [is] '*A* trusts *B*.' " If "gift" is substituted for "loan," we have a framework that may very well apply to ancient gift trade, including *hospitality.*

Indeed, the "common [Greek] words for 'to give' and 'gift' also have the sense 'to lend' and 'loan'; on the other hand, the words for 'to lend' all have the subsidiary meaning of 'to give' " (Millett 1991: 28, citing Korver). Gift-giving is a (kind of) credit or loan transaction. Some ancient Greek and Near Eastern transactions classified under the rubric of "gift trade" and characterized as economically "irrational" may in reality be mutually beneficial intertemporal barter exchanges to take advantage of unexpected opportunities or to satisfy unexpected needs. Gift trade is, then, a mutually advantageous, trust-based practice that arises when it is costly for the "donor" to specify in advance the kinds of goods he/she desires to receive from the "beneficiary" or for the latter to specify the kinds of "gifts" he/she will be in a position to deliver in the future.[8] This fluidity may explain why, as Zaccagnini (1983a: 217) observes, "it is not always easy to trace a borderline between the two spheres (and 'modes') of exchange (i.e., gift vs. 'market' exchange)." Of course (and this fact has great significance for the feasibility of legal enforcement), the nature and timing of return payments are specified far more concretely in "market" than in "gift" exchanges.

Exchange relationships supported mainly by trust would tend to loom large in a world of slow communications and, especially, between trustworthy individuals (including family members and neighbors) and relatively long-lived enterprises, such as royal houses and cults of deities.[9]

Although Herman (1987: 70) has in mind the Greek world, his remarks about the longevity of trust capital are more generally applicable:

> In real life, this metaphysical continuity needed constant fostering, lest it be forgotten. People would keep a record of both their inherited and their personally acquired *xenoi* ["guest-friends"]. The information concerning this, together with whatever objects were originally exchanged [to establish the relationship], would pass from fathers to sons, serving as a reminder of the initiation ceremony. It is the sons' perspective on the ritualised-friendship stemma which is reflected in the technical term *patrikos xenos* ("hereditary guest-friend").

The need to maintain trust capital in good working order seems to fit the scenario in the *Iliad* (6.232–36), wherein Glaucus exchanges his gold armor for the bronze armor of Diomedes. This "fool's deal" served to renew an ancestral friendship. In a world of high transaction costs, "overpayments" might be rational (see Posner 1981: 172; Shapiro 1983). An additional factor to be taken into account is that, *ceteris paribus,* the expected rate of return on investment in trust by means of intertemporal barter exchange increases with the anticipated number of transactions between the trading partners.

While the following examples of gift trade involve mainly royal houses, it is well to note that the aforementioned considerations are operative not only in gifts among humans but in gifts to gods—that is, "*sacrifices*" (see, e.g., Burkert 1986: 16–20). It is generally recognized that in ancient languages, many terms for sacrifice have as their underlying meaning the sense of "gift, tribute, present" and the like (e.g., Hebrew *minhah* and Greek *dôron*). For his sacrifice, the deity is later to reward the donor with vague but practical rewards such as "salvation," "well-being," and "peace" or, somewhat more concretely (as in the case of the Vedic god Mithras; cf. chapter 1), by "bringing riches." The Greco-Egyptian god Serapis, known as "savior who brings riches," might even favor a donor with a reduction in taxes. Hittite rulers offered gifts to the gods in return for a long, healthy life and aid against external foes. The gift trade with gods is compactly illustrated by a fourteenth-century Egyptian text describing Akhenaten as "(the king) who is 'useful' to the (god), who is 'useful' to him [*akh en akh nef*]" (Morenz 1973: 96). In line with Mesopotamian wisdom texts, Proverbs 3.9–10 advises, "Honor the Lord with your substance (wealth), and with the first fruits of all your increase; so that your barns will be filled with plenty, and your vats shall overflow with new wine'' (van der Toorn 1985: 24). Similarly, in Psalms 91.14–16, God says to his worshipper, the one who ''has set his love upon Me'': ''I will be with him in trouble . . . With long life will I satisfy him.''[10] The gift trade with gods is, of course, also found in the Greco-Roman world. The Greek principle *do-ut-des,* ''I make a gift to the gods and the gods will be good to me in their turn'' (Hes. *Works* 336–41), is well known and regarded (unfairly) to be especially characteristic of the Roman religious mentality.[11] An admirable statement of the intertemporal barter exchange perspective is provided by an inscription that was scratched on a bronze statuette of Apollo at Thebes in the early sixth century B.C.E. The donor notes that the statuette constitutes part of his tithe to Apollo and then requests that Apollo ''grant in exchange . . . an agreeable reward'' (van Straten 1981: 73). The intertemporal barter exchange framework fits rather nicely the sundry *arua*-gifts—that is, persons, animals, rings, millstones, boats, wool, and bitumen—that were given to temples by Sumerians in the third millennium. Gelb (1972) renders *arua* as ''given *ex voto* from, or in pursuance of, a vow.'' With respect to votive religion, Burkert (1986: 13) notes the ''natural tendency toward perpetuation; when setting up the votive gift the worshipper prays for further help. 'Be pleased and give occasion to set up another one': *da ut dem.*'' More basically, Burkert (1986: 13) observes most perceptively that ''*the practice of vows can be seen as a major human strategy for coping with the future. It makes time [i.e., uncertainty] manageable by contract*'' (emphasis added). This is, of course, the essense of gift trade.

Royal houses were, in fact, the main participants in gift trade (see especially Liverani 1979a; 1979b). This is documented by the royal archives of Lagash and later of Mari, which reveal the names of about thirty kings who received and gave various gifts, and by the letters found at Amarna, Egypt's capital in the fourteenth century. The use of a fraternal style of address in correspondence served to enhance trust between the trading partners. It constituted a promise of countergenerosity. Thus, a Babylonian ruler whose gift had not been reciprocated by one pharaoh had reason to expect satisfaction from his successor.

The difficulty of specifying in advance the content and timing of return gifts was magnified by the prevailing practice of giving rare luxury objects (Akkadian *ashilalû* ''something fancy''), especially objects originating outside a ruler's boundaries. Perhaps the earliest example of this practice is provided by the so-called ''Treasure of Ur,'' which was discovered in the Early Dynastic palace of Mari. The ''Treasure'' included a bead of lapis luzuli bearing a Sumerian inscription mentioning the name of a king of Ur in the mid-third millennium. The objects are of a heterogeneous character, and many of them were probably produced outside Ur. Charvát (1982: 54) sees the giving of objects of extra-Ur origin ''as a display of wealth intended to amaze the recipient,'' adding that ''the kings of Akkad included into their gifts to temples objects of manifestly extra-Mesopotamian origin.'' A letter from Carchemish excavated in Mari refers, in a gift trade context, to foreign goods that are "something strange" (*CAD nukru;* cf. Postgate 1992: 215). According to Oppenheim (1973: 264), the gifts exchanged by rulers "consist typically of costly clothing, jewelry, precious metals, or household furnishings using rare woods." Consistently, in the annals of Egypt's Thutmose III (1490–1436) some incoming goods are termed *baat* "wonders" and others are *bakew* "production, trade goods."

With respect to the origin of "fancies," "strange things," and "wonders," a ruler promised his counterpart at Mari that "all the magnificent things which can be brought to me [from various sites in Anatolia], objects of art works, precious objects . . . I will have taken to you" (Gerstenblith 1983: 12). The king of Carchemish wrote to Mari's ruler, "White horses for chariots are not available. I shall write so that they may deliver white horses from the place where they are available. Until that time I will send . . . red horses of Harsama" (Zaccagnini 1983a: 250). Mari's king, for his part, presented expensive Cretan objects to several Mesopotamian rulers and announced his intention to take to Babylon a "Yamhad-style" carpet made in Mari. Yamhad was a Syrian state centered on Halab, today's Aleppo. Again, Thutmose III received a silver bowl produced in Crete from the prince of Tinay in Cilicia, or perhaps in the Peloponnesus (Billigmeier 1976: 37–38). The documents show Syria and Cyprus exporting the products of other areas—tin and lapis lazuli—to Egypt. A letter shows an official of Cyprus forwarding an elephant tusk as a gift to his Egyptian counterpart and requesting a return shipment (from the official? from Pharaoh?) of ivory (worked? for working in Kition's ivory workshops?). Aldred's (1970) review of the evidence convinced him that the Asian "tribute" or "gifts" represented by the pharaohs as a one-sided commerce were largely royal trading. Surely this is equally true of the *minhah,* consisting of "silver and gold objects, robes, weapons and spices, horses, and mules," which were brought annually to Solomon by "all the world" (1 Kings 10.24–25). These verses are, in fact, embedded in a celebration of Solomon's wealth from trade and caravan tolls (cf. Assertion 11 [see chapter 6]).

The Amarna letters reveal that every dispatch from a royal correspondent was accompanied by a gift, with the exception of one episode involving Babylon's Burnaburiash II (*ca.* 1350). The term for "gift" is Akkadian *shulmānu,* a word used for payments to judges for judicial services and, as noted earlier, for sacrificial offerings to gain the favor of a god. Redford (1981: 13, n.29) notes that the corresponding Egyptian word is *mark,* a Canaanite loanword related to *mlk* "a consideration." Sometimes a weaker ruler (e.g., Ugarit's king) obligated himself contractually to supply "gifts" to a stronger one (e.g., the "Great King" of the Hittites), probably for military assistance—when and if the need for it arose. Again, a letter from Mari records the king of Qatna's (today's Homs) complaint "regarding the insulting price of 20 minas of tin that he had been paid for two horses. He claims that in Qatna two horses cost 600 shekels of silver. At a tin/silver ratio of 14:1 he should have been paid 140 minas of tin" (Muhly 1980: 39). In the Amarna letters, the value of gifts is stated more or less precisely (in terms, for example, of the amount of gold used in making jewelry) and the donor expects a return gift of comparable value. A list of gifts given to the Babylonian king was discovered among the documents. Burnaburiash states explicitly that he has nothing precious to send Egypt's ruler because the latter's envoy had failed to bring him anything valuable. After recounting the small amount of gold dust he had received for chariots, white horses, and an artistic seal, Burnaburiash exclaims, ''It is not even enough to pay my messengers for their trips to and fro!'' (Grayson 1972: 48). Another Babylonian ruler protested when the carts bearing his gifts in the annual ceremonial parade before the Egyptian public were not distinguished from those of lesser rulers. However, Kadashman-Harbe I's complaint that *Pharaoh* had not seen his donations separately results from a premonition that, in addition to insult, he would be offered inadequate compensation. Liverani's (1979a: 15) discussion is relevant here, and so is the ''handlaying'' sacrificial ritual found in the Bible and Hittite texts. Assyria's Assur-Ubballit I (1365–1330) wrote that he needed gold to decorate his new palace and proposed to Akhenaten, ''If you are seriously disposed towards friendship (a significant term), send me much gold: . . . Write me what you need and it will be supplied. We are distant lands. Should our messengers keep running to and fro like this?'' (Grayson 1972: 48–49).

The pattern of intertemporal barter exchange also underlies the often long-lasting business ''friendship'' or informal cooperative exchanges so prominent in the correspondence of international merchants. When, for instance, one mid-second-millennium trader in Ugarit reminds another that interest is not charged between ''friends,'' he means that he is bound by the ethical code of the merchant to reciprocate, not that charging interest is immoral. This norm is stated compactly in an Old Babylonian letter: ''A gentleman [*awīlum*], as long as he lives, will reciprocate favour with favour'' (Zaccagnini 1983a: 210). Thus, the merchant Imdi-ilum sought to convince two lenders in Assur to forego collecting interest by offering to take care of their business in Anatolia ''doing my utmost over every shekel of silver'' (Larsen 1982: 220). One merchant warns another that ''the *awīlum* is able to do favors, do not raise the price by one mina of silver for him'' (*CAD* s.v. *agāru*). Another requests his correspondent to ''make a purchase for me'' and is careful to remind him that ''I (am) a man (in a position to do you) a favor'' (Gwaltney 1983: 99). Again, we find references in the Assyrian texts to the rate of interest ''one brother charges to another'' and the designation of some loans for business purposes as *tadmiqtu* ''favor, kindness, friendly word.'' Garelli (1963: 250–51) provides a number of reasons for believing that this category of loan was interest free. The Greek term *eranos,* it would appear, also signifies a loan made out of ''friendship''—that is, bearing minimal or no interest (LSJ s.v. II; Gernet 1981: 27). The essence of business friendship is captured by a Sumerian proverb: ''Friendship [Sumerian *nam.ku.li;* Akkadian *ibrūtu*] should manifest itself in siding with one's comrade in case of litigation. To deceive the good faith of a friend by embezzling his goods or taking advantage of the easy access of his house is a grave sin'' (van der Toorn

1985: 18). Also note Puhvel's (1987: 48) observation that the Vedic/Iranian Mitra/Mithra, the very "personification of 'Contract' as a god has shaded over semantically into 'Contractor' and thence 'Friend.' "

A fundamental point here is that the readiness of traders to undertake obligations of mutual aid provided them with a substitute for resort to the credit market or for the purchase of formal insurance in preserving liquidity in periods of misfortune.

"Personalized clientalization," to employ Bardhan's (1984: 87) somewhat loaded phrase, was especially effective in this respect. A concrete illustration combining personalized clientalization with informal contracting is provided by linking Morrison's (1983: 157, 159) remarks on the surprising brevity and simplicity of Nuzi's standard herding contract, merely a sealed list of the livestock consigned to the herder by the owner, with her observation that "individual herdsmen seem to have worked for only one livestock owner. Moreover, while the herdsmen were identified by . . . their family association—they were frequently further identified . . . by the name of the livestock owner for whom they worked." The other side of the coin is that protracted and costly negotiations might be necessary to initiate a trading relationship or to resume one after a hiatus. The negotiations between Egypt's Wenamon and Zakar-Baal, king of Byblos, provide a case in point (cf. Assertion 11). The lengthy absence of the Egyptians from his port did not make the king's heart grow fonder. Interestingly, Zakar-Baal actually produced records of the delivery of Egyptian goods in the time of his ancestors. Zakar-Baal was willing to send a sample of his lumber to Egypt, but he insisted on being paid in full before completing delivery to the (now) suspect Egyptians. Indeed, the Greeks had a technical term, *ananeouothai* "to renew, to go over verbally," for the ritual employed to reinstate a trust relationship that had fallen into disuse (Herman 1987: 70, n.85).[12]

D. IMPORTANCE OF FAMILY FIRMS

In antiquity the family is often much more than a descent group, it is also a business enterprise. This is demonstrated first of all by the striking overlap of familial and business terms. Most basically, Sumerian *e* and various Akkadian terms, including *bītu* (*bētu*), *bīt* PN (personal name), and *bīt abim,* usually translated "family" or "household," can also be translated "house" or "*firm.*" "My house is your house" is a standard phrase in attempts to smooth out disputes between business partners. Private firms (*bītātu*) were prominent in late-third-millennium Akkad (the region south of Baghdad), in the Old Assyrian trade with Cappadocia (cf. Assertion 1) and, somewhat later, at Nippur. In the mid-second millennium the firm of Tehip-tilla played a major role in real estate transactions and other business activities at Nuzi. A list of about the same time from Alalakh in northwest Syria refers to sixty-four firms participating in leatherworking, jewelry, and carpentry. The overlap of "family" and "firm" is also found in other ancient languages. In third- and second-millennium Egypt, *per* means "house, family, estate" and, in its administrative aspect, "temple," as opposed to its funerary aspect, where *hewet* is the appropriate term. It also has the meaning "firm." The hieroglyphic for *per* is an enclosure with an entrance and, as Loret points out, the *per*-enclosure might contain structures other than dwellings (cited by Spencer 1984: 14). Note also in the same range of meanings Hittite *pēr* (etymologically related to Egyptian *per?*). Again, the Bible's *bet āb* "father's house" includes slaves, strangers, and even cattle, as pointed out by de Geus (1976: 135). We hear of a "house of work" in 1 Chronicles 4.28. The Greek *oikos* and the Latin *familia* also include "firm" among their meanings. Thus, Kirschenbaum (1987: 122–23) explains that "Roman law recognized that the *familia* . . . was not merely a social unit but an economic one as well, with the family's wealth vested in the head of the household. Industrial enterprises and commercial ventures in classical Rome were often an integral part of the *familia*-organization."

Business relationships are often expressed by metaphorical extensions of kinship terms. It is, of course, taken as given that the core meaning of kin terms is genealogical (cf. Straight 1986). Words for "brother" can denote "business partner." At Ugarit a certain Abirami wrote to his "brother" about how a debt owed to merchants should be paid. Somewhat earlier at Nuzi, a partnership agreement might be termed a "tablet of brothership." Indeed, Zaccagnini (1983a: 199, 208) cites a text of the earlier second millennium by means of which two brothers concluded a pact of "brotherhood" (*achhūtu*). Texts of Egypt's Fifth Dynasty listing the sources of Tentej's funerary offerings mention a "brother of the estate." Similarly, Akkadian *kinattu,* or *kinātu,* means both "kinsman" and "colleague." A text cited by *CAD* (s.v.2.c) mentions "the colleagues of the traders (*tamkārē*)." Again the Sumerian word *dumu* might mean "son" or "servant" or "agent." Babylonian texts take note of the "artisan's son" (*mār*). At Ugarit we hear of a *bn (c)hrnk,* literally "the son of your route" (van Zijl 1972: 122). A contemporary text from Emar in Syria records the appointment of a "Queen's Son." A similar usage of *sa* "son" is found in Egyptian documents of the Ramessid era from Deir el-Medina, a village for the workmen engaged in building the royal tombs of the Theban necropolis. For example, the scribe *X* son of *Y* calls himself the son of scribe *Z,* and another individual names six draftsmen as his sons apart from his two undoubtedly biological sons. Interestingly, in another New Kingdom text (Papyrus Turin, Pleyte-Rossi 58, 13), a priest against whom a claim had been lodged is described by a second priest as, *vis-à-vis* a third one, "child of this merchant" (Reineke 1979: 14). Probably "agent" or "employee" is meant. The other side of the coin is that the employer or principal is the "father." Thus, fullers are listed by name together with their "fathers" in Ur III texts from Lagash, and Assyrian agents in the Cappadocian trade refer to their "fathers." It seems possible, moreover, that the early Roman *cliens-patronus* relationship had a primary economic function. Here we should note the derivation of *patronus* "patron" from *pater* "father."[13]

Another indicator of the importance of family ties in commercial life is the West Semitic term *(c)hibrum,* derived from *(c)hbr* "unite, be joined," applied in the Mari documents to a so-called "tribal" unit and to a variety of clearly artificial associations, apparently including Syrian trading companies/houses of the mid-second millennium. It should be added that Greek *koinônia* has the meanings "communion, association, and partnership—including commercial partnership" (LSJ s.v.).[14]

The striking and well-documented overlap of terms denoting familial and business relationships no doubt originates in the practice of recruiting managers and other personnel from among family, or close friends, in order to limit shirking, theft, and other forms of opportunistic behavior abetted by slow and uncertain communications. As noted by J. Lewy and H. Lewy (1942–1943: 82, n.337), the young Assyrian merchant, for instance, begins his career in Cappadocia under the general direction of family elders in distant Assur and ends it in Assur supervising junior family members in Asia Minor (cf. Larsen 1982: 277). What might today be condemned as nepotism was a rational and quite pronounced feature of pre- and early industrial economic life.[15] Despite the occasional failure of family abilities to fit the firm's productive opportunities (a difficulty mitigated by the adoption of outsiders, as we shall see shortly), the firm's family governance structure permitted the realization of available economies of scale. Indeed, it seems quite possible that the preference for large extended families, especially among stockherders, is itself an adaptation to the shirking-opportunism problem. A Babylonian tablet offers eloquent testimony: "like a hired shepherd I let the bellwether out of the fold" (*CAD* s.v. *agru* 1.a4'). In fourth-century-B.C.E. Greece, we observe widows of bankers marrying slaves who were assuming responsibility for the business. As E.E. Cohen (1992: 87) well notes,

> In the business world, the male slave as an independent functionary was "at home" . . . , but the woman was essentially out of place. Because of the conflicting demands of the two spheres, and because of the complementary contributions offered by spouse and slave to the operation and perpetuation of the *trapeza,* a banker's joining of his wife and slave to continue the business and protect the family property and wealth, far from an anomaly impossible to explain, was probably in many cases the only economically viable solution to the divergent demands of the public community and private household. A banker could not leave his business to his wife alone: the public domain's social and legal strictures prevented this. He could not leave the bank to his slave alone: his property was necessarily intertwined with his family through the institution of the *oikos.*

"Affectional relationships" and "family loyalty," as noted by Pollak (1985: 586), provide rubrics "for discussing dimensions of incentives and monitoring that economists are trained to ignore."[16]

In antiquity the family was a business enterprise. However, in antiquity the firm was much more than a business enterprise, it was also a descent group or family. The metaphorical extension of kinship terms to biologically unrelated individuals served to enhance their loyalty to the house. As explained by Niels Peter Lemche (personal correspondence),

> The use of family designations naturally . . . emphasized the loyalty between the members of the "house", because even though the family ties were fictitious (as they indeed were in many cases), evidence of untrustworthiness would have been interpreted not as an economical crime, but as a social crime and the stigma on the transgressor would have been much more severe, because he had done wrong to the *paterfamilias* and not only an occasional manager.

When (as, for example, in a period of relatively rapid economic growth) family firms had to resort to the general labor pool, their reliance on evaluations by trading partners and by family connections or kin networks provided a relatively strong signal regarding the character and skill of prospective employees. As Bardhan (1984: 159) well notes, in a world of costly information "interlocking obligations in different transactions between the same parties are a way to insure against either party ending up with too many of Akerlof's [1970: 103–4] 'lemons' and to economize on some of the excessive costs of acquiring information." "Paternalism" was, like "nepotism," a rational adaptation to high information and contract enforcement costs. Both modes of personal economics raised the effectiveness of antiquity's limited stock of entrepreneurial talent by reducing the need to rely on the impersonal, and therefore untrustworthy, markets for management and labor so commonplace in the modern West (cf. Assertion 6).

E. FAMILY TIES AND INNOVATION

The family ties, natural or synthetic, that served to combat opportunistic behavior within the firm must also have protected its trade secrets and thereby substituted for patent laws in encouraging innovation (cf. chapters 1 and 3). This is a factor that deserves more weight than has hitherto been accorded to it by scholars seeking to evaluate the potential for economic growth of preindustrial societies. In the ancient Near East we find, for example, perfume recipes authored by chemists (often women), formulas for colored glass, manuals for training chariot horses, and a stela describing how beekeeping was introduced by a provincial governor in eighth-century Assyria. The governor boasts that "I even understood how to separate the honey from the wax by boiling [the comb]" and he adds, significantly, "*my gardeners also knew this*" (Oates 1979: 195; emphasis added; cf. Neufeld 1978: 238–39). Admittedly, trade secrets were also protected by not committing them to writing or, as in the example of a sixteenth-century recipe for glaze-making, by writing them in cryptogram. Note also in support of the ancient world's capacity for innovation Dorothy Crawford's (1973) interesting discussion of determined attempts by agriculturalists in third-century-B.C.E. Egypt to introduce new strains of garlic (with cloves) for the growing Greek market in Alexandria. Note a second-century-C.E. example of formal patent protection. Athenaeus (12.521) complains that in Sybaris inventors of new dishes were granted the monopoly of it for one year ''so as to encourage others to excel in eager competition with similar inventions'' (Gulick 1941).

F. WOMEN AS BUSINESSPERSONS AND ENTREPRENEURS

The otherwise surprising prominence of highborn women in ancient Near Eastern business life (e.g., in production and sale of wool and textiles, lending, dealings in real estate and slaves) can be understood as a major element in a strategy to employ the family's managerial resources fully in order to cope with high transaction costs and to limit opportunistic behavior within the firm.[17]

In Sumer during Lagash's great age of international trade and prosperity (cf. chapter 7.A), a large fraction of the administrative texts of the reigns of Enentarzi, Lugalanda, and Urukagina (2364–2342) belonged to the *e-munus* ''house of the woman'' (see Maekawa 1973–1974). There is reason to believe that these records, including those of Urukagina's ''house of the goddess Bau'' (the *e-munus* under his rule), reflect the private business activities of the royal wife. Baranamtara, the wife of Lugalanda, for example, sent woolen clothes and silver to Tilmun and sold copper imported from Tilmun in the neighboring city of Umma. In conformity to the practices of international merchants, she dedicated a bronze model of a Tilmun-ship (chapter 4.B) to the goddess Nanshe. For her estates, which no doubt marketed milk products, Baranamtara purchased choice cattle in Elam. Several texts show that other royal wives also participated in the importation of significant quantities of raw copper from Tilmun. The expression ''property (*u-rum*) of Baranamtara'' or of Dimtur, Enentarzi's spouse, is found on lists of people, animals, estates, and various objects. This Dimtur still appears in the administrative texts during the first year of Lugalanda's reign. One text shows the ''wife of Shubur the administrator'' transacting directly with the *e-munus* for sheaves of reeds and parcels of land. Another rather obscure document records the delivery by the ''temple steward'' to Urukagina's wife, Shasha, of ''twenty-one shekels of pure silver of the *bar duba*-obligation'' at the time of ''combing full-grown sheep'' (Stephens 1955: 129). She also exchanges barley for the wool of the ''people of distinction'' in the temple. Other texts inform us that royal women sold fish to merchants (*damkar*'s). Note in this connection that the remains of a significant fish-processing industry dated to the mid-third millennium were excavated at Girsu in the Lagash area (see Assertion 7). At roughly the same time, the queen of Ebla acknowledged the receipt and delivery of goods and directed a textile enterprise, termed ''house of wool.'' In late-third-millennium Sumer, the wives of rulers and governors made loans, owned sheep, and participated in the clothing industry. King Shulgi's wife, Simti, a *lukur*-priestess, played an important role in the administration of Drehem's (Puzrish-Dagan) sizeable livestock economy. van de Mieroop (1989: 57) points out that ''most of the people who contribute animals are women . . . and . . . at least one of the officials who works for her, Apillatum, is also a woman.'' A text from Lagash adds that clothing and wool belonging to Simti have been ''inspected.'' Several tablets from Drehem itself record that the daughter-in-law or wife of a governor (*ensi*) conducted inspections of sheep. The purpose of these inspections is not stated, but a commercial purpose cannot be excluded. Another *lukur*, of king Shu-Sin (2037–2029), named Kubatum was active in Uruk's commerce. She served as a receiving agent for a certain Gazana, possibly a government agent, who dealt in substantial quantities of wool, grain, and goat's hair. Somewhat later, in the eighteenth century, documents from Karana (current Tell al Rimah) in northern Mesopotamia reveal that the local ruler's wife, Iltani, operated a textile firm (*e*) employing twenty-four production workers, including fifteen women and nine men. Shepherds and donkey-drivers are also mentioned as belonging to Iltani. Her textiles were distributed locally and were exported, with the assistance of her husband, to Babylon, Assyria, and Anatolia (see Dalley 1977).[18] Iltani, moreover, had dealings with several women participating in the textile business. At about the same time in Alalakh, the king's sister, Sumunnabi, participated in diverse business activities, including lending, exporting barley, and purchasing houses, vineyards, and slaves. At Ugarit, the king's mother Puduhepa was familiar enough with the kinds of issues involved to render the verdict in a negligence suit concerning the wrecking of a cargo vessel. Ugarit's queen participated in land transactions; the *sākinu* ''manager'' of her house is listed among the witnesses.

For Egypt, we may note the inscription ''wine of the (house of the) great pharaoh's wife'' on jar-sealings of the fourteenth century found at Buhen, an important trading station in Lower Nubia (H.S. Smith 1976: 167). Again, an individual named Nebamun bore the titles ''Overseer of royal ships'' and ''Steward of the royal wife Nebtu.''

A woman did not, however, have to be a member of the royal household to succeed in the business world. Undoubtedly private documents from Lagash show women as buyers and sellers capable of owning garden lots and houses. Somewhat later in the third millennium, a Sumerian woman engaged in diverse commercial activities. Foster (1977: 33) reports that

> Ama-é received extensive land allotments from the state, probably on a rental or other contractual basis, and dealt in real estate, metal, and grain. She invested her wealth with various agents. To one she entrusted food, aromatics, and wood, probably as an investment, and to another silver. Through another man she bought and sold wool in large quantities.

Foster adds to this summary the key point that ''there is no reason to believe her career was exceptional as women appear in other Sargonic texts.'' In one of these, for instance, a merchant pays out silver to women who had consigned goods to him for trading. A woman named Ninmelam, possibly the wife of the governor of Umma, supervised transactions in gold, leather, wool and cloth.

According to Parr (1974: 92), the tablets from Nippur reveal that Ninmelam's dealings in wool and cloth were "on a substantial scale." It may be added that she was not the only governor's wife to participate in the public economy. Nuttuptum of Ur, Diakonoff (1985: 60) notes, "successfully managed her husband's (Imlikum) affairs in his absence." Amat-Ningal, another businesswoman of Ur, in the earlier second millennium gave a tenth part of goods imported from Tilmun to the temple of Ningal. Presumably she, like the other donors of tithes, was a leading participant in the Persian Gulf trade. Larsen (1982: 220) points to several Assyrian women who "were able to dispose over . . . very large funds which clearly constituted their private personal property."

The prominent position of women in Assur's business life (Veenhof 1972: 102–23) is predictable once account is taken of that city's flourishing trade and the dispersal of many of its businessmen to the commercial stations of Anatolia and Syria and the connecting caravan routes (cf. Assertion 1). In explaining the active role of married women in business life, another factor should be cited. The services of wives, like those of slaves (see section G), were more easily controlled than those of hired employees. The element of control is quite explicit in Greek documents. As E.E. Cohen (1992: 74) points out, the husband was his wife's *kyrios* "master, guardian."

The excavators of Mari were rewarded by extensive palace archives dating to the eighteenth century, including receipts for taxes in kind (grain) from the firm of a woman named Addu-dūri. She may have held palace lands in tenancy and is known to have served as a hearing officer in legal disputes concerning real estate and deposits of money. In another text of unknown provenience from this era, the woman Amatum repaid a relatively large loan of one-half mina of silver. Women served as guarantors of sold land at Khafajah (Tutub) 7 miles east of Baghdad. The business dealings of a number of women (e.g., Winnirke, Tulpunnaya) are prominent in the Nuzi texts, which reveal that women purchased land and gave loans. During the Neo-Babylonian period Ina-Esagila-ramât, the wife of Iddin-Marduk (see section H), conducted her own business affairs as well as playing an active role in her husband's diverse commercial ventures. There are documents in which married women engage in land and other transactions. Roth (1991: 28, n.26) acknowledges this but asks "can we be certain that she was not, in fact, 'fronting' for her husband, in an attempt to hide the true ownership of his assets?" In response, it should suffice to note that this "hidden property trick" could succeed only in an environment familiar with independent transactions by married women.[19]

At Ugarit, women participated in the market for agricultural property and, as in Babylonia, they probably employed labor. The latter role is at least hinted at by references in literary texts to *agrtn* "our lady employer" (Muntingh 1967: 103, n.15). A text of the thirteenth century from Emar in Syria, a major harbor city on the Euphrates, has been read as recording the feminine form of *tamkāru* "merchant." The reading is doubtful, however (Bunnens 1989: 34). The story of Joshua's conquest of Jericho hints that "Canaanite" women participated in the spinning business by noting the presence of stalks of flax on the roof of the "house" of the "alien woman" Rahab (Joshua 2.1, 6; Silver 1992: chap. 9.D). For Israelite women we have the reference in Proverbs 31.16–24 to the capable wife, who purchases vineyards and fields and sells her woven products to the "Canaanite," that is, "merchant."

Metjen, a twenty-fourth-century land consolidator (Silver 1991b), inherited a landed estate from his mother, who owned some fifty arouras of land or 2756.5 square meters, according to Allam (1989: 124–25). Tentej, a man of Giza mentioned earlier (p. 51), inherited about two arouras of land from his mother. Along the same line, the late-third-millennium inscription (Stela Berlin 24032) of an Egyptian commoner records that he acquired livestock, a great field, a large and a small boat, and granaries. Qedes of Gebelein, located upstream from Thebes, explains, that he "acquired these possessions in his father's household" but he adds, ambiguously, that "it was my mother Ibeb who acquired them for me" (Lichtheim 1973, I: 90). Many Old Kingdom women held supervisory positions. Their administrative titles include "Overseer of the Weaver's House," "Overseer of Cloth," "Treasurer," and many examples of "Tenant Landholder" [*(k)henteyet-sh*]. Indeed, a female tomb owner described as "She who is known to the King, Priestess of Hathor, Tenant Landholder" is depicted supervising the harvesting of flax. More surprisingly, "a Fifth Dynasty chapel at Saqqara shows, in two cases, a woman wielding the steering oar of a cargo ship" (Fischer 1989: 21). In the later Old Kingdom and the Middle Kingdom many women, royal and nonroyal, bear the title *nebet per* "Mistress (Owner? Manager?) of the House," the feminine counterpart of *neb per.* For example, an expedition leader of the Sixth Dynasty records in his tomb at Aswan that his daughter bore the title *nebet per.* The inscriptions make it clear that *nebet per* is not merely the equivalent of *hemet* "wife." Some women are designated as *hemet* but not *nebet per;* others are called *hemet* and *nebet per.* On a tomb of the Middle Kingdom, one woman bears both titles, and another who bore two sons to the owner is designated as *nebet per* but not *hemet.* Perhaps the "house" of the Egyptian *nebet per* is a functional counterpart of the Sumerian *e-munus* "house of the woman" or *e-dama* "house of the wife" (cf. Vanstiphout 1970: 10, n.15).

During roughly the first half of the second millennium, women are described as inheriting property, buying and selling land, paying harvest taxes, hiring out or selling slaves, and receiving payments for weaving clothes. In the Middle Kingdom proper, we find female scribes and we note a female *sedjaweteyet* "Sealer" employed by a Hathor temple located in the mining district of the Sinai. Ward (1989: 36) explains that "Sealer" was

> one of the most common functions performed by men whom we find at all levels from important positions in the state treasury down to mere assistants of minor officials. During the Old Kingdom and First Intermediate Period, at least eight women are known with the title, all employees of private households and mostly associated with the entourages of women of varying degrees of social status. From the Middle Kingdom proper, the

only sure example is the lady Tchat who was the "Sealer" and "keeper of the property of her lord" in the household of the Nomarch Khnumhotep II at Beni Hasan. . . . As already noted, the lady Ib-Neith was a "Trustworthy Sealer" of the Hathor temple in the Sinai.

Apparently, a "sealer" is in charge of a treasury or a storeroom for valuables, and the role perhaps corresponds to the Greek *tamias* (Silver 1992: chap. 8.B). Women of the Middle Kingdom also bore the titles *nemeheyet* "free woman," "free woman of the Town," "free woman of the majordomos," and "free woman of the stone-masons of the Northern District" (Ward 1986: 8–9). With respect to the content of this "free" status, we may note that in the Old Kingdom we learn of land that is *nemehew-na* "privately owned" (cf. Assertion 6 [see chapter 5]). Along the same line, Menu (1989: 196–97) notes that in the New Kingdom and the first half of the first millennium, female contractors (e.g., the seller of shares in a field) are titled *aneh-net-nawet,* meaning, "citizen" or "free person." Clearly we are dealing with women who participated in the public economy.

In the New Kingdom we also find two women, a mother and a daughter, with the title "Supervisor of Weavers." Fischer (1976: 79) observes that "the weavers they supervised seem to have included both men and women if the determinative is to be taken at face value." An inscription of the fifteenth century on a statuette reveals that the woman Teye was "Chief of Weavers" at Gurob (ancient Mi-wer) in the Fayum, evidently a center for the production of textiles (see Assertion 7 [in chapter 5]). A scene of the earlier fourteenth century in the tomb of Kenamun depicts three quayside stall-traders, one of whom is a woman. In another Ramessid tomb, that of Ipuy, sailors are shown transacting with five women attending stalls. Indeed, female stall-traders are depicted as early as the mid-Fifth Dynasty. In a tenth-century inscription at Karnak, a woman named Hentowe inherited houses from her mother and *an er sewenet* "purchased" fields in the region of *kayet* "high ground." The daughter of King Psusennes II purchased various things from the people of the land and "took (things) as a child of their property" (Gardiner 1962). "Taking things as a child of their property" signifies an ownership interest and may refer to rent or interest payments. Again, the Dakhleh Stela confirms that Tewhenat, a woman of the earlier first millennium, like Psusennes' daughter, owned an irrigation well. As a last example we may cite a fragmentary sixth-century papyrus from the cemetery at Memphis which appears to deal with the business affairs of two transplanted Phoenician women.

That priestesses played an important role in commercial life was indicated more than once in the aforementioned summary. Additional evidence bearing on this participation, especially in the earlier second millennium, is presented under Assertion 4. The present discussion is confined to a few noteworthy illustrations. An *ugbabtu*-priestess named Ishtar-lamassi participated in the clothing trade with the Assyrian commercial station in Anatolia, as did the priestess-daughter of a well-known merchant. A Mari woman, a governor's wife or a priestess or both, is described by Batto (1980: 237) as having "engaged in vast commercial enterprises involving grain." Queen Shibtu sent priestesses to the "weaving house." A text from Sippar in northern Babylonia shows a *nadītu*-priestess by the name of Erishti-Shamash providing a borrower in a single transaction with a grand total of over 4 pounds of silver and two slaves. In the south, at Larsa, the princess Iltani, also a *nadītu,* owned over 1,000 sheep. Another *nadītu* leased her date grove *ana shākinūtim,* meaning that she received two-thirds of the harvest and the *shākinu* "harvester" took one-third (*CAD* s.vv.).[20]

The possession by women of the seals employed to validate contracts constitutes evidence, albeit indirect, that women participated in commercial life. Note the recovery from a tomb in Cyprus of an Old Babylonian cylinder seal bearing the inscription "Nuttuptum, girl (*geme*) of (the god) Amurru" (Merrillees 1986: 127). I have argued at length that "girl" (and "boy, youth") have the nuance "agent" (Silver 1992: chap. 3.B). Several Ur III women possessed seals. One of them, Owen (1981: 181) surmises, was possibly from a merchant family. Ninmelam and Ninhilia, both wives of *ensi*'s of Umma, also had seals. In Mari Addu-dūri had her own seal, and Amadugga's is imprinted on receipts for several commodities. The excavations at Mari also turned up a seal of Matrunna, the daughter of the ruler of Carchemish (a city that, like Mari, was an important trading center). Karana's Iltani sealed the accounts of her "house." Gordon (1936) names no less than eight women whose seals are imprinted on tablets at Nuzi, including Puhumenni's, for a large delivery of furniture. A Middle Assyrian division of inheritance tablet bears the seal of a priestess. In addition to being transactors, Mesopotamian women (especially in the third and second millennia) served as *tupsharratu* "scribe" and as witness in business contracts, for which service they apparently received fees. In support of this interpretation, it may be noted that the payment of fees to witnesses is also attested to in fourth-third century Greece. Women of the Egyptian Middle Kingdom also owned seals. In the first half of the first millennium, about a dozen seals inscribed in Hebrew with female names and the identification "wife of" or "daughter of" offer testimony that Israelite women, like their Near Eastern sisters, participated in business affairs. The most significant example is the find, south of the Temple Mount, of a jar handle, probably of the seventh century, that bears a stamp reading "Of (or Belonging to) Hannah (or Tamar), daughter of ʿAzaryhah." In discussing this seal impression, Avigad (1987: 19) notes cogently,

> If the seal impression was simply on a clay bulla, this would have no legal implications since the seal could have been used on a private letter. The seal impression from a jar, however, is of far greater significance. It proves that Hannah, the owner of the seal, was involved in a business enterprise. She stamped jars which apparently contained some liquid merchandise such as oil, wine, or the like. . . . Thus the seal impression sheds further light on the social position of women in biblical times.[21]

In Ezra (2.55) we learn of the return from Babylon of ''the sons [agents or employees] of the female scribe'' (*benê hassôperet*) (Meier 1991: 543, n.25).

Near Eastern women might command significant business capital. Thus it is not surprising that in the earlier second millennium, a Mesopotamian wife proved that she had not authorized her husband to employ her personal assets in his business; and, in another case, a husband promised in writing not to lay claim to his divorced wife's estate. van de Mieroop (1992: 217) reports that in Old Babylonian Ur married couples ''might obtain loans jointly and sometimes the contracts include the clause that the solvent party will repay the loan, which suggests that the wife acted as a full partner and had financial resources of her own.'' In the eighteenth century, a Syrian woman wrote to a man, evidently a banker, demanding the silver belonging to her sister: ''Whatever was entrusted to you to be given, give (now)! It is (her) private capital [*sikkum*]'' (Tsevat 1958: 113). A certain Taribatum purchased a slave with money from her ''wardrobe.'' Papyrus Brooklyn, a document of the eighteenth century, demonstrates that an Egyptian woman named Senebtisy owned ninety-five slaves, including males and females. Indeed, Egyptian texts refer to the ''woman of *sanekh,*'' meaning that she has property in her own right or under the terms of an endowment. Note also in this connection the prophet Ezekiel's (16.30) comparison of Judah to a woman who is *shalletet,* meaning, according to Greenfield (1982b), ''in control of her property'' or ''who possesses independent means.'' These ''independent means'' are demonstrated concretely in Judges 17.2–3, wherein Micah's mother donated ''eleven hundred in silver'' for making a molten image. Further attestation is provided by marriage contracts from Assur, Anatolia, and Alalakh giving husband and wife the power to divorce and specifying the same monetary penalty for whichever spouse was the initiating party. Mutual divorce rights with stipulated monetary penalties also occur in the fifth-century-B.C.E. Jewish marriage contracts from Elephantine.

A number of texts show us the means by which women might acquire independent assets. Thus, in the earlier second millennium, two Anatolians agreed to own a house jointly and, more generally, to ''share poverty and wealth.'' Babylonian marriage contracts of the earlier second millennium might also be egalitarian. A husband in Nuzi stipulates that ''whatever oils and copper which Kirashe (the wife) has privately accumulated are given to her'' (Greenberg 1951: 173). Another states, ''Whatever are the products of [his wife] Shuhur-naya's labor . . . (be) it grain, oxen, sheep, wool, oil, textiles, are given to her. Shuhur-naya will give them to whichever son she prefers, but she will not give them to a stranger'' (Grosz 1981: 175, n.38). Again a man gives his wife ''the legal status of a father over my fields, my houses, and everthing and gave (her also) the legal status of a father over my sons'' (*CAD* s.v. *abbūtu* a). A husband in Ugarit stipulates that upon his death his wife is to be sole owner of the property they acquired together. An Egyptian document of the second half of the second millennium (Papyrus Cairo 65739) records a woman's testimony that she was able to purchase a slave after seven years of marriage, during which ''I worked'' and "provided my dress" (Gardiner 1935: 141). Similarly, a legally validated Egyptian marriage settlement (*sekeher*) of the eleventh century specifies that the wife is to receive a share of the wealth accumulated during the marriage.

Inheritance might also be a source of business capital. In the earlier second millennium, an Elamite woman blocked the attempt of her husband to gain control over an estate she had inherited from her father. An Elamite man left a field to his daughter, who passed it on to hers, who sold it. At Nuzi a daughter might be a principal heir and even be designated as "son": "The entire inheritance share, in the city and in various cities, I have given to my daughter Shilwaturi, whom I have given the status of son" (Paradise 1980: 189). Similarly, fathers give daughters the status of "female and male" in two inheritance texts from Emar (Huehnergard 1983). It is probably significant that one tablet gives the entire inheritance to the daughter/son, although the father also makes reference to "his sons" (Ben-Barak 1988: 93–95). Egyptian "house documents" of the second millennium show women inheriting (*akehet*) "property" (literally "things"). Interestingly, it appears that three of Job's daughters received inheritances along with his seven sons (Job 42.15).

A married woman might also employ her dowry (Akkadian *sheriktu*) in business. To begin with, we know that the *nadītu,* a businesswoman-priestess, typically received an ample dowry upon entering the "cloister." This dowry might include personal control over as much as 11 pounds silver "ring-money" (see Paragraphs 179–84 of Hammurabi's Code and Assertion 9). There is also some rather ambiguous evidence from Nuzi of a woman actually doing business with her *mulūgu,* apparently a type of dowry or gift from father to daughter (*CAD* s.v.).[22] The evidence hints, moreover, that a bride might employ in business not only resources originating in her own family and transferred to her, but also resources transferred from her husband or his family. I refer to the so-called "brideprice" (Akkadian *terchatu*). The latter transfers are better termed "indirect dowry" following Goody (1983).[23] The *terchatu* paid by the "cloister" upon the initiation of a *nadītu* remained largely or solely in the hands of the priestess. An Old Babylonian text states that "the silver of her brideprice was tied in her hem (*qannu*)," meaning that it was handed over to her (*CAD* s.v. *qannu* B.3). An eleventh-century Egyptian document includes the husband's statement that "Pharaoh has said, let every woman's dowry be given to her" (Černy and Peet 1927: 32). Another Egyptian text records a legal dispute concerning whether a divorced wife had received property due her.

In the fifth-century Aramaic marriage contracts from Elephantine, the *mhr* "brideprice," like the *ksp tkwnh* "dowry," is regarded as belonging to the bride. Note also in support of the position that the "brideprice" typically belonged to the bride that in Genesis 31.15 Leah and Rachel complain that Laban their father had *wy'kl kspn* "eaten (used up?) their price."

Greek women owned their dowries and might control real estate (see, e.g., Foxhall 1989). In the fourth century a number of Athenian women were involved in the banking business. Archippê, the wife of the banker Pasiôn, "was thoroughly conversant with the trapezitic business: she had access to the bank's records, and detailed knowledge of its complex operations'' and ''after her husband's death, Archippê had such control over the bank's records that she was even accused of having destroyed them, allegedly to prevent the development of legal claims against Pasiôn's successor, her second husband Phormiôn'' (E.E. Cohen 1992: 77, citing Demosthenes). E.E. Cohen (1992: 77–79) expands upon women's commercial participation:

> Aristophanes, in the *Thesmophoriazusai* (839–45), describes Hyperbolos' mother as engaged in lending at interest. . . , similar lending by women is mentioned in a sober court presentation (Demosthenes 41.7–9, 21). There, the wife of Polyeuktos is reported to have lent Spoudias 1,800 *dr.* at interest. . . . A woman is even reported on a fragmentary *horos*-inscription as one of the lenders in a real-estate financing. . . . In one of the few instances in which information has survived regarding the circumstances that generated a specific bank deposit, it is a woman, Antigona, who induces a would-be business purchaser to marshal substantial funds, forty mnai, deposited in a *trapeza* as an apparent ''good-faith deposit.''

Despite these examples, however, it is generally believed that the role of Greek women in business life was rather limited. However, the sources are biased toward Athens and to the period beginning in the late fifth century. E.E. Cohen (1992: 108–9) suggests that outside Athens (e.g., at classical Gortyn on Crete) women had legally recognized rights to own property directly. Schaps (1979: 97) adds that ''when trying to gauge the direction in which Greek society was moving, it is important to remember that we know very little about the proto-Greek state of affairs. To what extent the principles of Athenian family organization were either innovation or archaism is, in the present state of our knowledge, impossible to determine.'' Note, however, the discovery near the Athenian Agora of a woman's tomb dated roughly to the mid-ninth century whose rich furnishings included gold jewelry, faience and glass beads, and *ivory stamp seals*. As noted earlier, the possession of seals suggests participation in commercial life. Much earlier, there is evidence that Mycenaean women participated in the public economy. Briefly, two priestesses named Karpathia and Eritha were landholders, and we find at both Pylos and Knossos a class of women called *ki-ri-te-wi-ja* who had land holdings and controlled large quantities of wheat (cf. Silver 1992, chap. 8.B). For much later times we know that Greek women (e.g., Eirene) played entrepreneurial roles in second-century-B.C.E. Egypt.

The Roman evidence differs markedly from the Greek and, indeed, the picture that emerges has more than a little in common with the Near East. The salient features of the Roman situation are nicely set forth by Cantarella (1987: 137–39), a historian of Roman law:

> With marriage *cum manu* arose the practice of giving women who married a dowry (*dos*). This was a certain quantity of goods that both compensated her for the loss of her

expectations to inherit with the group of origin (an automatic consequence of her passing to a new *familia*) and represented a contribution to her maintenance in the new family. In marriage *sin manu,* the dowry remained as a contribution to the wife *ad onesa matrimondii ferenda.* As an instrument of economic cooperation in the conjugal life, it was practiced without exception. . . . According to the laws of the *ius civile,* the goods of the dowry were the property of the husband . . . but beginning in the Augustan period, a series of provisions established increasingly strong limits on his power of disposing of the dowry and attributed to the woman the right to control the goods that constituted it. . . . [Laws enacted] in the course of the centuries were intended to allow the wife to recover the dowry in case of dissolution of the marriage. Originally subject to special agreement between the spouses, in the last centuries of the Republic the right to restitution had become automatic. . . . The principle that the dowry should revert to the wife when the marriage ended became further entrenched when it was established that the restitution was an obligation not only of the divorcing husband but of his heirs in case he predeceased his wife.

When not *in manu,* a wife might engage in business transactions, including with her husband. She might also borrow money in her own name and stand surety.

It may be added that in a form of marriage called *ūsus* that did not grant *manus* [rights over his wife in loco parentis] to the husband until one year after the beginning of the cohabitation, and then only if the wife had not left the conjugal domicile during three successive nights. Thus she had the option to postpone *manus* indefinitely, simply by going away for three consecutive nights every year. (Puhvel 1987: 157)

Presumably a wife could retain control over her assets and responsibility for her financial affairs by *ūsum rumpere* "breaking the habit."

As in the Near East, socially prominent women participated in the market economy (see Loane 1938: 76, 103–4, 110–11). For example, Domitia Lucilla, who in 106 C.E. inherited the family brickyards, not only operated them but launched a new branch factory. At the death of her daughter, also named Domitia Lucilla, some six years before her son Marcus Aurelius assumed the throne, forty-six men are known to have been employed in the kilns. The mother of the emperor Antoninus Pius was a leading producer of bricks. Roman women also operated dyeing establishments and firms producing lead pipes for carrying water. Setälä (1977: 11, 239) noting the relatively frequent mention in the brick stamps of women, especially women of the upper class, reaches the conclusion that the participation of women "is sufficiently notable to justify an assumption of their importance in Roman society both as landowners and possibly as managers of their property." He goes on to make the important point that the large representation in the brick stamps of women (one-third) among *gentes* of senatorial rank is due to "the tendency to bequeath landed property more often to daughters than to sons, who could for instance be hindered by their careers from managing estates" (Setälä 1977, 239, n.3).

This brief survey of the evidence suggests that women played relatively important roles in the expanding economies of twenty-fourth-century Lagash in Sumer, nineteenth-century Assur in Assyria, eighteenth-century Babylonia and northern Syria, and second-century-C.E. Rome. The evidence for business participation by Greek women, on the other hand, comes primarily from an era of relative economic stagnation (Silver 1980: 88–89). Depressed economic conditions would have reduced the household's net rate of return from allocating the services of female members to the public economy and, at the same time, they would have reduced the pressure on the household's stock of managerial resources. Consequently, households would have withdrawn women's services from the public to the private economy. One might say that the opportunity cost of household work, of leisure, and even of seclusion had been lowered by the depressed economy.[24] More generally, as Ogilvie (1990: 76), a historian of the family, well notes,

> because women are often located close to the boundary between market work and household work, female employment reacts very sensitively to demographic and institutional changes altering the rewards to different uses of time. This mobile, flexible reserve of female labour plays a special role in greasing the wheels of the most petrified labour market.

G. EMPLOYMENT OF SLAVES AND ADOPTEES

Another strategy widely utilized by ancient businesspersons to combat high transaction costs was to rely on slaves whose services, like those of wives (see section F), might be more fully controlled and relied upon than those of free and independent wage-workers or managers (cf. chapter 4.3 and Assertion 6). With respect to the element of control, it is significant that Homer's word *dmos* "slave" is etymologically linked with *doma* or *domos* "house" (Benveniste 1973: 241–43, 249, 291–92; Finley 1965: 55). The Greek slave belonged to the *ousia* "being, essence" of the *oikos.*

When the Ugaritian Ewr-kl established his house in Beirut, a center of metalworking, he obtained a labor force by purchasing seven slaves from the Beirutis, including five members of the same family. To illustrate further, we find in the Bible that Abraham, who "was very rich in cattle, silver, and in gold" (Genesis 13.2), was able to muster 318 slaves, persons "born into his house," for a military action (Genesis 14.14). Again, the patriarch Isaac required a "great household" to tend his dispersed, and consequently difficult to police, flocks and herds (Genesis 26.13–14).[25] It is revealing, in this connection, that the standard Latin word for "slave"—*servus*—comes from *servo,* a word meaning "to watch over, guard, look after" (*OLD* s.vv.; Zeber 1981: 38). Zeber (1981: 38), indeed, suggests that *servus* refers to "watching over (a herd)."

Control of workers was a special concern in the banking business. Hence, it is understandable that "although in many fields at Athens the same functions might be performed either by slaves or by free persons hired for a specific task or for a limited period of time, in the provision of banking services slave involvement was presumed'' (E.E. Cohen 1992: 71). E.E. Cohen (1992: 72) explains that ''by utilizing his own slaves . . . the *trapezitês* [banker] would be better able to restrict within the banking 'house,' often his own residence. . . , the private matters and documents entrusted to him, thus better maintaining confidentiality'' and to ''minimize the risk of employees' usurpation of client relationships.''

Classical Athens legally recognized the agency of slaves more readily in matters of external trade than in internal, wherein, of course, detailed supervision by the owner was more feasible. Garlan (1988: 4–5) observes that ''the practice of entrusting the management of commercial ventures abroad to slaves is clearly attested in the fourth century Attic orators,'' and he cites a letter, discovered on the island of Berezan, near the estuary of the Dnieper and the Bug, documenting this practice in the early fifth century. Surprisingly, Rome enjoyed a far-flung and complex commercial life and yet its great legal system, for all intents and purposes, negated the possibility of discretionary contractual agency. Kirschenbaum (1987: 4–5) rightly finds the solution to this puzzle in the role of the *familia*—wife, children, and *slaves*—in supplying the head (*paterfamilias*) with *noncontractual agents* from among those he held in *potestas* (or *manus*). The loosening of family bonds and the abrogation of slavery made legal agency indispensable.[26]

The loyalty of Israelite, Greek, and Roman slaves was enhanced by their incorporation into the household cult. The Israelite slave, houseborn or purchased, had to be circumcised (Genesis 17.12–13) and, moreover, unlike aliens and hired workers, was permitted to participate in the Passover feast (Exodus 12.343–45). Greeks welcomed newly purchased slaves into the household with the same ceremony (*katachsymata*) as for newlywed brides (E.E. Cohen 1992: 77). Alföldy (1985: 11) sees correctly that the ''purpose of the institution of slavery in this form was to increase the manpower of the family . . . especially after the effects of the Roman expansion from the end of the fifth century B.C., which gave rise to an increase in property.''[27]

The formal adoption or incorporation of slaves and free adults into the family is a practice well known in Near East and attested to in seventh- to fifth-century Crete and second-century-C.E. Rome. An especially interesting example is discussed by Henrickson (1986). In the seventeenth century B.C.E. at Susa, one Ana ilima atkal adopted Nur Shushinak into ''brotherhood'' so that they held in common all the property of the former. In the mid-second millennium, Assyrian adoption contracts explicitly obligated the adopted person to work for the adopter. In an interesting twist, a tablet from Nuzi shows that a woman had herself adopted as the sister of a man, making him responsible to ''manage my possessions'' and ''be of assistance to me'' (van Seters 1975: 72–73). Another adoption contract from Nuzi provides the adoptee with both a wife and a trade: ''Hui-tilla son of Waratteia has given Naniia into sonship to Tirwiia servant of Enna-mati. And Tirwiia shall take (for) Naniia a wife, and shall teach him weaving. As long as Tirwiia lives, Naniia with his wife shall serve him. When Tirwiia dies Naniia may take his wife and go where he pleases'' (Breneman 1971: 226). In the Bible it would appear that the childless patriarch Abraham adopted his *bn byt* ''manager, steward,'' Dammesek Eliezer, and made him his ''heir'' (Genesis 15.2–3).[28] If the ''senior servant'' (manager? slave?) in Genesis 24.2 can be identified with this Eliezer, we find that he had Abraham's power of attorney. Egypt's *sedjemew ash,* the ''ones listening to the call,'' apparently a class of dependent workers (slaves? adoptees?), played a managerial role in private households of the mid-second millennium (Bogoslowsky 1977). Eyre (1987b: 210) adds that the records of the New Kingdom shows slaves appearing as the trading agents of their owners. However, according to Cruz-Uribe (1986: 309), there is no evidence that Egyptian masters incorporated slaves into households by means of adoption.

Formal adoption served to enhance the employee's loyalty and, hence, the ability of the employer to control his services. As already noted, among the Greeks and Romans the terms *oiketes* and *famulus* applied to slaves and to free (adopted?) workers. R.J. Smith's (1983: 89–90) remarks on the role of adoption in modern Japan are equally relevant for antiquity and deserve quotation at length:

> The recruitment into the permanent positions in a [Japanese] household is with great frequency made on completely nonascriptive grounds. Persons recruited into the position of successor-head and his wife always enter them as adults, and neither need have been born into the house in question. The frequent adoption of successors shows clearly that the Japanese household is essentially an enterprise group, not a descent organization, and that passing over a son in favor of an adopted successor for the headship among merchants, craftsmen, and artists is a manifestation of a universalistic element in the definition of the role of the household head. . . . The widespread practice of a bewildering variety of forms of adoption involves yet another principle. People do not generally unite to form groups, not even households, but are instead recruited into them.

As late as 1900, family members of the Mitsui *zaibatsu* are found prostrating themselves before the ancestral tablets and vowing to work day and night for the welfare of the House (Hirschmeier and Yui 1975: 208).

H. SIZE OF FIRM AND VERSATILITY OF FIRM

Despite the various expedients employed by entrepreneurs to limit opportunism and to increase what organization theorists call the ''span of control,'' the technological environment of antiquity operated to limit the importance of economies of scale and, consequently, the sizes of firms relative to contemporary standards. Nevertheless, rather healthy firm sizes are noted at various points in this study, especially under Assertion 7 in chapter 5. We may note here that during the Ur III period a new mill at Girsu required the services of 679 women and 86 men (Maekawa 1980: 98). The classical world also knew firms of respectable size (Burford 1972: 79; Finley 1973: 74).

On the other hand, it might be expected that the combination of relatively high costs of communication and a relatively limited pool of potential entrepreneurs (cf. chapter 3) would have encouraged ancient firms to be more versatile, to be more diversified in their undertakings than the typical contemporary firm. Firms producing good or service *X* would tend to expand into upstream and downstream operations from *X* (vertical integration) as well as into good or service *Y*, an entirely different product (conglomerate or unrelated diversification). Analogies might be found in the participation of fourth-century Athenian traders in making maritime loans,[29] in the diverse dealings of the Roman *negotiatores* in goods and money, in the "development blocks" of European economic history, in the large family firms of thirteenth-century northern Italy, and, most of all, in Japan's family-controlled *zaibatsu* combines (Silver 1984: especially chap. 4). It is fair to say that many of the Near Eastern firms we have already met and will encounter in Part II of this book fit this pattern.

Large commercial houses flourished in Babylonia from the seventh to the fourth century. The House of Egibi, for example, bought and sold houses, fields, and slaves, took part in domestic and international trade, and participated in a wide variety of banking activities. Again, Iddin-Marduk of the House of Nūr Sîn was a large dealer in garlic, barley, dates, wool, livestock, and bricks and also made short-term loans of silver (Shiff 1987: chap. 3). Astour's (1972: 25) observation concerning the versatility of Ugarit's merchants as revealed by prosopography—that is, the attempt to identify specific individuals on the basis of personal names—merits quotation:

> Most of them were not tied to some specific field of profit-making but were active wherever there was an opportunity. Among their endeavors, beside export, import, and marketing the produce of the royal estates, one can mention exploitation of salt-works, production of copper and bronze ware, manufacture of purple fabrics (which included all stages of the process—murex fishing, extraction of purple dye, weaving, dyeing, and making a wide assortment of clothes), trade in horses and cattle, and a considerable role in collecting taxes.

Shilwa-teshup's firm at Nuzi employed about 80 shepherds; sold hides, wool, and hair; made large grain and metal loans; and engaged in real estate transactions. Earlier, in late-third-millennium Sumer, the rulers and governors controlled vertically integrated firms that used the wool of the sheep they raised in their weaving workshops. At the same time, an Umma businessman (-bureaucrat?) named Ur-e-e busied himself with manifold operations, including raising livestock; transactions involving cheese, oil, leather, carcasses, wool; the weaving and finishing of cloth; shipments by boat of fish and grain; and even the construction of boats. In addition to all this, he paid "taxes" (or fees?) in regard to irrigation and fields (*mas-a-sa-ga*) (Jones and Snyder 1961: 322–44).

W.E. Thompson (1976: 410) notes that Demosthenes, the father of the orator of the same name, owned manufacturies for cutlery and inlaid furniture, made loans with interest, invested in overseas trade, and held cash at home and in a bank.[30]

In addition to the opportunity to fill profitable commercial vacua created by economic change in a world with high costs of communication and a limited supply of entrepreneurs, ancient firms undoubtedly were encouraged to select a diversified portfolio of business activities in order to pool the relatively high risks of the individual lines of investment. The ancient conglomerate and multinational "houses" were, unlike their contemporary counterparts, marked by a strong family orientation.

NOTES

1. See especially Kilmer (1974: 177–83). The role of symbolic action in the legal process may well be embedded in ancient commercial terminology: Akkadian *apû* means "to become visible" and, in the Middle Assyrian period, the stative form *uppû* means "to acquire (forfeit) property" (*CAD* s.v. *apû* A1, 2).

2. It is perhaps not without significance in this connection that Hebrew *ve-kam* (Leviticus 25.30; Genesis 23.20) "to become the property of" means literally "to stand" (B. Levine 1989: 176).

3. In Psalms 91.14–16, God says of his worshipper, "I will be with him in trouble . . . with long life will I satisfy him."

4. Possibly *ashāb* "colleague" is the corresponding term in the Mediterranean commerce of the eleventh century C.E. The rendering of *awīlum* as "friend" finds support, I believe, in the context, and in Benveniste's (1973: 160) analysis of some corresponding Indo-European terms,

> The Gothic expression for gratefulness is *awiliup* and the verb is *awiliudon* "to be grateful, feel gratitude, to thank," which are manifestly ancient and authentic compounds. . . . Gothic *awi* signifies some kind of "favor" and seems to correspond well with *anja* "favor, chance" in the ancient Runic inscriptions. The root is well known from Skt. *avis* "favorable." . . . In Iranian, the same root is closely linked with the preverb *adi* and yields the verb *ady-av* "to bring aid, to succor," which has a very long history: the agent noun *ady-āvar* "helper" survives to the present day in the guise of Persian *yār* "friend."

Accordingly, it is intuitively plausible that *awīlum* is a borrowing from one of Anatolia's Indo-European languages.

5. See, for example, Larsen (1976: 133–34). The Akkadian word *shumu* and the Egyptian word *ren* mean both "name" and "reputation." Social deviants might lose not only their lives or positions, but their very names. Thus, in Papyrus Brooklyn, a document of the late Egyptian Middle Kingdom, a sea-captain who aided an escapee forfeited his name, as is indicated by the expression *wa en renef.* The practice of hacking out names was popular in the Akhenaten era.

The Mesopotamian and Egyptian literature and the Bible (e.g., Psalms 64.4–5; Proverbs 10.18) frequently and strongly denounce slander. Indeed, noting the parallel usage of *kusshupu* and *ubburu* and other evidence, van der Toorn (1985: 20) notes that in Mesopotamia slander might be equated with sorcery.

6. It is consistent with this interpretation of the name change from "Jacob" to "Israel" that the names are not obviously late or artificial constructions and both are sentence names consisting of a prefixed verb and the name of the deity El ("Jacob" is a shortened from of "Jacob-El") (see McCarter 1988: 20).

7. We find a pattern of investment by means of religious dedications among the Nakarattars, the itinerant salt traders operating in South India during the seventeenth century C.E. Rudner (1987: 377) explains that

> The Nakarattar caste and other castes of itinerant traders engaged in worship as a way of trade, and they engaged in trade by worshipping the deities of their customer. . . . Nakarattars "invested" profits from their salt trade in religious gifts. Religious gifts were transformed and redistributed as honors. Honors were the currency of trust. And trustworthiness gained Nakarattars access to the market for salt.

8. Note the technical use of the word "good" (e.g., Egyptian *nefer*) to designate trust-based relationships (McCarthy 1982).

9. In the *Homeric Hymn to Hermes* (4), a trust relationship is formed between Hermes and Apollo by the exchange of the former god's lyre for the latter's cowherds' staff.

10. In the ancient Near East, "be with" and "love" served as technical legal terms. Szubin and Porten (1983) have shown that as early as the Old Babylonian period and Egypt's Middle Kingdom, words for "love" are attested to in legal documents with the meaning "to prefer, designate an heir." The gods were not to be left in uncertainty concerning whom to love. D.P. Wright (1986) has argued that the "handlaying" ritual found in the Bible and the Hittite texts served to call the sacrificer to the attention of the deity.

11. The Greek words *pherô* "payment" and *diaphora* "payment of interest" might refer to offerings to the gods (Gernet 1981: 19–22).

12. See especially Balkan (1967) and Liverani (1990). Goitein (1967: 164–69) provides an excellent discussion of commercial cooperation or "friendship" in the context of the Mediterranean in the eleventh to thirteenth centuries (cf. Udovitch 1977). For the ancient concept of "friendship," see Benveniste (1973: 273–88); Donlan (1985: 300, 303–4); and Versnel 1980: 108–27).

13. The second-century C.E. scholar Festus thought that "senators were called 'fathers' (*patres*) because they had granted parcels (*partes*) of land to humbler individuals as if to their own children" (289L., cf. 288L; quoted by Drummond 1989: 88). Drummond maintains that Festus bases himself on "the etymological jingle *patres-partes*" and, for reasons that are not entirely clear to me, he doubts that the *clientes* were an important source of dependent labor in early times. Yet there is probably more to Festus' claim than meets the eye of the contemporary historian.

14. The relationship between the Hittites and the city of Zalpa on the Black Sea was cemented by a fictitious blood relationship (see also chapter 1). The Queen of Hittite Kanesh exposed her thirty sons, but they were saved by the gods and reared at Zalpa. Later on they returned to Kanesh driving a donkey before them (Hoffner and Beckman 1990: 62–63). The donkey, of course, is the prime symbol of commerce generally and of Kanesh's trade in particular (see chapter 4.A).

15. Pollard (1965: 63–64) observes that "among the ironmasters it was family relationships which allowed widely separated productive units to be combined in syndicates and managed in a coordinated manner by having one member of the kinship group in

charge at each furnace or forge." For a more general perspective, see Becker (1981: 11–12).

16. At the present time, the study of family organization is dominated by linearist schemes in which the extended family "evolves" into the nuclear family. Thus, according to Donlan (1985: 29),

> While a number of Homeric *oikoi* (e.g. Priam's, Nestor's) are examples of the *traditional* Indo-European joint or extended family, it has been noted [by S.C. Humphreys] that "the nuclear family *already* appears to be the normal residential unit in the Homeric poems." This is evidence that the *supplanting* of extended families by *modern* nuclear families, apparent in the epics and Hesiod, was a stage in a long historical process of devolution from larger to smaller living units. (Emphasis added)

But the "traditional" extended family is not a historical fact—it is only a theory, and a poorly specified one at that.

17. Note in this connection a letter Watt wrote to Boulton in 1794 giving as the reason for the sale of the Madeley Wood Ironworks "that many of the company are females who do not find it convenient to carry out such extensive concerns" (quoted in Pollard 1965: 65). On the other side of the coin, in sixteenth-century Cologne, a city where women vigorously took part in business life, a businessman recorded in his will that he had remarried "for the sake of his children and for the sake of his business" (quoted by Wensky 1982: 631).

18. For Iltani at Karana, see Dalley (1977). This is precisely the pattern of family specialization advocated in the fourth century B.C.E. for the upper-class household by Xenophon in his treatise on management, *Oeconomicus* (see Pomeroy 1975: 72–73).

In the export-oriented silk industry of late medieval Cologne, the wife typically supervised production (mainly the weaving operation) and the husband took charge of acquiring raw materials and marketing the product (Wensky 1982).

A similar pattern has been observed among women in early seventeenth-century-C.E. Mughhal India. Findly (1988: 231–32) reports that "[noble] women's involvement in business and commerce was on such a scale that it necessitated a staff of financial advisors 'mirroring in miniature the emperor's own finance ministry' [Gascoigne]. . . . Moreover, many women owned their own Chinese-style junks (some of which displaced 1200 tons) and with them were able to carry on a very brisk and lucrative trade." Findly (1988: 232) adds that the accounts of the Mughal period name three women as regular participants in inland and overseas trade, including European and Arabia. "It is highly probable . . . that these three names mask a much longer list of other noblewomen who almost certainly traded during the period. . . . We may even assume that women of the trading classes, both Hindu and Moslem, regularly participated in commerce." All of this participation occurred despite the institution of seclusion (*parda*).

19. The exact role and status of the Old Babylonian *sābītu* "female tavern keeper" is unclear. She was involved in various business activities (*CAD* s.v. *sābû* b) and, as Finkelstein (1961: 99) explains, her

> importance in the Old Babylonian economy is underscored by the fact that three paragraphs of . . . [King Ammisaduqa's] edict (14'–16') are devoted to her activities. . . . Both in the edict and in Laws of Eshnunna 15 the business activities of the *sabītum* are treated in parallel in part with those of the *tamkarum* [merchant, see Assertion 11]. . . . There is more than meets the eye in the association of these two professions in the law. If Goetze's interpretation of Laws of Eshnunna 15 and 41 is correct, a major aspect of the activities of the *sabītum* and the *tamkarum* is that of the "broker".

. . . That the activity of the *sabītum*, or even the "social reality" of that title, denoted much more than "alewife" or "Schankwirtin" is suggested by the history of the term "broker". For, indeed, in origin and etymology, a "broker" denotes a "retailer of wine": (from "broach", to pierce or tap a cask of wine or liquor, see the *Oxford Universal Dictionary*, 3rd. Ed. 223, 115).

20. The participation of religious women in business, even when "cloistered," is not unique to the ancient world. The medieval nunneries of northern France played an active role in lending and commercial life. For example, in the early thirteenth century, Matilda, abbess of Bourbourg, negotiated a loan of some 100 pounds to a group of free farmers to ditch and drain some newly cleared land (Johnson 1991: 213–14).

21. For the commercial significance of stamped jar-handles, see Silver (1983c: 29–34).

21. Steinkeller (1982: 356–57, 366–67) cites a contract in which it seems that each (female) witness received a fee of oil and wool, while the (male) scribe received a garment and wool. The testimony of witnesses to the original transaction was a key part of Near Eastern legal procedure in the event of litigation.

22. Hallo (1983: 11) has suggested that the Akkadian word may be derived from a dialectical form of the Sumerian word for a cylinder seal mounted on a pin (*mu-lu-ug* or *mul-ug*).

23. In medieval Genoa, women of the artisan and aristocrat groups received upon marriage a dowry and the husband's return gift (*antefactum*) (D. Hughes 1975: 127–30).

24. Consistent with our hypothesis, the prominence of Mughal noblewomen in commerce (see note 18) occurred, Findly (1988: 238) notes, in an era of "burgeoning foreign trade in the country." Findly adds, citing the participation of noblemen, that trade was not likely to have been a marginal activity. Again, in Genoa's great era of growing international trade from the mid-tenth to the mid-fourteenth centuries, aristocratic wives and, especially, widows played leading roles in commercial life. Genoa's liberal immigration and licensing policies, reflecting the pressure on its stock of managerial resources, permitted foreigners to found banks and to be taken as business partners. Interestingly, it appears that after the mid-fourteenth century aristocratic women only rarely acted as business agents for their husbands. (Sources: D. Hughes [1975: 138–42] and Lopez [1964: 445–47.])

25. Note the preference among today's nomadic peoples for employing family members as herdsmen rather than strangers (Jamieson 1985: 423–25). Among the market-oriented Komachi nomads of southern Iran, hired herdsmen are permitted to run their own animals with their customer's herd but are contractually denied the right to own female breeding stock. Bradburd (1980) interprets this prohibition in a sinister light: The employing class seeks to alienate its proletariat from the means of production. More reasonable than the conspiracy theory is that the denial of female breeding stock prevents theft of newly born animals and disputes over their ownership. Herdsmen in the ancient Near East typically received a share of the newborn animals as payment. A Babylonian contract of the early second millennium calls for the shepherd to keep 20 percent of the increase (Finkelstein 1968: 33). For herding Laban's flock, Jacob was to receive the newly born "brown" sheep and variegated color goats (Genesis 30.32–33). Jacob explained that under this innovative arrangement, when Laban came to look over his hire "every one that is not speckled and spotted among the goats, and dark among the sheep . . . shall be counted as stolen." Again, Hammurabi's Code (Paragraphs 263–67) and herding contracts of his era show that a variety of precautions was taken by owners to prevent thefts of livestock by shepherds (Postgate 1975: 6–7).

The Hudson's Bay Company faced a related problem in the eighteenth century. The right of employees to engage in private trapping led to the substitution of low-quality Indian furs for the Company's high-quality furs. Private trapping was finally declared illegal in 1770 (Carlos and Nicholas 1990: 866–67).

26. Contractual agency is (implicitly) recognized in Paragraph 17 of the Sumerian law code of Lipit-Ishtar, which dates from the early second millennium: "If a man *without authorization bound* another man to a matter to which he (the latter) had no knowledge, that man is not *affirmed;* he (the first man) shall bear the penalty in regard *to the matter to which he had bound him*" (emphasis in original). The translator Kramer (1969a: 160) cautions that the rendering of this provision is uncertain.

27. Humphreys (1983: 10) notes "the almost total absence in Greece of free men willing to be [actually?] employed as foremen or managers," but her explanation "that to be a permanent employee was too much like a slave's life" fails to come to grips with the control costs issues that lie behind the preference on the part of employers for slave labor (see E.E. Cohen 1992: 70–73 on the banking business). The existence of free *epitropon* "bailiffs, stewards" is taken for granted, however, by Philodemos of Gadara, a writer of the first century B.C.E. Further, as noted by Scheidel (1990), free rural bailiffs (*actores*) may also be detected in the Roman evidence. In the Preface (12) of his *De re Rustica* dating to 60–65 C.E., Columella notes that owners sometimes sent a *mercennārius* "hired worker" (*OLD* s.v.) to manage their farms (the *uīlicus*). Significantly, Columella characterizes the *mercennārius* as "refusing any longer the daily task of fawning to a patron [boss?]" (cited by Beare 1978: 400).

The Cairo Geniza documents of the eleventh through fourteenth centuries C.E. reveal, as Goitein (1967: 132) explains, that the importation and "acquisition of a male slave was a great affair, on which a man was congratulated almost as if a son had been born to him. No wonder, for a slave fulfilled tasks similar to a son. He managed the affairs of the master, he travelled with him or for him, or he was in charge of his master's business, when the latter himself was out of town."

28. This translation is controversial; see T.L. Thompson (1974: 203–6). The Hebrew *bn byt* probably corresponds to the Babylonian *mār bītum* "son of the house." For the question of whether the latter term can be equated with the less equivocal *wilīd bītum* "houseborn slave," see Dandamayev (1984: 99–101) and Mendelsohn (1949: 57). Crete's Gortyn Code, generally believed to have been inscribed in the fifth century B.C.E., provides that in the absence of kinsmen the succession devolves upon the *klaros* "slaves? adopted workers?" of the estate (Willetts 1967: 12, 15, 43).

29. Note in this connection the character in the Greek philosopher Theophrastus' (*ca.* 372–287) *Characters* (VI, 3.9), who makes interest-bearing loans to small traders in the Agora and also acts as "inn-keeper, brothel-keeper, and tax-farmer" and, indeed, "does not reject any trade as beneath his dignity" (quoted by Millett 1983: 48).

30. The father of the orator Demosthenes, also named Demosthenes, employed more than thirty slaves in his knife and sword manufacturing enterprise. Based on his experience in making ivory handles for his weapons, he branched out into the production of inlaid furniture and, for this purpose, employed an additional twenty slaves (W.E. Thompson 1976: 410–11).

3

Who Were the Entrepreneurs? The Problem of "Public" Enterprise

It is true and not particularly surprising (cf. chapter 1) that temple and palace officials should have played a major role in production. This holds especially in the introduction of new products and the exploitation of new markets. In practice, the entrepreneur or innovator is an individual who has acquired some familiarity with the needs and circumstances of relatively distant markets and has access to capital. Today many social and economic roles equip individuals to implement economically valuable new ideas, but in antiquity the appropriate roles would have been more or less limited to officials, large landowners, and merchants.[1] The point is that given the limited pool of entrepreneurs, a major role for the temple and palace is predictable.

In Sumerian myth we find two rulers of Uruk, Enmerkar and Gilgamesh, pictured as traders who opened new markets. It is known that the rulers controlled large workshops in the middle of the third millennium at Ebla and at Mari in the early second millennium. Again, after observing that the soil of southern Mesopotamia was unfavorable for viticulture, Hentschke (1977: 54) notes that "the Gudea Cylinder (A, XXVIII, 10ff., 23ff.), which dates *ca.* 2100 B.C., contains the earliest reference to viticulture in this region. It mentions the planting of a vineyard in a temple garden." Clearly this was a royal innovation. The Bible records the joint expedition of Solomon and Hiram the king of Tyre to Ophir for gold, sandal-wood, and precious stones (1 Kings 9.26–28; 10.11) and the purchase of horses by "Solomon's merchants" from the "men of Kevah" (1 Kings 10.28). In 2 Chronicles 26.10, we find that Uzziah, who ruled Judah in the eighth century, "built towers in the wilderness, and carved out many cisterns, for he had many cattle . . . and he had husbandmen and vinedressers." He did all this, of course, not from a profit motive but "because he loved husbandry."

There appears to be a connection between Minoan-Mycenaean palaces and textile and metal workshops (Tegyey 1984). In the *Odyssey* (1.180–84) Athena, disguised as King Mentes of the Taphians, explains that he has come "sailing ... to men of alien language to Temesên [probably in Cyprus], after bronze, and my cargo is gleaming iron" (R. Lattimore 1965; S. West 1988: 99–100). Further, according to Plutarch (*S.* 2.2), the aristocrat and future ruler Solon "while still a young man embarked in commerce" (Perrin 1914). In the second half of the sixth century B.C.E., Polycrates the "tyrant" of Samos, an island off the Ionian coast near Miletus, was responsible for many commercial innovations, including the construction of "Samian ships" and a bazaar and the importation of skilled artisans and new breeds of livestock (Athenaeus 12.540).[2]

In and of itself, the commercial participation of rulers and even their commercial primacy does not deny the importance of market forces. However, the distinction between "ruler" and "merchant" may not be as clearcut as is usually assumed. For example, the translation of the tablets from Ebla raises the possibility that prominent members of the community, including merchants, were elected to rulership (*en*-ship) in the most commercially oriented communities. Pettinato's (1981: 72) hypothesis that Ebla's *en*'s were elected for seven-year terms would "explain how at the time of Ebrium's term the preceding *en* 'kings' were still alive."[3] The evidence for elective or rotating rule is not confined to Ebla. For instance, Diakonoff (1969b: 184) notes that in Lagash, Urukagina's predecessor Lugalanda "continued to live peaceably in the city [of Lagash] after his deposition." And, as noted in chapter 2.F, King Lugalanda's businessperson wife continued to appear in the "administrative" texts. The texts do not suggest that Lugalanda was violently overthrown. Urukagina, whose wife is also a noted trader, states in an inscription that he was "chosen by the (god) Ningursu from among 36,000 individuals"—that is, from the population of Lagash (Vanstiphout 1970: 34). This certainly raises the possibility that his elevation to the *en*-ship was accomplished by means of an election of some sort. There is a tradition that, in the earlier seventh century B.C.E. prior to the age of the "tyrants" (in itself a revealing designation), the 200 (adult male?) Bacchiads of Corinth annually selected one of themselves as *prytanis* "chief executive" (Diodorus Siculus 7.9.6; Pausanias 2.4.4). Homer (*Od.* 19.179) testifies that Minos of Knossos was *enneôros* "king of nine years" (Cunliffe 1924: s.v.; R. Lattimore 1965). What occupation did these individuals follow before (and after) their elevation to rule?

With respect to merchants becoming rulers, we may note that prior to overthrowing Evil-Merodach (561–560) and becoming king of Babylon, Neriglissar (559–556) was a prominent member of the business community. Shiff (1987: 128–29) notes that

> both before and during his reign, Neriglissar maintains close business ties with ... the head of the powerful Egibi [merchant] family of Babylonia. ... After he becomes king

> . . . possibly with active assistance of business interests in Babylonia, Neriglissar maintains many of his earlier commercial relationships, and also continues to employ [the head of the Egibi family] . . . as his agent.

Then there is Isaiah's (23.8) prophecy about Tyre "whose *sōcharêhā* 'merchants' are *sarîm* 'princes.' " For the Greek world, we are told by Pausanias (2.4.3–4) that after the Heraclid Alêtes "Wanderer" had "successfully attacked" Corinth, the previous rulers surrendered the throne to him and stayed on. There is reason to believe that the "wanderer, circler" of Greek myth and legend was a traveling merchant (Silver 1992: chap. 6). Theognis of Megara, writing in the mid-sixth century in a spirit recalling Isaiah, complained that "the carriers of merchandise rule" (Nagy 1985: 23). Again, after mentioning Solon's commercial activity, Plutarch (2.3–4) explains that

> in those earlier times, to use the words of Hesiod, "work was no disgrace", nor did a trade bring with it a social inferiority, and the *calling of a merchant was actually held in honour, since it gave him familiarity with foreign parts, friendships with foreign kings, and a large experience in affairs.* Some merchants were actually founders of great cities, as Protis, who was beloved by the Gauls along the Rhone, was of Marseilles [*ca.* 600 B.C.E.]. (Perrin 1914; emphasis added)

Hahn (1983: 31) notes that besides Solon the few traders of Archaic Greece whose names we know—for example, Charaxos of Lesbos (Sappho's brother), Sostratos of Aigina, and Phobos of Phocaia—mostly belonged to the aristocracy of their cities. There is good reason to believe that Corinth's Bacchiads were traders (see Silver 1992: chap. 2.A). More concretely, according to Dionysius of Halicarnassus (3.46),

> there was a certain Corinthian Demaratus by name, of the family of the Bacchiadiae, who, having chosen to engage in commerce, sailed for Italy in a ship of his own with his own cargo, and having sold the cargo in the Tyrrhenian cities, which were at that time the most flourishing in all Italy, and gained great profit thereby, he no longer desired to put into any other ports, but continued to ply the same sea, carrying a Greek cargo to the Tyrrhenians and a Tyrrhenian cargo to Greece, by which he became possessed of great wealth. (Cary 1937)

The further adventures of the merchant Demaratus are recounted by Strabo (8.6.20): When the Bacchiad Demaratus left Corinth he "carried with him so much wealth . . . that not only he himself became the ruler of the city [Tarquinii] that admired him, but his son was made king of the Romans" (H.L. Jones 1932). Another tradition or legend cited by Diodorus Siculus (1.29.1–3) maintains that when Erechtheus (an Egyptian?) brought grain to Athens at a time of drought, the grateful citizens made him their king. Admittedly, it would not be difficult to raise questions about the reliability of each of these ancient sources, but the pattern is reasonably suggestive.

Another point of some importance is that the ancient terms we translate as "king" or "ruler" might more accurately be rendered as "*owner*"/"*rich man*" or "*manager.*" This is certainly appropriate in the case of the Sumerian *en.*[4] Speaking of the Sargonic period, Westenholz (1984: 58) goes so far as to suggest that "the *ensi* [governor] managed the assets of the city as a corporate outfit and was its representative in its dealings with the king." A hint of support for Westenholz's perspective may be found in Semitic etymology: The root *e'ēlu* "to bind an agreement" may be found in Akkadian *ālu* "city," Assyrian *plu* "league," and Hebrew *ūhel* "tent" (Anderson 1987: 2). Light is also cast by these considerations on the true status of antiquity's ubiquitous "elders": Sumerian *abba* (or *ab* + *ba*); Akkadian *abbū* (logogram *ab* + *as*), *shībū;* Hebrew *zaqen;* Greek *presbeis.* Note in particular the manifold administrative contributions of the "*elders of the city*" (e.g., Akkadian *shībūt ālim*) as witnesses, judges, experts on property ownership, ambassadors, advisors to the king, cultic officiants, census takers, and payers/collectors of taxes. In Judges 10:18 "the people, the officials of Gilead" prepare to elect Jephthah as "head and chief" of Gilead, but, in Judges 11:5–11, the same "officials" are referred to as "the elders of Gilead." The "elders" might be viewed as the shareholders or owners of the corporate city.[5]

The perspective of ancient city as firm should make us hesitate in identifying the commercial activities carried out under the name of its owner or manager, the *en* or *ensi,* with *public* enterprise, wherein attention to costs and revenues and, indeed, to profitability tends to be supplanted by social-political performance criteria. General Motors is closer to being a "public" enterprise in this sense than Sumer's Lagash, at least until the reforms of Urukagina (see chapter 8). Both General Motors and Lagash had *market-mediated* relations with other firms/city-states. In the absence of evidence of *behavioral* differences between *en*-operated firms and relatively large firms directed by "private" entrepreneurs, terms such as "state economy," "palace economy," and "redistributive economy" have little substantive content. This terminology may inhibit the kinds of analysis required to generate the required insights.

With respect to the operation in the mid-second millennium of the "palatial economies" of Crete and mainland Greece, it is well to note the limitations of the evidence provided by the Linear B tablets. The main archives from Knossos and Pylos cover only one year, and it is clear, as Halstead (1988: 525) points out, that "the archives do *not* deal with the entire economy of the region under palatial control." Thus, recalling the thousands of local and exported Mycenaean pots and sherds, it is clear that

> the paucity of references . . . to the profession of potter must be meaningful. The word occurs on 4 Pylos tablets, 1 tablet from Mycenae, and 1 tablet from Knossos in livestock, personnel and wool contexts. So from 3542 non X-series texts from the principal Mycenaean sites. . . , we know of five individual potters and one woman in a personnel list named "Potteress". . . . *This must imply minimally that the production of ceramic pottery*

was not controlled directly by the centralized record-keeping administration, at least not in any way comparable to those economic activities which do find their ways into specialized series of Linear B tablets. (Palaima 1989: 95–96; emphasis added)

Further, although the tablets often record transfers of goods, raw materials, and land in detail, they rarely tell us anything explicit about the purposes of the transactions. What did the palace at Knossos do with all the wool and woolen textiles recorded by the scribes? Why was the Wanax at Pylos so concerned with bronze-making, and where and how did he obtain the copper and tin needed to produce the bronze worked by the *kakewe* "smiths"?

A more concrete difficulty in evaluating "public" enterprise is that business activities carried out by persons who happen to be rulers, officials, and priests may be unrelated to the performance of these roles. Speaking of Sargonid Mesopotamia, Foster (1977: 33) notes that "some people who held state offices took advantage of their positions to engage in commercial activities on their own behalf," and he adds that some officials who "were very active in business on their own behalf even kept the records in their offices rather than at their homes." To be more specific, Westenholz (1984: 20) calls attention to the situation in Sargonid Lagash, where the *ensi* "also appears in the documents as a private citizen—he buys slaves for his own use before witnesses, just like everyone else." Similarly, a late-third-millennium Sumerian text reveals that the firm of the governor of Umma and his wife and "children" employed over 200 male and female workers (*geme-arad*) who are not obviously government employees. Gelb's (1982: 94) assertion that this firm "was under the *indirect* control of the state/crown" is ambiguous and, moreover, not founded in the evidence (emphasis added). Ur-e-e, the Umma businessman whose diverse activities were noted in chapter 2.H, finished cloth and produced garments with the aid of two agents. In what way did his operations differ from those of the *ensi?* Note in this connection Hallo's (1958: 83) observation that

the archive of Umma was in no sense a bank, nor was it, like Drehem, the private domain of the king of Ur. Rather, Umma was an old city-state with an independent tradition. Many of the transactions recorded in its archive seem to have taken place among private individuals and the city administration. . . . They were characterized by the use of the seal impression which, like the modern signature, is the symbol of private, or at least free, contractual relationships.[6]

Lagash's governor employed forty to fifty permanent workers; another text shows him paying wages to hundreds of men and women (called *gir.se.ga enki.ka*) who are *distinct* from the employees (*se.ga*) at his official residence. In second-millennium Assyria and Babylonia, we hear of officials whose private estates included entire towns. An Assyrian text of the second half of the second millennium tells that grain stored in a granary in the town of Shasasu is transferred from one (apparently) private individual to another. But both the granary and the town were owned by an official named Erib-Assur. Harrak (1989: 70–71) suggests that in this case "being public seems to indicate not necessarily state ownership, but rather a private store room put at the disposition of the general public," and he goes on to speculate that granaries belonging to officials "must have been used for an effective and profitable business."

Metjen, the twenty-fourth-century Egyptian entrepreneur and official (chapter 2.F), owned land that he had inherited and purchased in his own name and, in addition, had the use of land attached to his office. A related distinction is observed in mid-second-millennium Egypt between a vizier's "own people" and the "ones listening to the call of the vizier"—that is, those assigned to the office of the vizier. More generally, pharaonic Egypt clearly recognized the difference between *perew hatey-a* "office-held property" and *perew atew* "personal property," as is well illustrated in the early second millennium by the mortuary contracts of a nomarch and priest named Hapdjefa. Spalinger (1985: 9) explains that in Hapdjefa's

> position as nomarch he inherited lands, services (e.g., temple offerings). . . . Similarly, [Hapdjefa] existed as a private person and in that role he inherited lands and their concomitant tenants, cattle, etc. from his father. Finally, as chief priest of, say, the Wepwawet temple, he had certain duties to perform for which he was paid in kind. The role would cease at his death, of course, but more significantly, it does not appear to have allowed [Hapdjefa] any revenues from its estates. In other words, [Hapdjefa] as chief priest could neither alienate any possession of that temple nor could he depend upon whatever revenues that role entailed in his lifetime.

Just as important as these examples, Pettinato (1981: 190) has called attention to the discovery in Ebla's archives of a "tribute" text "which registers not only the tribute of the governors but also of some cities [and commercial centers] and, if the text is correctly understood, *of the king of Ebla himself.* This surprising element of the king's paying taxes . . . underscores the depersonalizing of the government offices" (emphasis added). Add to this that Ebla's *māliktu* "queen," a transactor in textiles, also paid taxes. Thus, commercial enterprises undertaken by kings cannot be identified with royal enterprise, much less with public enterprise. Given the uncertainties about the Ebla texts, however, it is reassuring to note related patterns in Assyrian and Roman economic history. In the early second millennium, Assur's ruler participated but did not monopolize or even dominate the trade with Cappadocia (Larsen 1976: 129–43). Similarly, after the middle of the first century, when brick production became a major Roman industry, the Emperor competed as a private citizen with firms of other large landowners, many of whom were undoubtedly government officials (Bloch 1941).

Public enterprise does not negate the role of external market forces, and business activities by rulers and officials are not necessarily royal, much less public enterprise. The skeptic will find unambiguous evidence of "private" production and trade later in the book, especially in the discussions of Assertions 7 and 11 in Part II.

NOTES

1. We should specifically add scribes to the group of potential entrepreneurs. Thus, in the sixth century a trained scribe named Tabiya

> had his permanent residence in Babylon but he owned fields also in Borsippa, Sippar, Kish and other cities distant from each other for several hundred kilometres. . . . He was representative of those Babylonian scribes who used their professional knowledge and skill in order to be engaged in business activity. He rented out his fields to freemen and slaves for the rental payment of some ten thousands litres of barley and dates a year. He was acting also as a creditor lending money and natural produce and was engaged in trade. (Dandamayev 1982: 7)

2. A leading entrepreneurial role for kings and their families has also been observed in less developed societies of the present era. See, for example, an excellent study by Dumett (1983, especially 671) of the Gold Coast's indigenous entrepreneurs in the second half of the nineteenth century.

3. Michalowski (1985: 295) objects that "the translation 'former rulers' . . . is a rendering of the plural form *en-en* that is otherwise totally unsubstantiated." For additional evidence of elective rulership in the Near East, see Saggs (1962: 359–60) and 1 Kings 12.1.

4. Burrow (1979: 40) equates Greek *ktaomai* "get, acquire, possess, hold, own" with Sanskrit *ksayati* "rules."

5. The "elders" are not merely old people. Thus, in a letter to an official of Hammurabi involving a dispute over the inheritance of a field, "a clear distinction is made between the 'city elders' and old people" (Reviv 1989: 163–64). Similarly, in the Bible, Reviv (1989: 7) notes, there is a link between "elders" and the older age group, *zaqen,* which "is [also] used to describe people who belong to the leadership institution, regardless of age." See further Weinfeld (1982).

6. In the first millennium, Assyrian firms maintained files of "signature" seals (Morrison 1974: 440).

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4

Commercial Transport, Gains from Trade, Storage, and Diffusion of New Technology

The ancient world's diversity of natural resources within a compact geography provided a firm foundation for regularized interregional trade. The Mediterranean region, for example, contains seacoast, plain, scrub uplands, valleys, and mountains. Israel-Syria had good harbors (especially in the Levant), timber, good clay for pottery, and the capacity to produce high-quality wine and oil. Cyprus and Oman were rich in copper ore. Mesopotamia consists of a series of subzones differing markedly in their ecological characteristics. Broadly speaking, the Mesopotamian region is seriously deficient in wood, stone, and metals but well suited to the production of barley and sesame (or linseed) and, especially in the swampy south, to the growing of date palms. Iran, on the other hand, had plentiful stone and copper deposits, and Anatolia was rich in silver. Egypt "proper," like Mesopotamia, was poor in good construction timber and was a high-cost producer of wine and oil, but it had gold and opportunities to produce flax and wheat. The agricultural resources of the Nile Valley were nicely complemented by alum, building stone, grasses, and reeds and the potential of the surrounding deserts, with their well-watered oases, to produce excellent wines and dates. Islands in the sea and passes through the mountains mitigated the severity of communication problems within the region. Therefore, despite transaction and transport costs that were high by contemporary standards, the aforementioned and other differences in productive factor endowments within a circumscribed area must have ensured significant gains from regional specialization and exchange. These gains were, of course, supplemented by those resulting from local entrepreneurial innovations, technologies, and traditions of craftsmanship.

A. LAND TRANSPORT

By far the most complete documentation of overland transportation in the ancient Near East comes from the archives of the Assyrian merchants operating at Kanesh in Anatolia in the early second millennium. Caravans of "black donkeys" traveled the more than 700 miles from Assur to Cappadocia loaded with imported tin (possibly originating in Afghanistan via the overland route across Iran) and woolen textiles, some of which originated in northern Babylonia. There is some evidence that the environs of Damascus ("The Mountain of Its Donkeys") specialized in breeding and the city itself ("The Town of Its Donkeys") served as the market center for the export of this special breed to Assyria and Babylonia. The return cargo was silver and, sometimes, gold. Larsen (1976: 89) offers as a conservative estimate that "about 100,000 textiles [were shipped] from Assur over a period of fifty years." Given the rough accuracy of H. Lewy's (1964: 181–83) calculation that each standard *kutānu*-cloth weighed about 6 pounds, this totals about 300 tons (*CAD* s.v.). Some 13,500 kilograms of tin, or 200 donkey loads, are also attested to in the surviving texts. "Again as a conservative estimate," Larsen (1976: 89) writes, "an export from Assyria over a period of fifty years of about eighty tons" is indicated. It is indicative of the reliable, standardized nature of this commerce that it is characterized by venturing—that is, the sale of goods after shipment. Most of the black donkeys were probably sold in Anatolia upon the arrival of the caravan.

An indication of trade regularity in the third millennium is the discovery in Egypt of Canaanite pottery, probably wine and oil containers, with specially designed handles to permit roping on both sides of a donkey. Papyrus Boulaq 18 demonstrates that the remote oases (Wehaet and Dhesdhes) of Egypt's western desert were exporting wine to the Nile Valley no later than the Thirteenth Dynasty (earlier second millennium). The export of dates, another product for which the Western Oases are famed, is attested to first in a text of the New Kingdom (Papyrus Chester Beatty IV). During the New Kingdom, the exports of Wehaet included, in addition to wine and dates, honey, grapes, loaves of bread(?), leeks, vegetables, "baskets," woven products ("nets"), and various minerals (see Giddy 1987: 62–79, 84–90). Again, two tablets from Uruk of the years 551 and 550 record consignments to a named merchant of metals (682 pounds for each tablet), dyes, wine, honey, purple-dyed wool, and other merchandise from Egypt, Phoenicia, and various locations in Asia Minor. This raises the possibility of a regular and substantial commerce involving a lengthy overland journey even if use was also made of the Euphrates (Oppenheim 1967a).

The overland movement of grain on a large scale is attested to for Sumer in a letter from Ishbi-Erra to Ibbi-Sin of Ur (2028–2004), in which he reports that he has purchased and transported to the city of Isin over 72,000 bushels of grain. Qualitative evidence is provided by the myth of Enmerkar and the Lord of Aratta (cf. chapter 1), wherein we find the king of Uruk having sacks of grain loaded on "transporting donkeys" and sent to Aratta (probably in Afghanistan), where they are "piled up." At Moalla in Upper Egypt, the late-third-millennium inscription of the Egyptian administrator Ankhtyfy reveals the arrival during a famine of "a trading caravan [which] brought the prize of Upper Egyptian grain" and adds "I sold it, (so) (my) Upper Egyptian grain went southward as far as Wawat [Nubia between the First and Second Cataracts] and north as far as the Thinite district" (Goedicke 1977: 28). A tablet of the eighteenth century from Mari mentions the return, unladen, of a caravan of 3,000 donkeys from a journey to the north to acquire wool and grain. Again, an epic of Hittite origin refers to the merchants of Ura, an important port in Cilicia, who "will bring many *nam.ra* people, cattle, sheep, horses, (and) asses in large numbers we will drive; barley and grapes(?) in large amounts we will keep at hand" (Hoffner 1968: 36). A final point is that the importance of overland transport of grain is hinted at by the Assyrian practice of measuring grain in "ass loads."

J. Lewy (1958b: 93), commenting on the Assyrian trade in Anatolia, notes that "between some towns . . . copper was shipped in wagons, a fact which attests the existence in Anatolia of real highways." Indeed, the earliest known three-dimensional evidence for spoked wheels comes from eighteenth-century Anatolia (Littauer and Crouwel 1986). Similarly, a letter of about the same time mentions a caravan of donkeys, with their harnesses and wagons carrying juniper wood from northern Syria into southern Babylonia.[1] Much later, in the sixth century, a text calls for wagons to carry 360 beams (ranging in length from 12 to 18 feet) from Uruk to Dilbat in Assyria. The Neo-Assyrian version of the myth of Gilgamesh and the Cedar Forest credits that region with "paths kept in good order" and a "smooth main road" (*CAD* s.v. *(c)harrānu* 1). Assyria possessed roads of sufficient permanence and importance to be mentioned as boundaries of fields in legal documents. Texts of about the same time (the mid-second millennium) from Alalakh refer to tolls collected at bridges that were probably maintained by the government.

Burnt-clay tiles were used to pave the roads at Buhen, a lower Nubian trading and industrial town (cf. Assertion 7). Kemp (1989: 166) reports on an isolated Middle Kingdom site at Kasr es-Sagha on the northwestern edge of the Fayum:

> For once the context offers an explanation for its existence: it lay close to the end of long paved road which led to the basalt quarries in distant hills, and was probably close to the then shoreline of the lake which, for a time in the Middle Kingdom, filled the Fayum depression [cf. later in this chapter and Assertion 7 in chapter 5]. It must have been there to supervise the quarry work.

Archaeological evidence also points to the existence of at least partially paved roads in fifteenth-century Minoan Crete and in thirteenth-century Mycenaean Greece. Note, for example, the "fine paved road leading directly to the sea [at Kommos in southern Crete] from inland central Crete" (Warren 1989: 3). In the eighth and seventh centuries, real highways appear to have linked Etruscan cities such as Caere to mining centers; paved road surfaces or cobbles have been discovered in urban areas or in their immediate vicinity. Recently a paved road datable to the sixth century was discovered in Magna Graecia in the district of Lucania. The area around Sparta was covered by grooved tracks for wagon wheels, including a "railway" across the Taygetus mountains (Christien cited by Kooij 1990: 713). Most impressively, in the early sixth century a paved tramway, the *diolkos,* was constructed across the Isthmus of Corinth on which heavy cargo and possibly ships could be hauled from sea to sea (Strabo 7.2.1).

Egyptian tomb inscriptions in the Wadi Hammamat of as early as the beginning of the second millennium show Egyptian caravans making their way through the eastern desert without apparent difficulties. The trading expedition led by the "chief treasurer" Henenu, for example, reportedly included numerous artisans, probably to construct or assemble "prefabricated" ships and fashion heavy stone anchors upon the caravan's arrival, after a four-day journey, at the Red Sea. The expedition was convoyed by some 3,000 soldiers, each of whom received a daily ration of two jugs of water and twenty cakes of bread. With respect to the technology of "prefabricated ships," note the great ship of the Fourth Dynasty ruler Khufu (Cheops) "found carefully dismantled in its boat-pit at Giza" near the Great Pyramid (Aldred 1984: 116). Note also that the stela erected by Antefoker in the earlier second millennium seems to suggest that ships bound for Punt were built by Antefoker at Coptos on the Nile bank and reassembled by the herald Ameni upon reaching the shores of the Red Sea (the "Great Green"). Inscriptions of the later third to early second millennia found along the routes across Upper Egypt's eastern desert and in the Sinai at Serabit el-Khadim mention naval titles. A text of 90 C.E. actually records the payment of tolls on a mast and yardarm carried across the desert on the Coptos/Red Sea road. Another stela of the earlier second millennium records the safe return of ships from Punt. Recently, a port of the earlier twentieth century has been discovered on the shore of the Red Sea at Wadi Gewasis. The most interesting of the twenty-five potsherds found at the port consists of four lines:

> The upper line records the capacity of the jar. The second one mentions the kind and amount of food which the jar contained. The third and fourth lines refer to both the destination of the jar (which is "Punt" in this case) and to the source of the food, which is called "The Establishment of the Herald of the portal, Khenty." (Sayed 1983: 26)

A representation on a (probably) fifteenth-century tomb shows a caravan from Punt, with asses laden and live incense trees being carried on poles by pairs of men.

The Israelite caravanserai of the ninth to eighth century at Kuntillet Ajrud was mentioned in chapter 1. The Bible sometimes takes note of a "lodging place" (*mālôn;* Greek *katalyma*) situated on a caravan route. Selman (1982: 495) explains that "nothing is known of these places, though one of them was large enough to accommodate a sudden influx of nine travellers'' (Genesis 42.27). The earliest documentary reference is found in a hymn to the Sumerian king Shulgi (2094–2047): ''I smoothed out (or enlarged) the paths, I put the roads of the land in order (or straightened the highways). I determined the danna's [measures of distance], built there (lodging-)houses, planted gardens by the side, established resting places, installed in those places experienced (men) (or friendly folk)'' (Frayne 1983: 743; Kramer 1969b: 585).[2] In the early second millennium, the Egyptian officer Seanch wrote of his activities along the desert route to the ''God's Land'': ''I transformed its valleys into gardens of herbs and its heights into tanks of water and provided it with children [servants? agents?] throughout its whole extent'' (Erman 1894: 506–7). A text of the second half of the second millennium concerned with the collection of taxes (Papyrus Turin 1874 Recto Column VIII) lists Rameses II's ''agents (*rewedjew*) of wells'' and, apparently, deploys them along the route to the oases of the western desert.[3]

With respect to the cost of overland transport, Larsen (1977a: 136) estimates that the shipment of woolen textiles some 700 miles from Assur to Kanesh raised the cost by no more than 25 percent. Using the *entire* difference between Garelli's (1963: 280) average sale and purchase prices to represent transport cost, the shipment of tin from Assyria to Anatolia raised the cost by *at most* 93 percent. Beyond these scanty Near Eastern data, there are some Roman figures. In the time of Cato the Elder (234–149), taking a disassembled mill (an oil-crusher weighing as much as 3,000 pounds) by ox-team wagon from Pompeii to Cato's farm some 100 miles away nearly doubled the cost. Information from Diocletian's Edict (301 C.E.) permits several very rough cost calculations. For example, transporting wheat by ox-wagon for 100 miles raised its cost by 75 percent, but transport by pack animal was significantly cheaper. Calculations based on Leighton's (1972: 157–60) data indicate that the carriage of wheat by donkey or camel increased its cost by no more than 60 percent of the original purchase price.[4] Making use of the administrative accounts of sheriffs involved in royal purveyancing in fourteenth-century England, Masschaele (1993: 274) shows that the transport of wheat in horse-drawn carts for 100 miles would raise its cost by an average of only 40 percent. W.H. McNeill (personal correspondence) explains that the possibilities of overland trade should not be underestimated ''in landscapes where grass grew naturally and so offered a fuel for transport that was in effect without cost—analogous to the wind that propelled sailing ships.''

B. WATER TRANSPORT

Commercial water transport—by canal, river, along the coast, or by sea—was much cheaper than overland transport. References to this traffic will be encountered in Part II, especially under the discussions of Assertions 7 (in chapter 5) and 10 through 12 (in chapter 6). A Sumerian composition celebrating the journey of the god Nanna-Suen from Ur to Nippur mentions five stops along the way "thus," as Kramer (1977: 60) notes, "providing indirect evidence of a domestic riverine trade-route that may have been utilized by merchant ships." An indication of the magnitude of shipments is provided by a letter of the early second millennium reporting an official's intention to rent ten boats from merchants and send roughly 300 metric tones of grain along the Euphrates to Mari from the port of Emar (contemporary Meskeneh, located at the river's great bend). Grain shipments are, in fact, attested to for nearly the entire year. Another letter from Mari concerns two ships carrying some 1,600 gallons of wine, and a juridical text reveals a single shipment of 1,100 gallons (Burke 1964: 70). The Mari tablets also show us the transport of millstones and bitumen. Again, a letter of the thirteenth century from Ugarit's "prefect" to the Egyptian governor in Canaanite Aphek concerns a transaction in wheat at Joppa, a Canaanite port controlled by the Egyptians at the time. The 15 metric tons of wheat mentioned were probably supposed to be shipped north along the coast to Ugarit. Perhaps the wheat originated in Egypt, or it may have been grown in Canaan and transported to Joppa for export.[5] An Egyptian letter (Papyrus Louvre E 3226) of the second half of the second millennium attests to a substantial and regular internal water-borne commerce in grain and dates. According to the Turin Taxation Papyrus (Papyrus Turin 1895 + 2006), which dates to the reign of Rameses XI, grain was collected at several towns south of Thebes and sent by boat (*ker*) to Thebes for storage. Papyrus Amiens, dating probably to the reign of Rameses VII, refers to twenty-one barges of grain (Katary 1989: 184–85). The Papyrus shows that the average capacity of an Egyptian grain barge was 650 *khar* "sacks" of about 77 quarts each (Kemp 1989: 194–95).[6]

An indirect indication of the volume and frequency of commercial transport is the evolution beginning in the mid-second millennium of the "Canaanite jar" from a rounded to a tapered or even pointed shape well adapted for stacking in ships. Stands were sometimes transported along with the vessels (B. Wood 1987: 75). Used for the bulk shipment of wine, the jar traveled widely outside Canaan, and its importation into and fabrication in Egypt is well documented. Variations on the typical configuration of the jar might have served to identify their contents, producers, or place of origin.

According to data from Diocletian's Edict, carrying wheat from Alexandria to Rome raised the cost by only 16 percent, or about 1.4 percent per 100 miles. An Egyptian papyrus yields a rate of increase for transporting grain by river in 42 C.E. as 5.9 percent per 100 miles. In the third century B.C.E., transporting marble by water some 20 miles from Paros to Naxos added 25 percent to the cost.[7] In 339/8 B.C.E., roughly 19 percent was added to the cost of boards of elm and ash by transporting them across the Isthmus of Corinth and then by sea from Cenchreae, the eastern harbor of Corinth on the Saronic Gulf, to Eleusis, situated about 12 miles northwest of Athens near the sea. A few years later cyprus logs (seventeen in total) made an even more impressive combined land

and sea journey from Sicyon in the northeast of the Peloponnesus to Delphi. Meiggs (1982: 432) adds that

> if we assume an average length of sixty feet, a diameter of about one foot, and a cypress weight of thirty-five pounds per cubic foot, the weight would be nearly a ton, and these figures are probably a considerable underestimate. To load and unload such timbers was not an easy business, and when they had been unloaded at Cirrha, Delphi's port on the Corinthian gulf, they had to be dragged some six kilometres up a steep hill to Delphi. Each timber would have needed at least two yokes of oxen. *The cost of transport, 500 drachmae, was roughly sixteen percent of the cost of the timber.* (emphasis added)

Yeo (1946: 231–32) states that "it was not until the building of the Yankee Clipper . . . that sailing ships of the modern era, even with an improved type of steering gear, surpassed the speed of ancient ships." According to Hallo (1964: 84), a speed of 30 to 35 kilometres per day downstream was not atypical for cargo boats even in the late third millennium. This speed may have involved towing the vessel. The documents also indicate an upstream speed of 9 to 10 kilometres per day. Homer also provides evidence. Odysseus (*Od.* 14.252–57) relates that he sailed from Crete to Egypt in five days. F. Meijer (1986: 15) calculates that "on the basis of a distance of 400 sea miles this means an average speed of almost 3.5 knots per hour," a high speed even if we assume a favorable wind. Meijer (1986: 277) also shows that in the period of the Roman Empire "under favourable circumstances [with respect to wind and weather] ships were able to attain an average speed of 3.5 to 6 knots, while unfavourable conditions reduced this speed to 1.6 to 2.4 knots."

Neither the speed nor the size of ancient vessels should be underestimated. In a letter of the twelfth century requesting an urgent shipment of grain, the Hittite ruler appears to credit the port of Ugarit with cargo vessels capable of carrying 500 metric tons. Indirect evidence for ships of this size is provided by the recovery of stone anchors weighing about half a ton, indicating, according to expert testimony, that one or two freighters would have no difficulty carrying 500 tons of grain. Ramessid Egypt knew grain ships that carried cargo "of over 900 sacks each, equivalent to almost forty-three tonnes and occupying 65.5 cubic metres of each vessel" (Castle 1992: 240, citing Papyrus Amiens). In the middle of the third millennium, Egypt possessed vessels some 170 feet in length. There are references to huge ships in the biblical story of Noah, the Sumerian Flood myth, and the Gilgamesh epic (Alster 1983: 52). Preliminary estimates indicate that a Greek wine ship that sank in the Aegean off the island of Alonisos in the early fourth century B.C.E. may have measured as much as 85 feet long and 35 feet wide and may have been capable of carrying as much as 150 tons of cargo (*New York Times,* April 13, 1993). Excavated Roman wine ships of the first century B.C.E. were capable of carrying from 400 to 600 tons. The ship wrecked off Albenga had room for four layers of amphoras.

The importance and regularity of trade is strongly suggested by the ancient

Near East's possession of a variety of purpose-built freighters, including Egypt's "Byblos-ships" and "Keftiu (Crete)-ships," Ugarit's "ships of the land of Ur" or "ships of the land of Mari," Sumer's "Tilmun-ships" and "Meluhha-ships," Babylonia's "grain boats" (*má-sě*), and, very probably, Israel's "Tarshish-ships" (1 Kings 22.49). Additional detail is provided in Lugalbanda and Enmerkar, a Sumerian myth preserved on tablets of Old Babylonian date, wherein the Anzu-bird compares Lugalbanda "to a 'silver-ship', to a 'barley-ship', to a ship laden with *bal-bal-e* apples, to a ship laden with shade-giving cucumbers, to ships loaded joyfully at the place of harvest" (Kramer 1977: 62). Besides specialized vessels, there is an indication that in the eighteenth century Ur specialized in production of ships for export.

Wallinga (1993: 43–45) connects Homer's broad in the beam *eikosoros* (*Od.* 9.322–23) with the growth of trade in the eighth century. Hahn (1983: 32) finds another indirect indication of the importance of archaic Greece's commercial sea transport in the fact that "Corinth and Phokaia introduced new ships, the former the *strongyle;* while the latter adapted the *triremes* for purposes of trade," and he also cites "the construction of piers and other docking facilities in a number of *poleis.*"[8]

C. STORAGE AND MONOPOLY POWER

To shed risk while economizing on relatively high costs of search and transport, ancient economies held "excess" stocks of staples against fluctuations in supply. The importance of storage for the well-being of the ancients is attested to by Rome's god of harvested grain Consus, whose very name means "storage" (*conditus;* Puhvel 1987: 151). High physical-transfer costs and search costs also operated to lengthen the transaction period or optimal trading interval of ancient firms and households. That is, they encouraged storage by outweighing the advantages of holding smaller stocks and inventories and making more frequent trips to the marketplace. The set-up costs of marketing also encouraged traders to undertake multipurpose trips and to arrange for deliveries and receipts in successive time periods.[9] The same considerations would have operated to encourage the storage of cash and reliance on long-term labor contracts—that is, the storage of labor. The characterization of the ancient economy as a "storage economy" (cf. Assertion 3 in chapter 5) is therefore understandable, but, especially in the presence of an active loan market (cf. Assertion 4 in chapter 5), it is hardly indicative of an exotic, centralized "redistributive economy."

There is a lack of conclusive data bearing on the sizes of stocks and even less on the size of the carryover of, say, grain from one year to the next. There is, however, archaeological evidence bearing on the problem. Houses in northern Mesopotamia (Umm Dabaghiyah, Yarim Tepe, and Hassuna) dating to the sixth millennium were often equipped with large, partly buried grain bins. Although its function is uncertain, note should be taken of a rather large mud-brick structure of the late fourth millennium that was excavated at Nineveh, the northern-most point for downstream navigation on the Tigris. Algaze (1986: 127), who is inclined to believe that the structure is a storehouse, reasons that "the preserved dimensions indicate that the total area of this structure, including a possible courtyard at its center, could not have been less than 300 sq. m. and may actually have been substantially more." A building of the later third millennium associated with nine domed beehive structures capable of holding an estimated 1,400 to 1,700 tons of grain was excavated, together with ovens, at Khirbet el-Kerak (Beth Yerah). This city was located at the tip of the Galilee, where two major trade routes intersected, one leading from Syria into the Jordan Valley and the other from Damascus toward the Mediterranean coast. A. Mazar (1990: 127) adds the interesting observation that "the Beth Yerah building has been compared to granaries in eastern Anatolia (at Yarrik Tepe); a stone model from the island of Melos in the Aegean dated to the third millennium B.C.E. features similar circular structures integrated in a temple(?) structure." Circular silos have also been found at Arad, at Tell Jemmeh in the northwestern Negev, and at Bir el-ʿAbd in the northern Sinai. Additional important evidence attesting to the storage of large quantities of grain is provided by the excavation of strata dating from the thirteenth to twelfth century at Tell esh-Sharia (Tell Sira). The excavated city, possibly biblical Ziklag, is situated midway between Gaza and Beer-Sheba on a tributary of the Wadi Gaza in the northwestern Negev. The findings include, in addition to a large building with thick walls and circular granary of mud-brick, a number of small bowls inscribed in Egyptian hieratic of the late New Kingdom. As reconstructed and translated by Goldwasser (1984: 85–86), one bowl mentions 33,500 liters of grain, a second mentions 145,000 liters of some substance, and a third refers to "that which arrived at the house (*per*)." The surrounding region is fertile, as is illustrated in Genesis 26.12 wherein "Isaac sowed in that land (Gerar) and reaped in the same year a hundredfold." The "Land of Gerar" is, however, subject to wide variations in rainfall and drought, a condition that would encourage storage.

Impressive granaries were discovered in large town houses in Middle Kingdom "Kahun," a large settlement in the vicinity of contemporary el-Lahun (cf. Assertion 11). The ancient town (Hetep-Senusret) was situated close to the entrance to the Fayum depression, a major center of agricultural investment during the Middle Kingdom (see "Investment in Capital Goods" under Assertion 7). Kemp (1989: 153–54) estimates that the granaries, with individual capacities of over 300 cubic meters, had a combined capacity of 2,637 cubic meters or sufficient grain to feed a population between 5,000 and 9,000 for one year: "The latter figure of 9,000 is of the same order of magnitude as the total population for Kahun that has been postulated on other grounds, namely between 8,500 and 10,000." There were also smaller granaries, "circular brick structures measuring between 1.7 and 1.93 metres across, plastered inside and out," but "in the western block, from a total of about 150 houses, thirteen contain circles [marked on the excavators' plan] large enough to have been granaries" (Kemp 1989: 155). Rather large granaries have also been excavated at Egypt's Nubian fortress trading centers. For example, Kemp (1989: 177–78) estimates that at Iqen (Mergissa) the granary capacity was more than 1,000 cubic meters (cf. Assertions 1 and 7). However, these significant numbers are dwarfed by the capacity of the granary chambers in the Ramesseum, the mortuary temple of Rameses II at west Thebes. According to Kemp (1989: 192),

> It has been assumed that all those blocks with staircases were granaries, the staircases enabling them to be filled through roof apertures. The total floor area is about 8,261 sq. metres. The storechambers were tall and vaulted . . . and it is reasonable to assume that grain was stored (perhaps in compartments) to a depth of 2 metres. This would give a total capacity of 16,522 cu. metres, or 16,522,000 litres, equivalent to about 226,328 *khar*. On an average annual ration for a working family of 66 *khar* of emmer and barley combined, the Ramesseum would have supported about 3,400 families, easily the population of a medium-sized city.

In Mycenaean Crete there are texts alluding to the storage of very large amounts of grain, the produce of between 5,000 and 15,000 acres, near the port at Kommos at a site called *da-wo* that is often paired with *pa-i-to*, probably Phaistos (the site of a palace). Jameson (1983: 11) notes the large storage facilities in the Bronze Age palaces and the temples of classical times:

> But public storage in later Greece is not conspicuous. Grain storage facilities are mentioned in an inscription from Olbia (SIG^3 495.145) and an Athenian *strategos* is commended for repairing grain stores in a fort. But the *stoa alphitopolis* in the Peiraeus (Aristoph. *Ekkl.* 685) need have been no more than its name implies, a place for selling barley and perhaps wheat.

Large-scale grain storage facilities, some sixty bell-shaped pits, dated to the early fifth century were found in an open area at Olynthos, one of the more important Greek cities on the Macedonian coast. Gallant (1991b: 97), based on comparative, archaeological, and documentary evidence, estimates that the typical Greek farm household "aimed at having anywhere from 10 to 16 months' worth of food in their storerooms."

With respect to the carryover of barley stored in various Sumerian granaries in 2047, a text cited by Parpola, Parpola, and Brunswig (1977: 136–37) mentions *se sumun* "old barley." Again, texts of the thirteenth century from Assur mention the *se sumun* and the *se gibil* "new barley." Literary texts also provide evidence. In the earlier second millennium's Atrahasis myth, the god Enlil decrees a famine. The populace survives on "old (grain)" in the first year, and in the second they "de-store the stores/storehouse(s)" (Chase 1987: 241). And in the myth of Enmerkar and the Lord of Aratta, Enmerkar "opened the door to his huge granary. . . . The king took out from the grain his old grain" (Jacobsen 1987: 301). Lastly, we may consider the impressive testimony of Leviticus (25. 20–22) with respect to carryover:

And should you ask, "What are we to eat in the seventh year, if we may neither sow nor gather in our crops?" I will ordain My blessing for you in the sixth year, so that it shall yield a crop sufficient for three years. When you sow in the eighth year, you will still be eating old grain of that crop; you will be eating the old until the ninth year, until its crops come in. (B. Levine 1989: 174)

In verse 26.10, the "old grain" (*yashan*) is contrasted with the "new grain" [*(c)hadash*]: "You shall eat grain long stored, and you shall have to clear out the old to make room for the new."

There is little information on which to base estimates of the importance of monopoly power in the ancient Near Eastern economy. Sumerian texts of about the middle of the third millennium hint that it may not have been great. The seller is "he who gives, who delivers, who *eats* the purchase price," and the buyer is "he who measures out the purchase price for good X" (*lu.X.sa*) or "he who makes or fixes the purchase price" (*lu.sa.ak*) (see Malul 1985). This terminology probably implies that the seller is typically a price-taker, not that the buyer is typically a price-maker. In any event, it is not difficult to see that Renger's (1984: 73) belief that "certainly the [Mesopotamian] villager had not much choice. He had to pay any 'price' if he needed . . . [a] hoe for survival" rests on a misunderstanding. Even if the villager's demand curve for hoes was perfectly inelastic with respect to price (i.e., vertical) because he "needed the hoe for survival," the equilibrium market price of hoes might be "low" (relative to the villager's total income) provided that there were a number of competing (noncolluding) sources of supply. On the other hand, in the case of new products marketed by temple or palace, price-making behavior is to be expected.

D. DIFFUSION OF TECHNOLOGY

The technical innovations introduced in one region did tend to spread to others. It appears, for instance, that in the middle of the second millennium a new Syrian technology for making opaque and colored glass objects was diffused to the courts of Babylonia, Assyria, and Egypt. The Bronze Age shipwreck at Ulu Burun carried, possibly to Aegean waters, a shipment of almost twenty blue, discoid raw glass ingots. Further, the excavation of glass objects all over Babylonia and Assyria is consistent with a downward percolation of the new technology. Oppenheim (1973: 264–65) suggests that the combination of "horizontal" and "vertical" diffusion contributed to a fast and effective spread of technical innovations throughout the ancient Near East.

The introduction and utilization of foreign plants and livestock was common throughout the ancient world. As Falkenstein (1967: 25–26) notes, speaking of Sumer, the "daring experiment, the transplanting of grains native to the mountains and the foothills of the Fertile Crescent on to the plains with an entirely different climate, to be grown on artificially irrigated soil, was successful to an amazing degree." To judge by the mythological roles of several gods, temples played a key role in innovating irrigation agriculture. But be this as it may, there is no doubt that this innovation was widely adopted with a resulting epochal increase in living standards (see chapter 7.A). An Egyptian medical text mentions the ''bean of Keftiu (Crete).'' The date palm probably spread from Tilmun to Sumer (cf. Assertion 7) and Crete—Pettinato refers to lists excavated at Ebla that mention the ''tree of Tilmun,'' probably meaning the date palm (cited by Howard-Carter 1987: 74). The Sumerians also credited Tilmun with the onion, for we hear of the ''Tilmun onion'' in texts from Lagash. The chicken was called the ''bird from Meluhha'' in Sumer, ''the Akkadian (Babylonian) bird'' in Syria, and ''the Persian (Median) bird'' by the Greeks in the first millennium. A text of Thutmose III hints at the recent introduction of the chicken by marveling at ''the bird that gives birth every day.'' Also in the first millennium, the Greeks called the pheasant the ''Phasian bird'' after a region bordering the Black Sea. In about the middle of the second millennium, a new species of humped bull is depicted in Egypt in two scenes, one from the tomb of Kenamun at Thebes and the other from Tura (near Cairo), wherein the ox is pulling a stone block on a sledge. Mesopotamian art portrays humped cattle in the early third millennium.

It is reasonably clear that the transfer of technology was facilitated by the migration of craftsmen (cf. Assertion 5). Such movements underlie myths such as the Greek myth of Danaos and the Danaids (Silver 1992: chap. 9.B). Danaos and his daughters traveled from Egypt to Argos, where they were granted metic status. Hesiod maintains that ''Argos which was waterless Danaos made well watered'' (cited by Evelyn-White 1936: 167). Another myth credits the Phoenician adventurer Kadmos ''East'' with introducing bronze-working and stone-quarrying and of having built certain aqueducts at Greece's Thebes, a city that he founded. The historical evidence suggests that the two-handled amphora (''Canaanite jar'') was first widely fabricated in mid-second-millennium Egypt by Canaanite vintners settled in the Delta. At the dockyards of Memphis, two individuals with Syrian names, Humasha his ''son'' Iuna, were the ''chief craftsman of the king'' and ''the chief craftsman of boats of all the gods of Upper and Lower Egypt.'' More generally, Eyre (1987b: 195) holds the belief that foreign craftsmen ''may have been of critical importance in the technological advances seen from the Second Intermediate Period onwards, particularly in areas such as metalworking, arms manufacture, glass making and glazing, and may even have influenced artistic styles, although the putative foreign origins of individual workmen are meagre evidence for stylistic or technical borrowing.''

NOTES

1. The Akkadian word *eriqqu* designates a type of wagon used to haul copper and long wooden beams (*CAD* s.v.).

2. Sumerian *e-danna* means "road-station," and *bīt bēri* is the corresponding Akkadian term (*CAD* s.v. *bēru* in *bīt bēri*).

3. Specialized caravan leaders *amy-r aw,* literally, according to Faulkner (1953: 34), "overseer of dragomans," and *hetemew netejer* (or *sedjawety netejer*), literally "seal-bearer of the god," played key roles in Egypt's southern trade in the late third millennium. Along the same line, metal payments are received by a *rabi targumannī* "overseer of dragomans" in a nineteenth-century text from Cappadocia and by a *ta-ar-ga-ma-an-num* "dragoman" in a text of the eighteenth century listing tin consignments sent from Mari to various western states. The tin in question had been transported to Mari by caravan from Eshnunna. That the "dragomans" were businessmen as well as interpreters is suggested by the designation of Assyrians as *targumannum* in commercial transactions not involving Anatolians or other foreigners (see Gelb 1968).

4. Hopkins (1983: 102–5) is justly skeptical of the extent to which Diocletian's Edict provides a reliable guide to actual transport costs. His criticisms are somewhat exaggerated, however. For example, in disputing the estimate that overland transport of wheat for 300 miles roughly doubled its cost, Hopkins (1983: 105) reasons as follows:

> To judge from scattered Roman evidence and much comparative data, twice the normal price was common in famines. [Then] wheat could have been sent overland to relieve a local famine within a radius of 300 Roman miles (444 km.). But during a serious famine at Antioch in AD 362/3 this did not happen, or not until the emperor Julian intervened personally to secure large quantities of wheat from towns only 50 and 100 km. distant by land from Antioch.

Hopkins, like Finley (1973: 127; 1985, 245, n.8), does not take into account that, despite the enlightened protests of Libanius and others, Julian had responded to rising grain prices caused by a severe and prolonged drought at Antioch with an edict of maximum prices and the sale of imported grain at prices below the market-clearing level. These well-meant but counterproductive measures served mainly to misallocate the available stock of grain (see Downey 1951: 315–19; de Jonge 1948). The problem here was not transport costs but a much more significant problem: failure to understand the economic facts of life.

O. Lattimore (1962: 481) notes that Chinese grain was carried by camel as far as 800 miles to the Mongol frontier and sold at a profit.

5. In view of the well-documented coastwise traffic involving Ugarit, Joppa, and many other ports and, in addition, a text attesting to a cargo of grain sent from Cyprus to Ugarit, there is little reason to assume with Singer (1983: 4) that the transaction in question "must have been the result of unusual circumstances."

6. A notion of the possible magnitudes of overseas carriage of grain in antiquity is provided by the claim of the Athenian orator Demosthenes (384–322) that Athenian records showed an import from Pontos of some 400,000 medimnoi or 15,000 metric tons (see also chapter 7.B). This amount, Osborne (1987: 99) observes, "is sufficient to feed about 80,000 to 90,000 people, more or less half the probable Athenian population for one year. Demosthenes never actually says this amount was imported in a single year, and it certainly should not be assumed that this much was imported *every* year."

7. Hoisting devices for loading and unloading heavy cargo were employed at least as early as the classical Greek period. Such a device is known to have been employed at Cirrha, Delphi's port, and it is possible that the remains discovered at the western terminus of Corinth's *diolkos* belong to a similar structure.

8. The construction and employment of specialized or purpose-built cargo vessels

depend not only on the volume and regularity of overseas commerce, but on the security of the sea lanes. The threat posed by pirates may explain why, as noted by Snodgrass (1983: 16–17), the Greek traders of the archaic period relied mainly on vessels combining the features of war ships and merchantmen. In sharp contrast to the sail-driven "round ships" that begin to appear on Athenian vases in the last quarter of the sixth century, the oared pentekontor required a crew of at least fifty. For an Egyptian perspective on the security problem, see the discussion of Assertion 1 in chapter 5.

9. For the economics of storage, see Alchian (1969), Fenoaltea (1976: 134–41), and McCloskey and Nash (1984).

II

Markets in Antiquity: The Challenge of the Evidence

Part II challenges Karl Polanyi's position that the ancient world, and especially the Near East, did not know market activity by confronting his factual assertions with the available evidence. The ground rules for the contest reflect Polanyi's two-pronged strategy, combining direct denials of the existence of markets with subsidiary arguments that cast further doubt on them.

Reliance has been placed on Karl Polanyi's posthumously published manuscript entitled *The Livelihood of Man* (1981). The editor of this volume, Harry W. Pearson, has included material on Polanyi's life and has contributed a useful introduction citing Polanyi's major publications and placing his thought in perspective. Extensive references and criticisms of both his theory and evidence are provided by Douglass C. North (1981) in *Structure and Change in Economic History.*

Part II originated in an article that appeared in the *Journal of Economic History* (Silver 1983a).

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5

The Existence of Markets

Assertion 1

Markets were not known in Greece at the beginning of the seventh century B.C. Indeed, for more than a thousand years before this, nations of the Near East (including the Assyrian trading station in Cappadocia) carried on an ample international trade without price-making markets (based on Polanyi 1981: xli, 146).

PRICE FORMATION AT PORTS OF TRADE

The primary focus of Assertion 1 is on foreign trade, which, according to Polanyi, was conducted at "ports of trade," where prices were determined by treaty, not by supply and demand (1981: 78–79, 94–95). It should be made clear at the outset that the specification of prices in advance—as opposed to determining them in spot transactions at the point of exchange—does not mean that forces of supply and demand are absent or irrelevant. The specification of prices in private long-term contracts serves to limit uncertainty and opportunism and to fill gaps in markets.[1]

Governmental treaties, a form of contract, might also be employed yet would still acknowledge forces of supply and demand.[2] There is ample evidence from the ancient Near East of commercial treaties and of royal correspondence dealing with matters of trade. In the mid-third millennium, for example, Assur (or Abarsal) negotiated a treaty with Ebla covering such matters as taxation, freedom of movement, damaged or stolen merchandise, and slavery. Not one of the twenty-one articles seeks to control prices. Article 3 provides that "in case emissaries [from Ebla] who have taken a journey of 20 days have exhausted all their supplies, you [Assur] must graciously, provide provisions for their stay at the trading post at market price" (Pettinato 1991: 231). Letters excavated in Cappadocia in central Anatolia reveal that in the early second millennium, local rulers provided security along the caravan routes from Assyria. The Assyrian merchants paid taxes on the goods that they carried in return for this service. (This is not to deny the presence of a monopolistic or even of a theft component in these "tax-prices.") During the second half of the second millennium, Ugarit, an important north Syrian port also mentioned by Polanyi, signed a treaty with a neighboring state legalizing citizens' partnerships (*tappūtu*) for commercial expeditions to Egypt. Another treaty laid down several provisions concerning the murder of a merchant of one state in the territory of the other. Again, the king of Tyre wrote to Ugarit's ruler about the grounding of a merchant vessel and the ensuing salvage operations, and the ruler of Egypt was urged by the king of Cyprus to forward the payment for a shipment of lumber. Two north Syrian states entered into an agreement requiring merchants seeking to sell grain or oil to obtain royal authorization. Nothing is said concerning prices in any of these examples, however. Treaties were also concluded concerning the capture and extradition of fugitive slaves. In the ninth century, Benhadad the king of Aram conceded to Israel's Ahab the right to "have (commercial) streets in Damascus, as my father made in Samaria (Israel's capital)" (1 Kings 20.34; cf. Assertion 8). More generally, the rather ample documentation demonstrates that rulers were concerned with and participated in international trade but not that they sought to set prices by treaty.

The evidence on price formation at the Assyrian trading station in Anatolia is fully consistent with the operation of market forces of the usual kind. The thousands of business documents from the station refer to changes in the demand for and supply of the main import goods (tin and textiles) and to the effects of seasonality and emergency, and they record price changes. The price changes, including a change of more than 20 percent in the price of tin over a short period, are inconsistent with Polanyi's position. So are a merchant's instruction to an agent that "if over there the market is deficient, let my merchandise travel on to Geographic Name, so that at least one mina of silver will turn up for me" and a report from an agent that Babylonian textiles are very expensive now, and "if it is possible to make a purchase which allows you a profit, we will buy for you" (Veenhof 1972: 376–77). A merchant in Anatolia informs a business associate that the price of copper (in terms of silver) has been driven up by the arrival from Ebla of numerous copper-seeking merchants: "Within the next ten days they will have exhausted its (the palace's) copper. I shall then buy silver (that is, sell copper) and send it to you" (Kienast 1960: 47). Low prices might lead to the "piling up" of unintended inventories (Veenhof 1988: 247). Other letters inform recipients that "tin is expensive here" or "silver is expensive in Wahsasama, (so) I had the copper sent to Shalatuar" (*CAD* s.v. *agru* b). A

Babylonian text of Hammurabi's time (1792–1750) consigns a large shipment of paint for sale in a neighboring kingdom "at the going market price." A Nuzi contract calls for a merchant to bring back the "price" of the merchandise he sells. The phrase *machīrat illaku* "at the going market price" occurs frequently in texts of the Old Babylonian period (*CAD* s.v *machīru* 4). The evidence for Ugarit is rather scanty. However, price fluctuations are noticeable in documents from the palace, presumably concerning imported and domestically produced goods sold or purchased by royal stores. Raw wool (*sh'rt*), for example, shows prices of 2, 4, and 7 shekels per talent.[3]

PORTS OF TRADE AS CENTERS OF TAX COLLECTION

The "ports of trade" and segregated districts for foreign merchants were probably intended by pharaohs and other rulers not so much as a "wall of contact" or barrier against alien subversion of their alleged "redistributive economies," but rather to facilitate the collection from traders (aliens and nationals) of "gifts" and "tribute," which actually amounted to ordinary tolls, customs duties, payments for monopolistic trading privileges, and the like.

Thus in the *Iliad* (7.470–43) we find Euneos "Ship-man," the "son" of the adventurer Jason and ruler of Lemnos (a large island near Troy), giving wine to the Achaian kings before selling the main part of his cargo: "Apart to the sons of Atreus, Agamemnon and Menelaos, Jason's son had given wine as a gift, a thousand measures; and thence the rest of the flowing-haired Achaians bought wine" (R. Lattimore 1951). In the much earlier Sumerian epic Gilgamesh and the Cedar Forest, Gilgamesh sought to secure permission or safe conduct to cut timber from the god Huwawa, the lord of the forest, by offering him gifts. Shaffer (1983: 308) explains that

> the traditions of the versions . . . diverge sharply at this point. In one version Gilgamesh tricks Huwawa into giving up his protection by offering him his sisters [as wives]. A second tradition has Gilgamesh offer Huwawa costly gifts for every one of his seven coats. The text is not complete, nor are all the gifts clear, but they include food fit for the gods and costly stones.

Gilgamesh's offer of his sisters and/or costly gifts along with his plea "let me enter your [Huwawa's] folk" and his promise, in the second version, "as for your folk; I would not approach them against your will" all attest to a willingness to pay for a trading concession.

Turning to some Egyptian historical evidence of the third millennium, we find that prior to Harkuf's completion of a successful trading mission in Nubia, he first *sehtep*-ed the local ruler until "he praised all the gods for the sake of the Sovereign" (Kadish 1966: 29). The verb *sehtep* generally means "to cause to be at peace, to appease, to cause to be satisfied." Thus it appears reasonable to understand that Harkuf bribed the Nubian leader with "gifts" so that he "thanked Pharaoh"—that is, he permitted trade to take place. Consistent with this interpretation, we have a tomb inscription wherein artisans praise the god after being *sehtep*-ed by the tomb's owner Idu, and another wherein Sekhemʿankh-Ptah claims to have "*sehtep*-ed the heart of his lord." Harkuf, moreover, was not the only commercial agent who boasted of having *sehtep*-ed a foreign ruler in pharaoh's behalf. One of these, Sebni, who traveled to Nubia to recover the body of his father Mekhu took with him, revealingly, 100 asses laden with oil, honey, and other items. But on occasion the asking price for permission to trade might be too high. In the sixteenth century, the pharaoh Kamose, in seeking to win support for an attack on the occupying Hyksos, spoke to his Council as follows: "I shall not be able to pass him (the Hyksos) as far as Memphis (or?) the water(?) of Egypt, for he is in possession of Hermopolis, and no man can alight, shorn (as he is) by the imposts of the *Styw*"—apparently the Suteans, a Syro-Canaanite people (H.S. Smith and A. Smith 1976: 59).

As opposed to the interpretation "to pay for trading concessions with gifts," Redford (1981: 7), a distinguished Egyptologist, believes that "a lot of needless and irrelevant discussion has been devoted" to the term *sehtep*. In discussing Egypt's commerce with the peoples around its periphery, Redford (1981: 6–7), after noting the paramilitary forces that accompany Old Kingdom caravan conductors and their frequent epithet "he who puts the fear [*nerew*] of Horus among the foreign lands," goes on to argue as follows:

> *But if one is accompanied by a terror-inspiring army, what need is there to acquire them by trade? Will not the inhabitants willingly surrender their goods, or voluntarily bring them to the king as "benevolences" [ienew]?* In many cases, especially in Nubia, this is probably what did happen. The epithets of the caravan-conductors make no mention of trade, at least in the sense of "barter" conveyed by the later term [*shewty*]. Instead they call themselves "he who brings the products of the foreign land to his lord" or "he who brings royal luxury goods from the foreign countries." (emphasis added)

For reasons good or bad but always explainable, force (or bribery) has often played a prominent role as handmaiden or midwife of trade between nations. Thus, in discussing the growth of long-distance trade, North (1991: 100) well notes that "the problems of enforcement en route were met by armed forces protecting ship or caravan or by the payment of tolls or protection money to local coercive groups." Osborne (1987: 101) notes that Greek grain ships might be intercepted even by friendly cities, and he cites a mid-sixth-century black-figure cup depicting a merchant vessel about to be rammed by a trireme (fig. 33, 102).

The mere presence of military might and the fact that the traders' epithets do not refer to *how* they acquired the royal goods do not make it "probable" that the natives were plundered. The Egyptians themselves spoke of the need to protect their personnel and valuables (Berlev 1987: 150–51). Perhaps, then, the arms they carried were needed primarily to instill the "fear of Horus" in plunder-minded natives. Contrary to Redford's (1981: 7) position, references in Egyptian texts of the First Dynasty to the "*hacking up*" of town so-and-so may reflect the foundation of new settlements rather than a "punitive intent." For the Egyptians (and Romans) the hoe, the instrument of "hacking," was a symbol of foundation (see Nibbi 1978; and for Rome, see Scully 1990: 18–19). To return to *sehtep,* surely Idu, the tomb owner, did not (brow)beat the artisans until they handed over their labor as a gift.[4]

In the sixth century, Amasis forbade ships to trade outside Naucratis, a depot on the westernmost mouth of the Nile given to the Greeks (Hdt. 2.178). His objective was to concentrate traders to lower his tax-collection costs. According to Herodotos (2.179), "whosoever came to any other mouth of the Nile must swear that he had not come of his own will, and having so sworn must then take his ship and sail to the Canopic mouth; or, if he could not sail against contrary winds, he must carry his cargo in barges round the Delta till he came to Naucratis" (Godley 1925). Sais, the capital of Egypt at this time, was not on the Nile, and Naucratis served as its port. In the fourth century, Nectanebo I granted the temple of Neith one-tenth of the royal taxes collected on seaborne imports to Naucratis. A.B. Lloyd (1975: 28) adds that "the levying of such a toll and the gift of the proceeds to a temple has a clear parallel in the Ptolemaic Period, when the Famine Stela informs us that at the First Cataract the god Chnum of Elephantine received 10 percent on all trade passing that point." Similarly, but much earlier (in the nineteenth century), Sesostris III required Nubian traders to halt at Heh (Semna) or to leave their boats behind and continue overland some 30 miles to the trading station at Iqen (Mergissa) (cf. chapter 4.C and Assertion 7). Again, the purpose was undoubtedly to extract taxes more easily. Lorton (1974: 114, n.4) discusses a difficult text from the reign of Thutmose III that seems to compare the taxation of Egyptians with the obligations of Nubian traders; the latter are described as "bearing all (kinds of) good deliveries which are brought as wonders of the south, obligated with (the procurement of) trade goods [*bakew*] every year, like all the subjects [*mi nedjet nebet*] of my majesty" (cf. Bleiberg 1984: 76).

Our emphasis has been on "ports of trade" as facilitators of royal taxation. However, Helck (1987: 17–18), speaking of the Eighteenth Dynasty, maintains that "foreign merchants, mainly from Phoenicia, were *compelled* to sell their more valuable goods to state institutions" (emphasis added). Of course, it is possible to visualize situations in which forced sales and monopolistic resales would be a more efficient method for extracting monopoly rents than (forced) taxes alone. The problem is that the only evidence cited by Helck is a tomb-painting showing Phoenicians selling their "higher valued merchandise such as slaves, Syrian bulls or metal vessels" to the mayor of Thebes. This scene is simply incapable of demonstrating that "foreign merchants could not sell their goods to the people of Egypt directly but had to conform to the Egyptian state economy of this period."

Texts of Thutmose III cited by Lorton (1974: 139–44) attest to his receipt of goods from distant lands (e.g., Hittite Anatolia and Crete) in return for the *tjaw en anekh "breath of life."* Also, after exchanging incense for various Egyptian goods (or permitting this trade), the rulers of Punt asked Hatshepsut's "messengers" whether they (probably their own "messengers") might "come to his majesty, so that we could live by the breath of life he gives" (Liverani 1979a: 26). In the fourteenth century, Akhenaten granted the "breath of life" after receiving the goods of "Syria, Nubia, the West, and the East" (Montet 1968: 144). Bleiberg (1984) provides additional examples of foreigners paying Egypt's ruler for the "breath of life." We may infer that the grant of Egypt's air is the grant of trading rights. To use Liverani's terms, these rights and not "exclusively ideological recompense" were the "real thing" sought by the rulers of Punt. In evaluating this hypothesis, it is well to note that, together with the "breath of life," Thutmose III permits foreigners "to be on the water of his majesty." The metaphor *hen mewem* "to be on the water of" means "to have economic relations with," according to Lorton (1974: 87–88, n.4, 139, n.11).

The Egyptian "notion of 'Life' was materialistically conceived and was consciously associated with the thought of 'victuals' " (Liverani 1990: 234–35). Mernephtah (1224–1214) praised himself for sending food to the Hittites: "The Asiatics to whom I let grain to be shipped on boats, in order to keep the Hatti land alive." Liverani (1990: 235) cites this passage and notes perceptively that "the Hittites were short of grain, not of silver." During the New Kingdom, the payments made to Egyptian rulers by foreigners (and Egyptians) seeking trading rights and concessions fell, together with tributes, under the accounting rubric *ienew*. Bleiberg (1984) suggests that *ienew* represents contributions to the king's "privy-purse." Duties are mentioned in the Amarna letters.

Similarly, in an Old Assyrian text a creditor's agents monitor his debtor's purchase of tin and cloth in the interest of his "coming to live, becoming healthy" (Veenhof 1985: 113; cf. *CAD* s.v. *balātu* v.). "Life," as Veenhof (1987: 56–57) notices, is "the outcome of sound (profitable) transactions."

There are indications that the "House of the Great Green" was Egypt's Bureau of Customs in the first half of the first millennium. For Mesopotamia, a Sumerian inscription informs us that "Tilmun-ships" brought wood to Lagash's ruler, Ur-Nanshe (2494–2465), as "tribute." But Vanstiphout (1970: 17–18) notes that in one text Ur-Nanshe "mentions his wood shipments immediately after his constructions in Erinkimar," Lagash's seaport, and he then suggests that "the mention of the wood as tribute should be taken with a pinch of salt: it was obviously a business transaction set up presumably by a guild of specialized merchant venturers working under a royal privilege—somewhat like the European East Indian companies of later times." Concrete evidence that Mesopotamian "ports of trade" served as centers of tax collection comes from the reign of Ur-Nammu (2112–2095), who, in the context of taxation, refers to the "detaining" of ships of the Magan traders at the *ki-sar-ra* "registry place" (Jacobsen 1960: 184–85). Urukagina's even earlier inscriptions complain about the "toll of the big gate" and the "registry places" located "from the border of [the god] Ningursu to the sea'' (Pomponio 1984: 97–98). In the eighth century, the Assyrians established an institution they called the *bīt kāri* at ports and inland trading stations. The fiscal function of the institution is illustrated by an agreement in which the Tyrians were permitted to ''enter and leave the quay stations . . . (and) sell and buy''—that is, they did not have to pay customs on their lumber—but were forbidden ''to sell it to the Egyptians and the Philistines'' (Elat 1978: 27). Somewhat later, the Assyrians opened the ''sealed'' *kāri* of Egypt.

Assertion 2

Markets for food and other necessaries represented a threat to social solidarity. Instead of supply-and-demand-determined prices, the ruler (as representative of the gods) declared simple quantitative equivalencies to allow grain, oil, wine, and wool to be substituted for each other. A few main staples were received and given out at the palace gate (based on Polanyi 1981: 61, 134).

VARIABILITY IN GRAIN PRICES

In fact, the evidence does not suggest that Near Eastern governments as a general rule controlled the price of grain. There is evidence of a grain market (cf. Assertion 3) and of the operation of market forces. Documents of the third millennium reveal steep variations in barley prices. Piotr Steinkeller (personal correspondence) has called my attention to texts in which one shekel of silver purchased 10 or 20 or 120 quarts of barley. He also informs me that sale documents for barley, oil, and dates ''distinguish between the prices of the good year [Sumerian *mu-he-gal-la*] and the prices of the bad year [*mu-mi-gal-la*].'' Beginning in the mid-third millennium, we find transactions that refer to the current price of barley in terms of copper or silver (cf. Assertion 9). For example, ''*ubda* 'at that time' (one gur of) barley was (worth) 1 shekel of silver'' or ''*ubda* 'at that time' 1 sila of barley was (worth) 3 shekels of copper'' (see Powell 1990: 89, 91). In a text of the very late third millennium, an official reports to his king that he has purchased a substantial quantity of grain for shipment to the capital city, but now the price has doubled (cf. chapter 4.A). The balanced silver accounts (cf. Assertion 11) show that the range in the price of grain (presumably barley) equals 65 percent of the median price. A literary document from about the same time speaks in proverbial terms of ''the merchant—how he has reduced prices! How he has reduced the oil and barley!'' Kramer's (1981: 266) interpretation is that the merchant ''presumably reduced prices to attract customers, and then reduced the weight on the sly.'' Whether or not this is its meaning, the proverb certainly conveys the impression of market behavior. In Assyrian texts from Cappadocia, wheat and barley typically sell for about 5 and 3 shekels per sack, respectively. However, prices of 7.5 and 10 are noted for wheat, and barley sells for 5.3 shekels per sack in one tablet. Another text orders the sale of grain because its price is high (*kurrum batiq she'am dināma*) (Veenhof 1972: 383, n.510). Some Assyrian contracts of the eighth and seventh centuries stipulate that the sale took place in a year of hardship as measured by the high price of grain. A letter to the Assyrian king Assurbanipal, informing him about current grain prices in three provinces, includes the expression *machīru damqu* "good prices."

RESPONSE OF GRAIN PRICES TO CHANGES IN SUPPLY AND DEMAND

Texts from seventh-century Babylonia and twelfth-century Egypt (Černy 1933: 176–77) show sharp changes in grain prices due to political disorder or the initiation or lifting of sieges. Thus in the "Tomb Robbery Papyri," an Egyptian woman cross-examined by the court concerning gold found in her home explains, "We got it by selling barley during the year of the hyenas, when people were hungry" (Montet 1981: 74–75). An interesting example is found in 2 Kings 7.1, wherein the ninth-century prophet Elisha announces that a Syrian siege will be lifted, and "tomorrow about this time a measure of *soleth* (fine wheat flour) shall be sold for one shekel, and two measures of barley for a shekel in the gates of Samaria." Earlier, in 2 Kings 6.25, it is reported that the head of a donkey sold for 80 shekels and "one-quarter *kab*" of "doves' dung" for 5 shekels. In short, Elisha recognizes that an increase in the quantity of grain supplied will lower market prices (in terms of precious metals).

The Assyrian ruler Esarhaddon (680–669) was assured by a prominent priest of good climatic conditions and "good prices." In an inscription from the middle of the nineteenth century, the king of Uruk boasts in stereotyped phrases about the low prices during his reign: "verily in the market (-price/place) of his (the king's) land, 1 shekel of silver bought 3 gur of barley [instead of the usual 1 gur], or 12 minas of wool, or 10 minas of copper, or 3 ban of sesame oil! May (all) his years be years of abundance!" (Powell 1990: 93, n.74). Powell (1990: 93) maintains, citing the Sumerian grammatical parallels, that the low prices cited in the Old Babylonian encomia to low prices of barley and other goods reflect the forces of supply and demand, not price controls (cf. chapter 8 in this volume). Similarly, a Sumerian literary text of as early as 2000 called "The Curse of Agade" causally links exorbitant prices of grain, oil, wool, and fish with the breakdown of land and sea communications and drought and adds that the latter commodities were bought like "good words."[5] For Athens, we may point to a speech from the Demosthenic corpus (fourth century B.C.E.) noting that grain prices were driven down by the arrival of a grain shipment (Millett 1991: 192).

There is evidence of seasonal variation in grain prices in Mesopotamia and, possibly, in Egypt. A seasonal pattern is, of course, the result of upward-and-to-the-left shifts in the supply curve of grain in periods after the harvest, due to positive storage costs. The magnitude of seasonal variation in prices is at least roughly reflected in late third- to early second-millennium Mesopotamian loan contracts in which the interest rate on grain loans (33⅓ percent) is 13⅓ percentage points higher than on loans of silver. To understand this, note first that grain loans were usually taken out before harvest, when prices were relatively high, and repaid immediately after the harvest, when prices were relatively low. Consequently, in a free loan market the interest rate on barley would exceed the rate charged on silver. More concretely, assume an interest rate of 20 percent on silver, set the price of one unit of barley at sowing time at one unit of silver, and let X be the seasonal fractional decline in the price of barley. Then a loan of one unit of silver would (upon repayment) increase the lender's command over barley by $100[(\frac{1.20}{1-X}) -]$ percent. If X equals 0.10—which, to judge by an eighteenth-century-B.C.E. Babylonian seasonal price change cited by Leemans (1950b: 28–29; 1954: 32–33) and, for that matter, by seventeenth-century-C.E. price changes in England and Belgium (McCloskey and Nash 1984: 182), is not totally unreasonable—a silver loan at 20 percent would increase the lender's command over barley by 33⅓ percent. To do as well, the lender would have to charge 13⅓ percentage points of interest more on a barley loan than on silver. Similar forces are reflected in a late nineteenth-century-B.C.E. contract in which an individual who borrowed one mina of silver to buy barley just before the harvest is obligated to repay not a physical quantity of barley, but one mina's worth just after the harvest. The evidence indicates that the ancient economy responded in the usual way to the usual economic forces of supply and demand (compare Renger 1984: 96).

Assertion 3

Ancient Near Eastern governments engaged in massive programs of storage and redistribution of staples. Goods received by the palace as taxes or rents were given directly to final consumers as payments or rations (based on Polanyi 1981: 115).

MIDDLEMEN IN THE GRAIN MARKET

The importance of storage of staples was noted and discussed in chapter 4. Here attention is directed at Polanyi's elimination, for all intents and purposes, of a role for market exchanges with food producers and middlemen. That Polanyi had in mind mainly the ancient Near East is demonstrated by his references to "the Sumerian city states and their enormously enlarged replica, the Pharaonic empire" and to the "storage-cum-redistribution methods practiced by early Sumeria and its Mesopotamian successors" (1981: 59, 65, 134). Staples, at least beyond subsistence requirements of the direct producers, are allocated by governmental authority and not by the market mechanism. To this extent, ancient

Near Eastern economies are portrayed as large, hierarchically organized firms (cf. chapters 2.4 and 3).

A scholar of similar bent, S.C. Humphreys (1978: 56), probably had Rome in mind when she attributed "most of the corn trade in the ancient world" to the "collection of corn as tax or tribute." But Hopkins (1978: 309) compared estimated total grain exports in the first century C.E. from Egypt (and elsewhere in Africa) to Rome with the total tribute grain. He concluded that as much as two-thirds of the total export was available for purchase by private businessmen and government. Indeed, wax tablets of 40 C.E. from a suburb of Pompeii show two freedmen dealing in grain imported from Egypt and demonstrate that private businessmen were very much involved in grain storage and speculation. In one tablet, a trader pledges 45 tons of wheat as collateral for a loan.

With respect to the Mycenaean "palaces" (cf. chapter 3), Melena (1975: 15) notes that in the Linear B tablets at Knossos "unlike the Pylos ones there are hardly any cadastral records, and the production of grain recorded is very poor." Thus the possibility arises that Crete's palaces *purchased* grain abroad or from local producers. In any event, there is no evidence suggesting a redistribution economy in grain. The evidence for Mesopotamia is both more ample and more explicit. The early documents show us private ownership of land, a land market (cf. Assertion 6), and, as we have seen, grain sales. The latter activity is illustrated in the Sumerian "Debate Between Ewe and Grain," wherein the god Enki declares Grain the winner in the lines "whosoever possesses gold, or silver, or cattle, or sheep shall wait at the gate of him who possesses grain, and thus spend his day" (Vanstiphout 1991: 218). It is difficult, however, to isolate the commercial roles of producers and middlemen. As Foster (1977) explains, it is usually impossible to tell whether the record of a grain shipment represents a commercial venture, a payment of taxes, or something else. Nevertheless, Foster does cite a tablet from the middle of the second half of the third millennium conveying barley to a merchant, and he mentions that a female entrepreneur named Ama-e as well as a certain Gininu and his associate Sunitum dealt in grain. Foster (1977: 38) also calls attention to

> ship manifests that contain such varied cargo that . . . commercial enterprises seem the best explanation for them. A single such shipment includes jars of oil, animal hides, brewing ingredients, legumes, spices, sea fish, fatted animals, barley and flour, under the charge of a slave or servant of an untitled person. The grain and flour are measured with the standard metrology one often finds in commercial texts.

A receipt from the same period found at Gasur (later Nuzi) states that someone named Zuzu gave Ate, the merchant, barley which was to be sold in a nearby district. Barley is commonly listed among goods on hand in the balanced silver accounts of merchants of the twenty-first century (cf. Assertion 11). Veenhof (1978: 283) cites a document from the Assyrian trading station in Cappadocia attesting to the purchase by traders of substantial quantities of barley and wheat resold at a profit. Another text confirms that private merchants stored grain in granaries; one of these merchants owned 1,500 sacks of wheat.

Babylonian texts of the earlier second millennium reveal granaries stated to be privately owned (or at least having no apparent connection to temple or palace) doing business with the general public. That private individuals stored grain in private granaries is confirmed by paragraphs 120 and 121 of Hammurabi's Code, legislating default and storage charges. We learn from an eighteenth-century tablet the price paid for a large quantity of barley by someone termed "the Tilmunite," probably a merchant who exported grain to Tilmun (Bahrain). Also during this century, texts from Mari show us a businesswoman who, according to Batto (1974: 61), pursued extensive commercial activities in grain. The retail sale of bread in the Old Babylonian period is attested to in a letter: "I have no hired man who would grind the barley (for me) so we have been eating bought bread" (Oppenheim and Reiner 1977: 385, n.3). Grain loans were frequently made by individuals designated as *tamkāru* "merchant." Recall the Old Babylonian contract mentioned earlier, a loan of one mina of silver to be repaid after the harvest by one mina's worth of barley. Leemans (1954) suggests that the business of the borrower was to purchase barley from farmers in the countryside, whereas the lender was possibly an urban dealer in grain. Later we find several tablets of the mid-second millennium at Nuzi that advance gold to be repaid in barley after the harvest.

A Nuzi tablet of the middle of the second millennium refers to people journeying to the "community of merchants" to purchase barley. Again, in the fourteenth century, temple granaries at Nippur accepted private deposits of grain kept in compartments under a store intendant. For the thirteenth century we know of at least one Assyrian firm owning large quantities of grain and making grain loans. Indeed, Assyrian tablets of the second half of the second millennium attest to discretionary transfers of privately owned grain stored in (apparently) privately owned granaries. For example, "(barley and harvesters) belonging to the [*bīt (c)hashēme*] (granary) of Kasshe, scribe (and) *qēpu*-official, son of Nushu-sharděni of the city Kurda, (were) debited to Tūra-Adad son of Andil-Ishtar-ki of the city Ilimenanashar" (Harrak 1989: 63). For Ugarit we find a letter dealing with the transport of 500 metric tons of grain purchased by the Hittite king at Mukish (cf. chapter 4.B). In another tablet the king of Ugarit declares that the trader Sinaranu, the son of Siginu, is "exempt from duty. His grain(?), his beer, his oil shall not enter the palace" (Strange 1980: 102). The epic Hittite text cited in chapter 4.A portrays a caravan of merchants bringing "large amounts" of barley. The Bible provides evidence of grain merchants in eighth-century Israel: "Listen to this you who devour the needy . . . saying, 'If only the new moon were over, so that we could sell grain; the Sabbath, so that we could offer wheat for sale' " (Amos 8.4–5). Private speculation in grain is indicated in Proverbs 11.26, one of the "Proverbs of Solomon": "He that withholds grain, the people shall curse him; but blessing shall be upon the head of him that sells it."

Pharaonic Egypt is allegedly the epitome of a redistributional society. Jacob J. Janssen (1982: 253) claims that

> Egypt's economic structure as a whole can best be described as organized on the principle of redistribution, which means that the surplus of peasant households was collected by the authorities, state and temple, in order to be redistributed among particular sections of society: officials, priests, the army, necropolis workmen, and so on.

Markets, Janssen adds, "if present at all, would have played a peripheral role only." Similarly, Helck (1987: 17) recognizes "small marketplaces" that had, however, "no influence on the economy of the country at all" (cf. Kemp 1989: 251). This picture of the economy, despite its seemingly factual references to the relative importance of markets, lacks a factual foundation. In an earlier article, Janssen (1975b: 131, 185) admitted that the evidence is so scanty that "for the present, a study of the redistributional system in all its aspects seems the only possibility." However, Janssen is excessively pessimistic.

In the late Ramessid "Tomb Robbery Papyri," a wife asked by the authorities to explain how she was able to purchase servants replied, "I bought them in exchange for garden produce" (Papyrus British Museum 10052, 10.14–15). Kemp (1989: 243) explains that "though her words may sound naïve she clearly hoped to be believed and was, in effect, basing her case on being able to grow cash crops on a significant scale, a most important point in itself." Both Janssen and Helck, it would seem, underestimate the potential importance of periodic markets in so-called "peasant societies."[6] Of course, not very much is known about peasant markets in Egypt or in ancient Western Asia (Lemche 1985: 193). Nevertheless, we do have some evidence about the potential for and presence of grain markets in Pharaonic Egypt. It is known, for example, that private ownership, as well as sale and leasing of land, is found throughout Egyptian history.

Texts of the third millennium record grain loans (*tjabet*) that designate the creditor as "its owner" (*nebes*). In an inscription of the third millennium, Qedes of Gebelein mentions his ownership of boats and granaries of Upper Egyptian barley. Merra of Dendera, an "overseer of priests, who is privy to the treasure of the god," speaks of his granary filled with "Lower Egyptian grain and emmer" (Fischer 1968: 116). A farmer's letter of about 2000 B.C.E. (cf. Assertion 13) refers to the sale of emmer and to interest-bearing grain loans. Grain loans made by Egyptian merchants (*shewtyew*) to cultivators are noted in Papyrus Lansing, which dates to the later second millennium. In the mention of merchants connected with high officials, Janssen (1975b) himself finds a hint of grain sales by large estates in the same period. In his survey of "El-Amarna as a Residential City," Janssen (1983: 282) notes the presence in the "North Suburb" of an "exeptionally high number of silos (eleven) on the plot of residence T 35.9, which otherwise does not look really grand, [and] could indeed be explained by suggesting that a grain-merchant lived there." A "prophetic" Egyptian text titled "The Admonitions of Ipuwer" includes the complaint, "Behold he who had no grain is (now) the owner of granaries. He who took grain on loan issues it" (Lichtheim 1976, II: 170). There would be little point in this particular example of the reversal of fortune if Egypt had known grain distribution only as a Pharaonic monopoly. The papyrus dates from 1350 and 1100 but, reportedly, the language and orthography may indicate an original in the second half of the third millennium.

All this may not matter to Janssen (1983: 282, n.71), who, retreating from his earlier position about the absence of data for market behavior, now asserts that he "does not mean that no land-owner ever traded his *surplus* in grain. We are dealing with the structure, not with individual cases" (emphasis added). The word "surplus," of course, suggests that the landowners did not consciously and regularly produce a "surplus" of grain in order to sell it. (The fallacy that trade depends on the partners having "surpluses" is disposed of by economists Alchian and Allen in chapter 4 of *University Economics.*) More basically, Janssen's remarks make explicit what had been implicit: Ancient Egypt's "redistributional economy" is a matter of *assumption,* a matter of faith, and as such it is incapable of being contradicted or confirmed by "individual cases" or, indeed, by many "individual cases." Interestingly, as the evidence mounted against his view of the ancient economy, the late Moses Finley (1985: 182), like Janssen an implacable enemy of economic theory, began to appeal more to historical and sociological "models" as opposed to "the continual evocation of individual 'facts.' " But, as someone once said, "Facts are stubborn things."

Assertion 4

Temple and palace were the main providers of harvest credit in the ancient world (based on Polanyi 1981: 141).

As noted in chapter 1, the temples of the ancient world served as places of worship and centers of commerce. Glotz's (1926: 304) suggestion that "finance was born in the shade of sanctity" has much to recommend it. Nevertheless, Piotr Steinkeller (personal correspondence) maintains that practically all loan documents from the middle to the end of the third millennium concern loans made by private persons. Fish (1938: 162) provides examples from late-third-millennium Nippur in which the usual rate of interest is 33⅓ percent, but rates of 30⅓ and, in one tablet, 20 percent are also found. An Egyptian text (Gurob Fragment L) of the second half of the second millennium mentions *at en mes* "interest-grain," thus raising the possibility that the pharaoh made interest-bearing seed loans or charged interest on overdue harvest taxes (Katary 1989: 200). For the Middle Kingdom, a badly preserved inscription records the claim of Hennew: "[He (i.e., Pharaoh) made me] . . . concerning loan[s] (of grain) . . . food(?), and treasures of the [products(?) of] the Oasis [*Wehaet*]" (Giddy 1987: 54).

The evidence regarding grain loans is most complete, however, for Babylonia in the earlier second millennium. The documents show that both private persons and temples loaned out barley. But this rather oversimplifies the situation, because, as Leemans (1950b: 12–13) explains, there were three variants of the temple loan: loans made by private persons and the deity; loans made by *nadītu*'s (priestesses of the sun-god Shamash); and loans made by the deity alone. At Sippar, at least, priestesses appear to have made the largest percentage of barley loans.[7] But the exact relationship between the temples and these women, the daughters of wealthy families and even kings, is uncertain. In any event, only in the case of loans "by the deity" do interest rates seem lower than those charged by private lenders.

The royal granaries, used mainly to provision soldiers and the like, also gave out loans of barley. The Babylonian evidence for palace loans, however, appears to be confined to the period after the reign of Hammurabi, who is known to have instituted various reforms, including maximum interest rates on barley loans (cf. chapter 8).

Assertion 5

Ancient banking served to make markets unnecessary. Neo-Babylonian bankers dealt directly with agriculture. Not until the late Middle Ages did long-distance wholesale trading become a source of capital for more speculative ventures (based on Polanyi 1981: 141–42).

CREDIT AND INVESTMENT MARKET

Assertion 5 is obscure, to say the least. If Polanyi means to deny the existence of Mesopotamian firms providing nonagricultural loans, he is mistaken. It is true that the evidence for very early periods is thin and ambiguous. For example, Sumerian tablets dating from about the middle of the second half of the third millennium record barley loans to individuals of various occupational categories, including stockraiser, dealer in tar, tradesman, courier, and business traveler. In one instance, it appears that the borrower's purpose is to purchase a house. It is not really clear, however, whether the loans bore interest; nor is it known whether the lender(s?) "Amarezem" was acting as a palace employee or as an independent businessman (Bauer 1975). We do know, on the other hand, the names and a good deal about the affairs of several members of a class of professional money-lenders that operated in Mesopotamia, despite high transaction costs, for many centuries—from the late third millennium through the first half of the second millennium. One late-third-millennium text from Nippur is a loan of silver "for partnership"; another reports a loan of silver to a baker. There is also an interest-bearing loan for the barley rations of the "female mill workers." Indeed, the early part of the second millennium provides numerous lending contracts of an entirely commercial nature. A woman of Ur, for example, lends three partners barley and silver for hiring a crew and boats for a trading venture. Another tablet from Ur lends a "considerable amount of barley" to two "weaver-women of the god El of the Amorites" (Diakonoff 1986: 229–30).

Possibly the barley was intended for the workers in the women's (priestesses'?) textile establishment. Temple loans made jointly by a private person and the deity sometimes expressly state that the loan is for business purposes; in many other cases the purpose is not stated, but the amount of silver seems too large for consumption purposes. This is not to say that small loans were necessarily for consumption, however.

Garelli (1963: 262) informs us that the recorded purpose of loans to Assyrians in Cappadocia corresponded to commercial objectives. A tablet provides that when the borrower returns from Cappadocia and repays his loan, "he may retain one mina of it and 'do business' with it on two (more) overland journeys" (Oppenheim 1974: 232). So well established were the trade patterns that traveling merchants often repaid loans to representatives of the creditor, who drew up quittances and forwarded them to the debtor's representatives for presentation to the creditor. Eighteenth-century tablets from Alalakh deal with loans of silver for "capital" (for trading purposes?). A particularly interesting source of information is the Edict of Ammisaduqa, the tenth ruler of the Hammurabi Dynasty in Babylonia. The Edict, which dates to the seventeenth century, legislates against attempts to disguise interest-bearing loans as advances for the purchase of merchandise or as merchandise for a business trip or as a commercial partnership. The Edict, it should be understood, canceled debt obligations. A case in point may well be provided by an Old Babylonian text from Ishchali, a city located at the junction of the Diyala and Tigris rivers: "3 kors barley/ hire of boats/ taken as *melqētu* by Nur-Tishpak/ the boatman-/ which carried/ reeds/ for baskets" Greengus (1986: 43, 57). This suggests that the *melqētu* was apparently a kind of account-book loan of goods that were to be repaid on terms and conditions well known to the traders but not specified in the account entry. However, this format would have served nicely to hide the charging of interest and the true rate of interest from the king's market police.

At Nuzi private lenders gave interest-bearing loans to merchants for "business ventures." Assyrian contracts of the seventh century rarely specify the purpose of loans, but in one case the purchase of donkeys is involved and in another the borrower appears to be a caravan leader trading in grain. Documents of roughly the same time from Babylonia record business loans and, in addition, often specify the kind of business to be engaged in (for instance, a trading venture). Note in this connection the standard phrase "to lend money for overland business activities" (Oppenheim 1947: 119, n.3).

The presumed absence of limited liability on equity shares (see later in this chapter) does not raise an insuperable barrier to risk sharing and the pooling of large amounts of capital by entrepreneurs. To begin with, the Neo-Babylonian trading partnerships called *(c)harranu* might involve substantial sums of silver, as is clear from Shiff's (1987: 109) discussion of several contracts. Again a tablet from Ugarit refers to an individual about to undertake a "voyage to Egypt" with four backers. During the nineteenth century, Babylonian investors (private and temple) provided funds to merchants participating in the Persian

Gulf trade. At roughly the same time, a tablet from Anatolia conveyed silver to an Anatolian for making profit, of which two-thirds were to belong to the Assyrian investor. On a grander scale, the merchant houses involved in the Assyrian trade with Anatolia were financed by means of long-term partnerships called *naruqqu,* literally "sack" (*CAD* s.v.). The one complete contract so far discovered shows that the capital involved amounted to the substantial sum of 33 pounds of gold. It would appear that the trader or manager of the "sack" was himself entitled to one-third of the *nēmulu* "profit" earned during the twelve-year life of the agreement, and the other contributors were to receive the remainder of the profit (*CAD* s.v.). The manager of the *naruqqu* also had to "stand" for one-third (of the losses? put up one-third of the capital?). The investors were denied a share in the profit of the venture if they withdrew their funds prior to the expiration of the contract; but, on the other hand, their liquidity was increased by the right to sell their share of the venture to third parties. The *naruqqātu* vividly reveal risk sharing and the "separation of ownership from control" in an ancient context. The sack-manager's reputational and financial interest in the profitability of the venture (both serving as "coinsurance") combined to reduce his incentive to misbehave and, consequently, reduced the monitoring costs that had to be borne by shareholders. Possibly the shareholders reserved the right to dissolve the contract in the event of unsatisfactory managerial performance. It is not clear from the contract whether the shares of the venture possessed the limited-liability feature of corporate equity shares.

It must not be overlooked that limited liability raises the risk borne by lenders and that ordinary debt (nonresidual claims) carries limited liability. The liability of a debt investor is limited to his investment. That highly leveraged owner-managers are tempted to behave opportunistically (e.g., by gambling with the money lent to them) is, of course, true. However, bond holders are in a position to restrain such behavior by monitoring (e.g., conducting periodic audits, as we seem to find in the Ur III Dynasty) and reserving the right to disapprove of risky managerial decisions and to call in loans on demand. We should add, however, that a lender experienced in the borrower's line of business ordinarily makes a more effective monitor. In discussing Athenian maritime loans, Millett (1983: 52; 1991: 191–93) notes perceptively that "the indications are that the complexity of maritime credit made it an unsuitable field for casual lenders without practical experience in trading." Lenders sometimes sought to forestall opportunistic behavior (e.g., borrowing twice on the same cargo or using the proceeds of a loan to make loans) by assigning an agent to accompany the borrower or even by sailing along themselves.[8] Thus, in an Old Assyrian text we find the agents of a creditor monitoring his debtor's purchases of tin and textiles in the market at Assur with the objective of ensuring that the debtor's transactions are consistent with his "coming to live, becoming healthy" (Veenhof 1985: 113). Another practice employed by Old Assyrian creditors to protect their interests is described by Veenhof (1985: 113): The "hand of the creditor is publicly ('in the gate') placed on silver (or the merchandise purchased with it; [*qatām shakānum ina*]; the loan was called [*mashakattu*]), and it is indicated that the silver/goods belong to a creditor [*tamkāru waddu'um*]), so that other contractors cannot seize it.''

In the seventh to sixth centuries, Babylonian investors might stipulate the maximum amount of their capital that might be applied to traveling expenses and prohibited managers from doing business on the side. It would be fair to suggest that the most serious problem faced by premodern multinational firms was private trade by agents. Shiff (1987: 58) cites *(c)harrānu*-contracts in which the receiver/manager (PN2) ''agrees to assume a self-guarantee: *pūt qaqqad kaspi* PN2 *nashi* 'PN2 guarantees the principal amount of the silver,' '' but he goes on to cite Lanz to the effect that normally ''the investor is effectively liable for all potential losses of capital. His liability, however, is limited to the extent of his investment.''

The commercial loan market also widened by resorting to suretyship or third-party guarantee of repayment. The Bible frequently refers to this institution (Genesis 43.9; Job 17.3; *et passim*). Mesopotamian contracts of suretyship are well known in the seventh to fourth centuries but are also found much earlier—in the second millennium at Ugarit, Nuzi, Khafajah (Tutub), and Anatolia and in the third millennium at Lagash. This is despite the Sumerian proverb of *ca.* 2500: ''Do not guarantee (for someone), that man will have a hold on you'' (Alster 1974: 15).

Call loans were given in earlier-second-millennium Babylonia, as is demonstrated by the clause ''as soon as he will ask for this (silver)'' in temple, palace, and private loans at Sippar (Stol 1982: 148). Note in this connection an especially interesting text in which an individual lends out one of the five shekels of silver he had borrowed previously from a certain Sin-ishmeanni and the moon-god Nanna with repayment ''when the god Nanna and Sin-ishmeanni ask for the money'' (R. Harris 1960: 30). Shiff (1987: 79, n.65) calls attention to Neo-Babylonian short-term debt contracts that omit ''the repayment promise . . . [and] the due date . . . and the debt-amounts are payable at any time upon the demand of the creditor.'' Besides providing a powerful weapon against debtor misbehavior and altering the distribution of liquidity (in favor of the lender), a system whereby loans are automatically renewed in the absence by positive action by one party reduces the administrative costs associated with frequent renewals of short-term commercial loans.

As early as the second half of the third millennium, we find the Akkadian word *lapātu* (Sumerian *tag*) with the meaning ''book to one's credit'' (Foster 1977: 32; *CAD* s.v. *lapātu* 1i). Quradum, a merchant who dealt in a variety of commodities, had more than a dozen credit accounts. Credit sales of oil, wool, and other goods are noted in texts of the earlier second millennium. It is possible that long-distance payments might be expedited by the use of check or letter of credit (and, possibly, the bill of exchange). For example, a text of the eighteenth century originating in a Babylonian temple calls for payment fifteen days later of lead(?) deposited with a priestess in an Assyrian temple. At Assur in the thirteenth century, a businesswoman paid for an order of bricks with a letter of credit involving wool. That earlier-second-millennium Babylonia knew negotiable loans of a two-party, promissory-note type is suggested by numbers of surviving loan documents specifying repayment not to the creditor but to the *ana nâsh kanikishu* "bearer of this tablet." In still earlier Old Assyrian loan documents, we find that the lender figures anonymously as *tamkāru* or *damkar* "businessman, merchant." Veenhof (1972: 62, n.110) explains that "by leaving the creditor anonymous the possibility was created of transferring deeds of loan as a kind of 'paper money', cf. the phrase: [*wābil tuppim shūt tamkāru*], 'the owner of (literally anyone bearing) the deed is the creditor.' " In Assyria in the fourteenth century, deed-tablets were bought and sold on the market, and in the seventh century a debt was settled by means of "a document applying to fields, . . . (documents?) applying to a house, and two documents applying to silver" (Finkelstein 1956: 141–42). Dandamayev (1984: 137) explains further that

> The intensive use of mortgaging, pawning, or pledging is connected with the development of credit in the Neo-Babylonian economic system. Property which could be mortgaged or pawned was called [*mashkanu*] from the verb [*shakānu*] "to put (down)" and the abstract substantive meaning "pledge" is [*mashkānūtu*]. However, the term [*mashanu*] had a broader range of meaning than just "pledge" proper, signifying the security for a loan, including mortgages, i.e. security involving real (immovable) property without the transfer of this property into the hands of the creditor for his use.

The sophistication of the credit system including the circulation of debts and titles to real assets as media of exchange is impressive.

Equally striking, Ugaritic *(c)harranāti* "caravans" or "commercial firms" established in Hittite Anatolia a *bīt tuppasshi* "house of tabletship" or "accounting house" that, according to Sasson (1966a: 135), functioned as a "bank" (cf. *CAD* s.v. *(c)harrānu*). Indeed, this "house of tabletship" sent gold to the ruler in lieu of providing military forces. Tablets of the nineteenth century from the Assyrian commercial stations in Anatolia show the *bīt kārim* paying 15 percent interest on loans while charging borrowers rates 30 and 40 percent (cf. Assertion 9). Apparently the *bīt kārim,* to which the large merchants belonged, had access to a "prime" rate. Admittedly, there is little evidence demonstrating the role of the demand for and supply of loanable funds in the determination of the rate of interest. We may, however, refer in this connection to a decree of the later fifth century B.C.E. in which Plotheia, a district in Attica, makes available a considerable sum of money and calls for it to be *lent out to the borrowers offering the highest interest rate* (see Millett 1991: 173–74). Given the decree's open-ended stipulation regarding the interest rate, I find it difficult to follow Millett's (1991: 176) conclusion that "the deme leased and lent how and when it suited them best and were not responsive to changing patterns of demand, even from their own demesmen."

In connection with *deposit banking,* Oppenheim (1969) calls attention to cuneiform sources of the first half of the second millennium and the seventh to sixth centuries that refer to sealed bags of silver (*kaspum kankum*) deposited with persons who used the silver in various transactions (cf. Assertion 9). There is some evidence suggesting that in the later Neo-Babylonian period, promissory notes were employed to transfer money from third parties to a lending house (the Egibi). The productive use of deposits of money would have been advantageous to both the depositor and the depositee. I find it difficult to believe that, in an economic system with the sophisticated credit instruments already noted, depositors invariably would have insisted not upon the return of equal value, but upon the same *physical* ingot (or coin) they had deposited. A significant clue is provided by the use in the Old Babylonian period of the verb *qiāpu* to mean both "to lend" and "to deposit." Westbrook (1991: 121) has observed, citing Szlechter, that this pairing of meanings is consistent with the existence of the "*depositum irregulare,* that is, the transfer of generic goods of which the transferee becomes the owner, with an obligation to restore not the same goods but the same quantity of like goods at a later date."

Further, with respect to the possible productive use of deposits, note should be taken of the rather imprecise maxim of the Egyptian scribe named Any at the beginning of the first millennium or, perhaps, as early as the middle of the second millennium: "If wealth is placed where it bears interest it comes back to you redoubled" (Lichtheim 1976, II: 135). Another lead, again difficult to pin down, is provided in the *Odyssey* (3.365–68), wherein the disguised goddess Athena announces that she will go to the Kaukônas, apparently in the Pylos area, "where a debt owed to me has been piling up, it is not a new thing nor a small one" (R. Lattimore 1965; S. West 1988: 183). For Athens in the fourth century B.C.E., we have direct evidence that one large banker unquestionably lent out his deposits. A speech of Demosthenes reveals that more than 20 percent of the banker Pasiôn's loans came from deposits (Millett 1991: 203). Unfortunately, with the exception of Pasiôn, there are no balance sheets offering explicit testimony to the extent that deposits were commingled with the assets of banker-lenders. However, additional nonquantitative examples of commingling may be cited. For example, Demosthenes also suggests that a judgment against the banker Phormiôn would result in losses to depositors in his bank. As E.E. Cohen (1992: 65, 176, n.268) points out, this argument would make no sense unless Phormiôn had commingled his assets with those of his depositors. At this time, money is demonstrably fungible (compare Millett 1991: 8–9).

Why did Greeks make deposits in banks? Obviously, they did so to keep their money safe or to conceal it from the tax collectors. But this is not the whole story. E.E. Cohen (1992: 112) demonstrates that in some cases *trapezitai* offered depositors a direct monetary return and in others they provided benefits in the form of banking services and access to business opportunities (such as participation in maritime loans).

FORMAL CLEARINGHOUSES IN THIRD-MILLENNIUM SUMER?

We come next to some very interesting texts from Umma dating to the Ur III period. These tablets refer to an organization called *bala* that collected from and disbursed to merchants such commodities as silver, foodstuffs, grain, and building materials (Hallo 1960). The word *bala* means literally "change, turn, go around, revolve," but van de Mieroop (1986: 11, n.37) points to the identification of Sumerian *se-bala* with Akkadian *shupêltum* "exchange." This evidence is not inconsistent with a perspective that the *bala* is a formal clearinghouse or "ring" of merchants whose economic contribution is, as Williams (1986: 5) explains, "the economy and convenience achieved through settlement of contracts by the *payment of differences*" (emphasis added). Typically the first step in realizing this gain is the creation of a common fund from which the member traders receive the payments due them. Note that the banks/warehouses for specie that facilitated the extinguishing of debts in seventeenth-century Amsterdam and Venice were called *giro* from Latin *gyrus* (Greek *gyros*) "ring, revolve" (see Williams 1986: 155; *OLD* s.v.). A hint of the concern of the Umma texts with differences may perhaps be detected in references to "grain left over from the grain of the *bala*" and to the payment to merchants of silver described as "belonging to [from?] the *bala*" (see van de Mieroop 1986: 11). Contemporary clearinghouses, it should be added, often simplify their accounting by calculating differences in terms of a *standard settlement price,* not currently prevailing market prices. Ancient Sumer (and Old Kingdom Egypt) was, of course, familiar with the use of "quantitative equivalencies" (Polanyi 1981: 61, 134) or accounting prices (M. Lambert 1963: 81–84). No more than today does this signal the absence of price-determining markets.

There are more than a few hints of clearinghouse activity in the Assyrian commercial station in Kanesh, although as Veenhof (1988: 249) rightly concludes, the evidence is "still far from clear." Several texts cited in *CAD* (s.v. *nikkassu* A 1a) might be quoted in this connection: (1) "If they are storing either silver or textiles, (then) make deposits into my share at the office of the *kāru,* (and thus) make my share complete for the accounting"; (2) "Personal Name's representatives will deposit in the office of the *kāru* from the account of Personal Name into the account of [. . .] at the time of my accounting"; and (3) "they should pay you (the tin which I owe you) at the time of the accounting and you (in turn) submit a claim for x minas of tin belonging to us at the time of accounting."

In conclusion, let us note a most interesting Greek inscription of the fifth century B.C.E. from the island of Thasos, a center of wine production. The inscription reads, "no one is to buy grape juice or wine *on the vines* before the first day of the month called Plyneterion" (Osborne 1987: 105; emphasis added). This regulation points to a forward market in wine but, as Osborne (1987: 105) properly cautions, "it might be a measure against a covert form of usury." In connection with the possible existence of forward markets in Greece, mention should also be made of Aristotle's (*Politics* 1259a9–19) report that, in *ca.* 600, the philosopher Thales, making use of his meteorological expertise, predicted a bumper crop of olives and, accordingly, "raised a little money while it was still summer and paid deposits (*arrhabōnas diadounai*) on all the olive presses in Miletus and Chios. . . . When the appropriate time came, . . . he hired them out on this own terms and so made a large profit" (Millett 1991: 273, n.31). This implausible anecdote testifies to the sophistication of rental contracts, at least in Aristotle's day.

CONTRACTUAL SLAVERY

The credit markets of the ancient world were made more efficient by contractual slavery. Generally speaking, an individual had the right to pledge himself or a family member as security for a loan. In the event of default, the pledged individual was legally obligated to "enter the house" of the creditor and serve him. Thus, in Crete's Gortyn Code, generally dated by scholars to the fifth century B.C.E., a *katakeimenos* is an individual who pledged his body as security for a debt; a defaulting debtor handed over in bondage to his creditor is called *nenikamenos*. Draco's laws at Athens of *ca.* 620 recognized debt-slavery, and this recognition persisted until the time of Solon and, perhaps, in later times as well (French 1964: 14–15; chap. 7.2; Millett 1991: 63–64, 78, 274. n.39). Debt-slavery also seems to be recognized in the sixth-century-B.C.E. "Laws of Eretria," a town of the island of Euboea: "If he (the debtor) does not pay, then let him (the creditor or plaintiff) seize him (the defendant)" (Cairns 1991: 305–7). For Rome, note the contract of *nexum* "binding," which flourished in the fifth and fourth centuries until abolished in 326 B.C.E. (Silver 1983c: 79, n.16, 245, n.18). In 60–65 C.E., Columella (1.3.12) notes citizens in *nexu* "bondage" who labor on large estates (cited by Garnsey 1988: 36). Dio Chrysostum (15:23), a wealthy Greek orator who came to Rome in the later first century C.E., reports that tens of thousands of men sold themselves into slavery "under contract" (cited by Barrow 1928: 12). W.V. Harris (1980: 124), without citing any evidence, dismisses self-sale and debt-slavery as important sources of Roman slaves and explains Dio's observation as "presumably metaphorical, the speaker's purpose being to show that anyone may (in some sense) become a slave; i.e. the reference to wage-slaves."

The Near Eastern evidence is ample. In the Ur III period, a man's daughter and wife were seized and put to work as weavers when he was unable to return two oxen. In addition, men of diverse occupations were put to work in grain-grinding establishments, but the texts do not reveal why they were seized. Sometimes, as at Anatolia in the early second millennium, the obligation to serve is made explicit in the loan contract: "They (i.e., Babbala and Palhasia) will pay (their debt) at harvest; if they have not paid they will enter the house of (the creditor) Enashru" (Balkan 1974: 30, n.12). In other cases, this requirement was stated in the law. For instance, Paragraph 117 of Hammurabi's Code requires defaulting debtors to enter the creditor's house and serve him for three years.[9] An Old Babylonian letter informs a man that a creditor has seized his wife and daughter and that he should return from his trip before they expire from the constant work of grinding the creditor's barley. But Paragraph 151 of Hammurabi's Code provides that one spouse might not be distrained [*nepû*] for debts contracted by the other prior to their marriage. Texts of the eighteenth century from Mari and elsewhere refer to the *nipûtu* "prisoner for debt" (*CAD* s.v.). Distrainees were apparently placed in workhouses variously called *bīt ararri* "house of the miller," *sibittum,* derived from *(t)sabatum* "to seize," and *nāparu* (van der Toorn 1986: 249, 252).

An edict from the Hittite ruler to the king of Ugarit concerning the activities there of merchants from Ura provides that "if silver of the sons of Ura is with the sons of Ugarit, and they are unable to pay, and (then) the king of Ugarit this man (meaning the debtor), with his wife, with his sons, into the hands of the sons of Ura, the merchants, he shall give them" (Yaron 1969: 72; cf. Astour 1970: 116–19). Several texts from Ugarit warn debtors that to be sold into slavery in Egypt is the penalty for default (recall Joseph). In an epic Hittite text cited earlier, a caravan of merchants of Ura carries ample stocks of various merchandise including "many *nam.ra* people" (Hittite *arnuwala*) apparently meaning "seized people, conquered people, supported people" (Hoffner 1968: 36, 39; cf. Gelb 1973: 77, 92). "Houses" of *nam.ra* people were donated to temples by private individuals, a "head wood tablet writer," a king and queen of the thirteenth century, and a foreign ruler. The previous occupations of the *nam.ra* people include cow- and horse-herder, weaver, soldier(?), maker of "long weapons," and even "priest since long ago" (Klengel 1975: 193–96). The donation documents show that these *nam.ra*'s originated outside Hatti and some, we are entitled to surmise, originated in Ugarit. Possibly, the *nam.ra* people are functionally related to the *nim* people of the Ur III "messenger texts" from Girsu, who are sometimes described as "seized" and, apparently, are under military supervision. (Note also Ur III workers designated as *dumu-dab-ba* "seized men.") The logogram *nim* meaning "up" was used for Elam by the Sumerians. Both *nam.ra*'s and *nim*'s were probably organized groups of distrainees.

Paragraph 117 of Hammurabi's Code also shows that besides being able to borrow on personal security, an individual might *sell himself* or a family member into slavery. Indeed, an Anatolian text shows a man named Habia selling himself and his family to a certain Hahua. Again, service might be for a limited time, indeterminate, or permanent. Self-sale contracts are available from the late third millennium to the earlier second millennium in Sumer and Babylonia; and from early second millennium Anatolia, mid-second millennium Nuzi, and from seventh- to sixth-century Egypt. In an interesting Egyptian contract (Papyrus Rylands 7) of *ca.* 562 B.C.E., a *bak* "slave" or "compensated Person" who sells his own and his children's services stipulates that he will not be able "to act as a private owner (= free man)'' with respect to the buyer (Cruz-Uribe 1982: 55–56).

The special importance of contractual slavery arises from its provision to the lender (or purchaser) of greater control over the debtor's (seller's) services than would be possible under an ordinary employment contract. Instead of a wage (Sumerian *a*) in money to be spent or a wage in kind that might be sold and then spent at the earner's discretion, the contractual slave received a ''barley ration'' (Sumerian *se-ba*) consisting of the basic necessities to maintain him as an effective worker. The daily grain ration per man per day was about 2 quarts of barley. As Gelb (1965a: 230–31) notes in stressing the difference in meaning between ''barley ration'' and ''wage,'' a ''barley ration'' is issued to animals, infants, and semifree workers alike. Indeed, in some Ur III texts *se-gal* ''fodder/food for animals/men'' appears instead of *se-ba* (Maekawa 1987: 68). Along the same line, in Ur III Lagash when men—*erin*-people—were called for corvée, ''they are described as 'serving their term' (*erín bala guba*) and received rations'' for thirty days (Postgate 1992: 237). (For the *erin*-people see ''Market for Free Labor'' under Assertion 6.) When these men were employed by the state outside their regular compulsory service (*erin bala tusa*), they were paid ''wages'' for twenty days. As might be expected, the *erin*-person's barley ration for compulsory service (usually about 2 liters per day) was considerably less than his barley wage (as much as 5 liters per day) (Maekawa 1989: 42, 46). According to Maekawa (1989: 43), the wage rate of the *erin bala tusa* was intermediate between the ration of the *erin bala guba* and the wage rate of workers hired on a daily basis. Nevertheless, due caution is justified with the Sumerian terminology because sometimes workers received a ''barley ration'' or ''fodder'' as their in-kind *wage* (Waetzoldt 1987: 120).

Consistent with the Near Eastern evidence, Figueira (1984: 18–19), citing Athenaeus 6.272B, notes that ''in Greece, slaves were sometimes called *khoinikometres* 'pint measurers'. . . , presumably because they drew a daily ration of a khoinix of barley meal. This amount represented a good approximation to biological subsistence.'' In addition to consuming only the basic necessities, the slave might be made to work a longer and more intense day with fewer amenities and to adopt a healthier life style (e.g., avoidance of pregnancy and childbirth) than would be chosen by a self-owned worker. The ''bottom line'' of this discussion is that the right of an individual to contract into slavery enhanced the expected productivity of his labor services and, consequently, made him eligible for a larger consumption or production loan or sale price for his labor than otherwise would have been possible. Although the Hebrew text is uncertain, the cost-productivity advantage of the contractual slave seems to be recognized in Deuteronomy 15.18, wherein the slave is said to serve ''at half the cost'' or produce the equivalent of ''double the hire'' of a hired worker.

Production loans include those for training, migration, and other types of human capital as well as for the formation of material capital. The evidence for investment in migration is taken up here. Immigrant craftsmen can be found in the Homeric *dêmioergoi* "public workers" (*Odyssey* 17.382–85) and the biblical *gerîm* "resident aliens" (e.g., Exodus 22.20; 2 Samuel 4.3). In Greek myth the Athenian Daidalos, whose name means "skillful craftsman, artist," is credited with constructing Crete's Labyrinth. The Mycenaean Linear B tablets mention workers with the personal/ethnic names "Kuprious" and "Gublious," derived from Cyprus and Byblos, respectively. Ugarit's texts take note of a "smith from Beirut." Also relevant are the many foreign craftsmen at early second millennium Mari; the Hurrian names in Babylonian ration lists of the fourteenth to thirteenth centuries; the "Asiatics" who, in the early second millennium, lived in Kahun (a town of pyramid workers in the Fayum); the skilled Levantines who worked in Egypt's dockyard near Memphis in the mid-second millennium and, in the seventh century, tended the vines at Gematen in Upper Nubia. In the Turin Taxation Papyrus (cf. chapter 4.B) of the later second millennium, we find "foreigners" paying grain-taxes to Pharaoh. Babylonia's Hurrians (typically adult males originating in Syria and Assyria) included scribes, leatherworkers, weavers, fishermen, and farmers. More concretely, in two documented instances in which Hurrians moved into or within Babylonia, they had been purchased by merchants. As already noted, the *nam.ra* people were not natives of Hatti. There are texts showing that these "seized people" received the wherewithal to establish small farms. As a precondition for elevation to a higher status, the *nam.ra* "transplantee" probably had to swear an oath of loyalty/service while holding the "mace, weapon" of a deity; hence he was termed "man of the weapon" (compare Beal 1988).

The Egyptian evidence is especially revealing with respect to the problem of voluntary migration. MacDonald (1972: 89–90) calls attention to the situation in the Twelfth Dynasty when "many great houses belonging to the nobility had Asiatic servants (sometimes from several parts of the Levant). People from the Levant went to Egypt to earn their living. . . . There were Asiatic labour settlements or cantonments in Egypt." Taking into account that Egyptian military action "was almost non-existent in Canaan in Middle Kingdom Egypt," W.A. Ward (1971: 39, n.34) deduces "that the bulk of the Asiatics found in Middle Kingdom Egypt arrived there of their own accord, seeking employment not only in the trades and professions but in lesser positions as well." More directly, Redford (1981: 15, n.46) reports that the Palermo Stone, a document of the later Old Kingdom, takes note in the entry for the Fifth Dynasty ruler Usarkaf of the *hetepew* " '*those who have come to terms*' for the foreigners [Nubians] and [this] must denote people brought to Egypt through peaceful means. . . , as distinct from the [*sekerew-anekh*], which refers to prisoners of war" (emphasis added). The latter term apparently means "bound captives" (cf. Cruz-Uribe 1986: 309). However, the meaning is not as transparent as Redford suggests, for "bound" has the nuance "distrained." For the Old Kingdom, we may also cite a decree of Pepi I relative to the pyramid town Dashur, which mentions the holding of land by *nehes hotep* "settled Nubians" (Eyre 1987a: 35). The evidence suggests that Old Kingdom Egypt was the beneficiary of considerable voluntary immigration.

The foreign craftsmen found in the cities of Iran in the late sixth and early fifth centuries should also be considered. The *kurtash,* a group of *rabbap* "bound" or "conscripted" persons (mostly including craftsmen of various national origins), are sometimes referred to by the Elamite word *marrip* "seized." However, Dandamayev (1984: 578, n.34), citing the research of Cameron, notes that in an inscription of Darius I (522–486) *marrip* corresponds to the Persian word *karnuvakā* meaning simply "craftsman." Originally (in 509–494) the *kurtash* received "rations" or "fodder" (Elamite *gal*) sufficient to live on, but in 479 or earlier, according to Dandamayev (1975: 78), they were

> paid not only in kind but also in silver. And now the wage rate became much higher . . . viz. from 1 to 8 shekels per month. The highest percentage of the *kurtash* received 3 or 4 shekels per month, that is *three or four times as much as the wage of a freeborn hired laborer in Babylonia,* where in the sixth and fifth century B.C. an adult hired man as a rule was paid 1 shekel of silver per month. At the same time prices of most products in Persia and Babylonia were approximately the same. (emphasis added)

During this more affluent period, the term *kurtash* apparently came to signify "worker," not "slave." Thus the *kurtash,* including those from Egypt, Babylonia, and other economically advanced regions, may well have chosen to come to Iran to raise their future real incomes, not by force, as Dandamayev and Lukonin (1989: 174) assume. Again, as in the case of the Egyptian evidence, we perceive, however dimly, that workers sold themselves into slavery in order to finance their migration to areas paying relatively high wage rates. Economic attraction rather than conquest probably lies behind many of the examples of dependency in the Greek world cited by Garlan (1988: chap. 2). For example, in Rhodes "most of the chattel slaves whose ethnic origin is known from the funerary inscriptions came from Asiatic regions which did not belong to Rhodes' 'peraea' (i.e., to its possessions on the neighboring mainland" (Garlan 1988: 106). Again we may cite the report of the historian Theopompus (*ca.* 330 B.C.E.) that Chios, a large island in the Aegean off the coast of Asia Minor and a major center for the production of wine and marble, was the first to make use of "barbarians purchased for money" (Garlan 1988: 38).

The same interpretation probably applies to at least some of the "escaped" or "fugitive" craftsmen noted in the Mari documents, Babylonian texts, and Hittite treaties. Brinkman (1981: 32), who has studied the Middle Babylonian rosters (mainly from Nippur) of servile workers, points out that "prisoners of war or children sold into servitude furnished at least a small percentage of this group (approximately twenty known examples out of ten thousand surveyed thus far); and others were doubtless born into laboring families." He finds "little clue," however, "as to the proximate origin of most of these workers." Unless economic motivations are ruled out on a priori grounds, as unfortunately they often are by specialists in languages and history, the most reasonable explanation is that many thousands of individuals sold themselves into slavery to finance migration and, ultimately, to gain access to the Babylonian labor market.

In light of this perspective, it is possible to appreciate Edzard's (1967: 79) observation that "the Sumerian words for 'slave' and 'female slave' [are] written with the signs for 'man + foreign land' or 'woman + foreign land,' " but to reject his deduction that these words "indicate that slaves were originally of foreign origin, kidnapped in raids or taken prisoner in war" (cf. Assertion 6). As was noted already by Falkenstein (1967), the affluence of later fourth- and third-millennium Sumer was a magnet in attracting immigrants. Edzard (1967: 79) himself notes that a Semitic word for "male slave" may have entered the Sumerian vocabulary "at the beginning of the Early Dynastic Age, when the incidents of the Akkadian migration produced a crop of slaves for the Sumerian cities." During the reign of Urukagina, about half of the weavers in the "house" of his wife Shasha (cf. chapter 2.F) were, Maekawa (1987: 53) reports, designated as "(newly) *purchased* slaves" and "a considerable number among the other weavers also had non-Sumerian names" (emphasis added). From whom, we are entitled to ask, did the ruler of Lagash, presumably its chief raider and kidnapper, purchase slaves? The most reasonable explanation is that the purchased slaves and the others with foreign names entered Sumer under contract.

Assertion 6

The French Physiocrats conceived the idea of the economy concurrently with the emergence of the market as a supply-demand-price mechanism. The innovation of markets for goods was eventually followed by the revolutionary innovation of price-making markets for labor and land (based on Polanyi 1981: 6–7).

LAND MARKET

The facts are quite different. It is true that the question of whether land might be permanently alienated in archaic Greece is controversial (see chapter 7.B). Further, written land leases become available mainly in the fourth century. On the other hand, with the exceptions of the Ur III Dynasty (2112–2004) and the Middle Babylonian period (1595–1155), sales and leases of privately owned (nonpalace and nontemple) fields are common in all periods of Mesopotamian history from the middle of the third millennium to the sixth century B.C.E. Moreover, the records of northern and southern Babylonia dating from the third millennium, the most ancient available, provide ample and conclusive evidence of sales of fields to (invariably) individuals by individuals.[10] The evidence for individual ownership becomes even more striking when due allowance is made for double counting among sellers and when so-called "secondary sellers" (actually witnesses) are eliminated (see note 13). The most conspicuous participants in the land market are temple and palace officials, merchants, scribes, and shepherds. Women participate frequently as both sellers and buyers of land. Based on their consideration of the professions and titles of buyers and sellers, Gelb, Steinkeller, and Whiting (1991: 17) explain that in the third millennium "practically anyone could be either a seller or a buyer. This is especially important for the fields, since this evidence shows that landed property could be sold and consequently 'owned' by private persons and not exclusively by the temples or state as claimed until recently."

For example, a text from Lagash of the mid-third millennium lists among the sellers of parcels of land the *lugal.gana.me* "big ones of the land," whose number includes a woman, and the *tur.gana.me* "small ones of the land," also including a woman (Glassner 1989: 83–84). The obelisk of Sargon's son Manishtushu (2269–2255), according to Bottéro (1967: 114), "lists the lands he has acquired for sums adding up to something like 650 pounds of silver; there are about 650-odd acres of arable land in four large lots, each made up of parcels bought from individual proprietors (ninety-eight in all) and handed out by him to forty-nine new occupants" (but compare Gelb, Steinkeller, and Whiting 1991: 16). The sellers are designated as *be-lu gan* "lords of the field."

But the evidence for land sales is especially abundant for the Old Babylonian period. In a large number of early second-millennium texts recording the sale of small parcels of privately owned arable land in southern Babylonia, the vendors *appear* to be groups (not individuals) in only 30 percent of the cases. Although the eminent Soviet Assyriologist Diakonoff (1974b: 49, n.13) would like to identify these "groups" as "family communes," he admits that the "kinship relations of the individual vendors between themselves is in such cases not always indicated." He adds, with respect to the sale of date plantations and gardens, that in both the north and south the percentage of group vendors is insignificant. Along the same line, in seeking to relate inheritance laws to "underlying economic structures," Skaist (1975: 244–45) concludes that "the sale of land by more than one person, e.g. partners, is rare in comparison with the sale of land by one individual. Moreover, the sale of land by a single individual is made without reference to any permission that may have been granted by the members of the family that one would expect if we were dealing with joint property." In attempting to rebut this hard evidence, Skaist is able to offer only the thought that perhaps the sellers were acting as "trustees." This evidence, and that presented later in this chapter, discredits Diakonoff's (1974b: 51) claim that "private property in the modern sense was not known in any of the ancient societies."

Important data testifying to a land market in the early second millennium are also available in Akkadian documents from Susa, a city in Iran on Mesopotamia's border. Land sales are found, as are sharecropping agreements and fixed-rental contracts. Numerous deeds attest to the individual nature of land tenure. Children, having inherited their father's wealth, might divide it among themselves by casting lots and selling their property individually. In fourteenth-century Assyria, heirs to a landed estate might sell claims on the inheritance prior to the announcement of the details; the buyer received the option to "choose and take" from among the portions of the inheritance (in the scholarly literature this practice is called *Gattungskauf* or nonspecific sale). More generally, individuals were able to sell land termed *zittu* (inherited) as easily as land termed *shi'amātu* (purchased). Deeds of landed estates were deposited with creditors to secure loans. Sales of privately owned agricultural land, including the land of defaulting debtors, are also recorded in the early and later second millennium at Alalakh and Ugarit. Women appear in texts of Ugarit as purchasers and sellers not only of land but of farmhouses, olive trees, and vineyards. For instance, Bat-rabi and her son Shubammu sold land to Tallaya daughter of, and so on. Further, an important text lists by name those individuals of two villages who owned fields in a third village. The text does not explain how the outsiders acquired their fields, but purchase is certainly not excluded. We may also note the patriarch Abraham's purchase of land for silver in Genesis 23.12–18.

Fragmentary land price data are available for Babylonia in the earlier second millennium. For one northern Babylonian city, Sippar, R. Harris (1975: 277) provides land rents, classified by irrigation area and date (indicated by the ruler's name), that show considerable variation. The field prices assembled by Stone (1977: 272) for Nippur in central Babylonia likewise vary substantially over time. Texts from Nuzi show steep variations in field prices even when account is taken of whether the field is irrigated or adjoins a watercourse (Zaccagnini 1979: 5–6). A later-second-millennium cuneiform letter fragment found at Tell Aphek, in Hallo's (1981) hypothetical restoration, conveys the idea that articles (houses and fields?) in short supply sold at high prices. Admittedly, sources of the observed variability in land prices would be difficult to isolate and quantify. On the other hand, it is fair to say that the evidence provides little comfort to those who, like Polanyi, would deny a role for supply and demand in determining land values.

The security of land transactions was enhanced by the inclusion of defension clauses in deeds of conveyance wherein the seller promised to "stand up (in court)" and "clean, clear" the property in question from claims raised by third parties. Survey maps of fields incised on clay tablets are well attested to in the later third and second millennia and were sometimes cited in litigations. At the same time, opportunism in the rental market was curbed by contractual provisions demanding briefly that the orchard be "returned in good condition to its owner" or stating in technical terms the cultivation practices the lessee was expected to follow: "He shall spade the orchard; of the blossoms he shall take care; for any damage to the grove he will be held responsible." Possibly the damages mentioned in this early second-millennium lease were to be assessed by a group of witnesses: "Any deterioration of the orchard they will estimate and he shall refund" (Pruessner 1930: 219, 232). In the middle of the second millennium, the lessee of a palm orchard was required to redig its ditches, dredge its canals, break up its fallow ground, and take care of the offshoots and fronds.

An Assyrian lease of the seventh century appears to call for the lessee to put funds in escrow from which the damages to capital goods might be deducted. Reflecting a long legal tradition (see later in this chapter), Babylonian contracts of the sixth century provide that the animals are "deathless"—that is, the lessee had to replace any losses of stock. The same effect, it may be noted, was achieved in the Greek world by the lease of "iron livestock" and the legal designation of livestock as *athanatos* "immortal" (Préaux, cited by Vidal-Naquet 1986: 196–98).

A clear appreciation of opportunity costs is manifested in a provision of an Old Babylonian lease calling for the renter to pay the owner of an ox a sum equal to the value of the services or income forgone (*a-bi*). In Pharaonic Egypt, oxen are mentioned under the rubric "its hoof is money." A provision of the Lipit-Ishtar lawcode shows that as early as the twentieth century the Babylonian government was prepared to enforce contractual agreements that, in the economist's terminology, transformed negative externalities into internalities—that is, into costs for the economic agent causing them.

> If adjacent to the house of a man the bare ground of (another) a man has been neglected and the owner of the house has said to the owner of the bare ground, "Because your ground has been neglected someone may break into my house; strengthen your house," (and) this agreement has been confirmed by him, the owner of the bare ground shall restore to the owner of the house any of his property that is lost. (Kramer 1969a: 160)

Baer (1962: 25–26) notes that "private individuals could own farm land at all periods of ancient Egyptian history," and the "acquisition of fields for private purposes is . . . mentioned, from the earliest periods." In the mid-third millennium, the mother of the entrepreneur/official Metjen conveyed her estate by means of an *amat-per* "house document." Somewhat later in the third millennium, we encounter such testimonies as "I 'sealed' a field of 23 arouras" (Greek *aroura* represents Egyptian *setjat,* about two-thirds of an acre); "I bought twenty head of people and the 'sealing' of a large field" (Fischer 1961b: 49). The "sealing" refers, of course, to a deed. Baer (1962) explains that a term *nemehew-na*-land means "privately owned." The term is found in a document of the late Twentieth Dynasty (Papyrus Valencay 1) and in the late Twenty-third Dynasty, Stela of Ewerat. Ewerat states that he purchased land from private owners. It seems clear that these *nemehew* are private owners. Eyre's (1987b: 209) suggestion that they are a class of persons holding royal land in return for rendering military service is contradicted by the evidence that their plots were alienable and their payment of money or crop-taxes directly to the royal treasury. Documents quoting prices for fields are relatively rare. When, however, the available price data pertaining to different historical periods are compared, they display wide fluctuations. Relatively low prices are noted for well-water-irrigated land and for "tired" land. Eyre (1987b: 204) notes that rental contracts are unknown in the New Kingdom. However, a rental contract of the sixth century calls for the landlord to receive one-third of the grain crop while the tenant is to take "two-thirds in the name of oxen, seed-grain, and men" (G.R. Hughes 1952: 18, 75). The lessor also reserves the right to restitution for damage to his land.

INDIVIDUAL VERSUS TEMPLE AND COMMUNAL LAND OWNERSHIP

The hypothesis advanced by Deimel (1931) and Falkenstein (1974) and built upon by Polanyi (1981) and Finley (1973: 28; 1985), that in mid-third millennium Sumer most (if not all) agricultural land was owned by temples, has been demolished by reconsideration of the evidence. The hypothesis that temples owned most of the land is also defective for Egypt and probably for Mycenaean Greece.[11] As already noted, the earliest records of land sales provide conclusive evidence of individual ownership of real property.

It is important to add that there is no evidence of a transition from the "communal" to the "individual" form of ownership. Gelb, Steinkeller, and Whiting (1991: 17) explain that, in any event, any such transition would affect

> only real property, since it is clear that chattels were privately and individually owned as early as the Fara and Pre-Sargonic Period [25th century] and probably much earlier . . . [A]lready in the earliest periods the actual "owners" (= primary sellers) of sold real property were either single individuals or, at best, nuclear families. This, in our view, precludes any possibility of a truly familial/communal ownership of land during the time span [the third millennium] with which this study is concerned.

Nevertheless, it is in order to devote additional attention to the question of communal versus individual land ownership in antiquity. The first point is that the "groups" of vendors cited by Diakonoff (1974a) and others may actually consist of *witnesses,* not vendors. The need for lengthy lists of witnesses to validate sales of land would diminish whenever the palace (or temple) itself played a role in registering land transfers. For example, forty documents from the royal archives of Ugarit effecting the transfer of land and houses bear the imprint of the dynastic seal, and the lengthy list of witnesses is absent. Contracts not sealed by the ruler included a witness list. Dynastically sealed property transfers are also known at Alalakh and Tell Brak in northern Syria. More directly, a tablet from Ugarit records that a certain Abdiya gave the ruler gold and silver, when, in the presence of the ruler, he transferred his home, fields, and other property to his grandson. The land sales recorded in rather difficult-to-interpret southern Mesopotamian contracts of the twenty-seventh through twenty-sixth centuries were made, according to Edzard (1967: 75), "for the most part, not by individuals but by families or clans," and the tablets have been found "individually and not in archives, as they are private and not public records." But in the politically centralized Ur III Period, we do not find "multiple sellers"; there are no sales of fields, but single sellers predominate for orchards, houses, and chattels (Gelb, Steinkeller, and Whiting 1991: 16–17).

Private sale contracts of the early second millennium from Mari show that the *shapitum* "judge" or "provincial governor" received a payment, probably a registration fee. Babylonian texts of the fifth century B.C.E. actually refer to a *kalammari* or *karammari* "registry" of real estate maintained by the king. Earlier texts refer, albeit more vaguely, to the rubric *lē'u* "list" (Stolper 1977: 259–66). Similarly, in the Greco-Roman sphere we find that a Locrian foundation of the Greeks in the later sixth century B.C.E. was governed by a "covenant about the land" providing that "they shall distribute the valley portions. Let exchanges be valid, but exchanging shall be done before the magistrate" (Fornara 1977: 35).

Genesis 21.25–30 not only illustrates our point but seems to argue the advantages of fees for state registration.

> Then Abraham reproached Abimelech [king of Gerar] for the well water which his servants ["subjects" is probably a more accurate rendering[12]] had seized. But Abimelech said, "I do not know who did this, you did not tell me, nor have I heard of it until today." Abraham took sheep and gave them to Abimelech; and they two made a covenant. And Abraham set aside seven ewe-lambs of the flock. And Abimelech said to Abraham: "What mean these seven ewe-lambs which you have set apart?" He replied: "You are to take these seven ewe-lambs from my hand, that it may be a witness that I dug this well."

Note in support of the realism of the underlying property structure that paragraphs 17 and 18 of Tablet B of the twelfth-century Assyrian laws recognize private ownership of wells and irrigation ditches. Also, the Dakhleh Stela of the earlier first millennium reveals that privately owned wells (*mew nemehew*) existed side by side with those owned by pharaoh (*mew Per-aa*).

There is a good reason why witnesses to land sales might be confused with vendors.[13] The stage, so to speak, is set for this difficulty by the fact that it is eminently reasonable for neighbors of a vendor of land to serve as witnesses. Note in this connection the legal formula in which eyewitnesses are termed "men of the *place* and the word." Again, Theophrastus (*ca.* 370–*ca.* 287) mentions a law of Thurii, a Greek city in southern Italy, requiring that the three neighbors closest to land that has been sold receive a coin "as a memory and witness" (cited by Gernet 1981: 239, n.52). It is not at all surprising that after considering seventeenth-century tablets from Susa, Henrickson (1986: 5) found it "sometimes possible to demonstrate that certain witnesses to [land] transactions owned other land along the same canal." *The problem is that kin are likely to be among the vendor's neighbors.*[14] Eloquent testimony for this fact of ancient life is provided by the fact that *adfines,* the Latin word for "kinsmen by marriage," has the literal meaning "neighbors" (Heurgon 1973: 108). Thus the mere naming of the vendor's kin in a land sale contract does not constitute convincing evidence for "communal ownership" or even an extended family group (cf. Diakonoff 1985: 53–54). What does one make of the following situation? An Old Babylonian tablet from Dilbat, south of Babylon, records that Iddin-Lagamal purchases from the sons of Hambija "improved property . . . adjacent to Ishtar-rabi'at." However, another purchase tablet shows that this neighbor of the "sons of Habija" was also a "child of Habija" (Yoffee 1988: 122).

Another point of some importance is that land sale contracts might include the approval of those relatives of the vendor who had been granted an annual income from the property in question by the parent(s) of the vendor. This is attested to in Egyptian contracts until very late times. The statement "there is no claim (against the property transferred)" followed by a list including anyone descended from the seller's parents (as, for example, in the Karnak Stela of the Seventeenth Dynasty) provided buyers with blanket protection against legal challenges in a most economical form. Note also in the same connection the application of the legal term *ul imutta* "they will not die" to animal stock given by a Babylonian to his daughter in the eighteenth century. We are dealing here, of course, with an annuity. Oppenheim's (1955: 90) reasonable interpretation is that the stock "continue to pasture with the head of the family; their yield in lambs, wool, cheese, and hides constitute the income of the daughter." Surely, then, the daughter would have to grant permission for the sale of the stock and, probably, of the pasture as well. Similarly, a wife might have to agree to a sale because she had a lien on her husband's land for the return of her "dowry" in the event of divorce (cf. chapter. 2.F; Muffs 1969: 33, n.3). Communal property is beside the point.

The Hungarian Assyriologist Komoróczy (1978:9) disagrees with Diakonoff's views on the importance of communally owned land in the first half of the second millennium: "The 'land community' (in the original sources *uru* or *ālum*, both meaning 'city') . . . is in my opinion nothing more than an organization of civil rights. It has no economic role, it has nothing to do with proprietorship, and the alienation of landed property takes place outside its authority; the lands are in private ownership." There is evidence from the ancient Near East, however, that communal ownership or control over agricultural land is not, as is so often supposed (e.g., by Leemans 1983: 58), an original or pristine form of organization. In Mesopotamia, according to Diakonoff (1974a: 535), "the nuclear families which had begun to play the major role under Hammurabi *again* yielded place to the household communes of the Kassite period" (emphasis added). But the position that household communes were important prior to Hammurbi is an assumption not a documented historical fact. Komoróczy (1978: 12) simply states that "on the former irrigable lands in the south (hardly or not irrigable by now) tribal landed property appears." This change, he adds, "is not the remainder of archaic conditions, but the phenomenon of re-archaizing well-known in ethnography." But why did "re-archaizing" take place? Unfortunately, little seems to be known about Kassite economic and administrative policies beyond the famous *kudurru*'s they employed, beginning in about 1400, to make land grants and give tax exemptions (cf. chapter 1). Economic and tax policies are also obscure for the earlier Old Babylonian period.

Consideration of the much more ample European evidence raises the possibility that "re-archaization"—that is, the land commune—is an adaptation to the imposition by the state of joint responsibility for taxation. Typically, the state chooses this mode of taxation in order to economize on the costs of monitoring individual incomes. Once this is done, one's neighbors and, now, tax partners, are understandably on guard against shirking and other tax-shifting behavior. Even the growing of novel crops might be frowned upon as an attempt to evade one's tax obligations. At the very least, the corporation of taxpayers would demand veto power over the entry of new tax partners via land sales. Once transformed into a "peasant," the previously independent farmer will emphasize household reproduction not so much because of a behavior trait eschewing profit but because the collective mode of taxation limits his ability to accumulate capital.

Toumanoff's (1981: 183) findings on the evolution of the Russian commune justify quotation:

> During the two centuries between 1600 and 1800 the existing organization of independent peasant householders sharing forests, pasture lands, and streams, gradually evolved into the serf commune, consisting of from 5 to 150 households. The serf commune was responsible for payment of obligations to the lord, distribution of land among its members, decisions regarding the choice and tilling of crops in the open fields and so on. Two types of commune evolved: repartitional and hereditary. The difference between the two types lay in the practice of periodically repartitioning the scattered strips according to varying criteria of household size. Households in the hereditary commune held their scattered strips in hereditary tenure, and had the right to sell their strips subject to approval by the commune officials.

Documents from Mari appear to provide evidence for both collectively owned agricultural land and collective taxation. One often-cited text has a "clan," literally "house," of Awin of the Rabbeans, a herding people, assign a field as a *nachālum,* usually translated as "hereditary portion," to an individual made into a "brother" by a legal fiction. Another Mari text records sheep-taxes (*miksu*) levied on various *(c)hibru*'s "clans, tribes" (*CAD* s.v.). These documents should be interpreted in light of others suggesting that the royal administration of Mari followed a policy of settling migratory steppe-dwellers for purposes of income (rent and taxes) and military security (Batto 1980; T.L. Thompson 1978: 9).[15]

When the income from a publicly (or at least royally) granted landed estate or a territory serves to compensate the recipient(s) for the performance of a public function, inalienability and even indivisibility are understandable. Real estate is well suited to the support of public functions since, generally speaking, it is more difficult to dissipate a field than most other capital goods. Hence, monitoring costs are relatively low, and in the event of unsatisfactory performance by the recipient the public might (without undue losses) repossess and transfer the estate. In medieval Europe under the contractual arrangement best termed "lordship,"[16] if the vassal failed to perform adequately ("felony") the lord might confiscate the fief (*commissum*). Similarly, we find in the *Odyssey* (16.424–29) that the *dêmos* "public," angry about the behavior of a *basileus* "judge, magistrate, chief," wished to "eat up his substance and abundant livelihood" (R. Lattimore 1965). Redfield (1986: 34) explains that the office of the *basileus* "has a kind of home farm for its own maintenance; . . .[and] had also a *temenos,* a special allotment of agricultural land, [which the officer] . . . could hold . . . so long as he held his special status." The Mycenaean Linear B texts point to the presence of craftsmen, including smiths, required to perform labor service but not paying production taxes on their land. They may very well correspond to the *dêmioergoi* "public workers" of the *Odyssey.*

Contracts from antiquity spelling out in detail the mutual obligations of "lordship" are, apparently, unavailable. However, Paragraphs 36 through 38 of Hammurabi's Code prohibit a "bearer of dues" from selling his "field, orchard, or house" or deeding them to his wife, daughter, or creditor. No doubt the *eqil kurummati* "fiefs" ("fields of maintenance") held by chariot warriors (*mariyannu*) in second-millennium Syria, Anatolia, and Egypt were indivisible and inalienable. While Hittite practices are not well understood, it appears that the vassal (*ishchiul*) did not have the right to sell his fief, and, with the exception of inheritance by a son, new fiefholders had to be selected or approved by the king. It is known that in Ugarit and Assyria royal servicemen classified as *nayyālu,* "the man who did not perform his obligations," might have their fiefs (Ugaritic *ubdy;* Akkadian *pilku*) confiscated and transferred to new servicemen or sold. In passing, note Heltzer's (1988: 11) observation "that the word *pilku* in the Akkadian of Ugarit originally also meant divided land-plot, as did *temenos* in Greek." According to Speiser (1955), *nayyālu* is derived from *nālu* "to recline." Heltzer (1976: 53–54) presents a text from Ugarit wherein the king transfers a fief from the *nayyālu* to his niece; specifies that in the future the fief is to be transferred only to "a certain Nurishtu, the sons of Yarimilku, or the *sākinu* (*skn*) of her household (majordomo)"; and calls for the performance or payment of *unusshu.* The Hebrew cognate of the latter term, *nwsh* meaning "land tax," is found in Isaiah 33.8 and 1 Kings 10.14. In another text from Ugarit translated by Heltzer (1982: 20), the house and fields of the *nayyālu* are taken and given to an individual who is "freed from the leatherworker and put . . . to the bronze-caster." "Take (away) and give," *nashû-nadānu,* the standard legal formula for the transfer of land, finds its biblical Hebrew equivalent, according to Labuschagne (1974: 179–80), in *lqh-ntn:* "And he (the king) will take your fields, and your vineyards, and your olive yards, even the best of them, and give them to his servants" (1 Samuel 8.14). Again, paragraph 46 of Tablet 1 of the Hittite laws of the middle of the second half of the second millennium provides that if a craftsman does not perform the service due from his fief, the fields will be reclaimed by the palace.

It is not difficult to provide additional illustrations of the practice of the using of land to support public services. Hammurabi of Babylon refers, in a letter, to the peg that marks out the field of the metal-workers. The creation of commercial fiefs is found at least as early as the middle of the third millennium at Lagash, and in a text from Ugarit the king provides one Abdihagag with a fief and calls for him to perform merchant service. Old Kingdom Egypt's *(k)hentej-sh* (feminine *(k)hentet-sh,)* literally "the one in front of the place of work," apparently held royally (or temple) owned plots of land, orchards, and pools or irrigation basins in return for rendering services to various kinds (Eyre 1987a: 35–37). Other Old Kingdom texts employ the term *ahet* to denote land held by priests in return for sacerdotal services. The Abydos Decree of Neferirkare refers in the context of tax exemption to "any priest who is on the god's land and does priestly service for it" (Strudwick 1985: 192). Similarly, the Bible's priestly Levites were not permitted to sell the fields granted to them surrounding the forty-eight Levitical cities "in the midst of the possession of the children of Israel" (Leviticus 25.34; Numbers 35.1–8; Joshua 21.1.42). Mettinger (1971: 81) sees the fields of the high priests Abiathar (1 Kings 2.26) and Amaziah (Amos 7.17) as sacerdotal fiefs. Consistent with this proposal, legal texts from Ugarit show priests and a *dr khnm* "family/college of priests" holding royal fiefs. A literary text from this port has a deity holding a royal grant, and in the earlier second millennium the god Adad wrote from Aleppo to the king of Mari requesting a *nichlatum.*

Another important point in judging the realism of claims on behalf of communal land is that, especially in preindustrial societies, a preference, statistically speaking, for intrafamily land sales is understandable even in the absence of laws or customs frowning upon alienation. Sales within the confines of the family may merely reflect residential proximity or, more important, the process by means of which joint ownership previously created by inheritance or marriage is dissolved and transformed into individual ownership. This aspect of the dynamics of family trading patterns has been dealt with statistically in Marcus' (1983) excellent study of Aleppo's real estate market in the mid-eighteenth century C.E. While no comparable study exists for the ancient Near East, T.L. Thompson (1974: 281–84) has brought together several division of inheritance contracts for the first half of the second millennium. We see, for example, a son giving silver for the inheritance share of his paternal uncle in a text of the early second millennium from Nippur. Transactions of this sort are explicitly sanctioned in paragraph 38 of the Laws of Eshnunna: "If one of several brothers wants to sell his share (in a property common to them) and his brother wants to buy it, he shall pay" (Goetze 1969b: 163). Again a text from Nuzi records an agreement between two brothers in which one gives the other title to three sheep he had inherited and receives in return exclusive title to an inherited field. And Esau, we may recall, sold his "birthright" to Jacob (Genesis 25.29–34).

Three brothers are shown buying out the share of the fourth in the family property in a tablet from Ugarit. Paragraph 1 of Tablet B of the twelfth-century Assyrian laws also regulates joint inheritance, but here division is by birth order, not by purchase. Leichty (1987: 227) has discussed a text of the mid-eighth century from Babylon wherein Shalaja and his two brothers resolved a dispute concerning an inheritance:

> The dispute between them concerns a piece of real estate in Babylon. They sue each other but then settle out of court ("listen to each other"). In accordance with the settlement Shalaja buys his brothers' interest in the Babylon property for four minas of silver and the brothers renounce all claims against the real estate and against any part of Shalaja's two shares of the inheritance.

Egyptian texts of the first half of the first millennium also attest to the division of joint inheritances by means of side-payments, and Hobson (1985: 224–25) presents a number of examples drawn from Roman Egypt. But proximity and joint ownership do not offer a full explanation of why intrafamily land sales (and other transactions including loans) occur more frequently than would be expected on the basis of chance alone. The addition of the altruistic motive in the decision-making calculus improves but still does not complete the picture. Account must also be taken of the fact implicit in Marcus' study, that trading with members of one's own family serves to reduce, perhaps significantly, transaction costs (cf. chapter 2.D).[17]

SLAVE MARKET

The main Near Eastern terms that are usually rendered as "slave" are the following: *arad* and *ir* for males and *geme* for females in Sumer in the third millennium; *(w)ardu* for males and *amtu* for females in the Old Babylonian period; *ardu* for males and *amīlūtu* for females in the Middle Babylonian period; *ardu* and *qallu* for males and *amtu* and *qallatu* for females in the Neo-Assyrian and Neo-Babylonian periods. Nuzi adds *taluchlu* to the Akkadian terminology and Ugarit employs, besides *ardu* and *amtu, ʿbd* for males and *amt* for females. The key Egyptian words are *hem* or *rem,* in the Middle and New Kingdoms, and *bak* male and *baket* for females in the Saite and Persian periods and sometimes in the New Kingdom (cf. Vinogradov 1991a: 151; 1991b: 163, n.4).

There is not the slightest doubt that the ancient Near Eastern world knew an active, legally recognized market for slave labor. This is documented from the middle of the third millennium in Mesopotamia and from the sixteenth century in Egypt. A slave market is well documented in Egypt from the sixteenth century, and Vinogradov (1991b: 151) refers to documents of the first half of the third millennium, including one from the Sixth Dynasty, that demonstrate the existence of a slave market.[18] A contract selling a slave from the Assyrian trading station in Anatolia states that the document was written before an official, "the chief of the market." Officially witnessed slave sales are also found in the texts from Nuzi. Some evidence about prices is provided by texts from early second-millennium Sippar. It is observed that slave sale prices display pronounced variations even when the slaves are classified by sex and time period (by the name of the ruler). A pair of tablets from Mycenaean Knossos (Crete) appear to be extracts from slave sale contracts. However, as Olivier (1987) cautions, the exact semantic value of the term *su-ra(-ko)* "has bought" is not yet entirely clear.

A rental market for slaves and, again, familiarity with the opportunity cost concept, is evidenced in paragraph 22 of the Laws of Eshnunna: "If a man has no claim against a[nother] man, but nevertheless distrains the other man's slave-girl, the owner of the slave-girl shall [decla]re under oath: 'Thou has no claim against me' and he shall weigh out silver as much as the hire of the slave woman" (Yaron 1959: 169). An Egyptian document (Papyrus Berlin 9784, line 22) includes the instruction "buy for yourself two days of the slave Henut" (Peet 1932: 169). The Greek world was familiar with contracts in which rented slaves were "immortal"—that is, the lessee was obligated to replace rented slaves that died or disappeared (see the preceding section, "Land Market"). Babylonian documents revealing a willingness to invest in slaves by apprenticing them to learn trades (potter, dyer, weaver) are available from the time of Hammurabi and also from the time of Cyrus (sixth century B.C.E.).

As in the case of the land market, the market for slaves was made more efficient by contractual warranties making the seller responsible for claims by third parties. Thus, for example, an Egyptian woman swore "as (the god) Amon lives and as Pharaoh lives" that the slave she offered for sale did not belong to "anyone in the whole land who will be able to claim(?) him tomorrow or after tomorrow," and she added, "as to him who shall speak (object?) let not his utterance be heard in any bureau of writing" (Bakir 1952: 29). "Utterance, voice" *(k)herew* is a technical term for written pleadings, which are found as early as the third millennium (cf. chapter 2.A). In addition, Assyrian sale contracts of the eighth century include risk clauses in which the seller guarantees against flight and certain illnesses. To the same effect, buyers were empowered to initiate a legal action under Paragraphs 278 and 279 of Hammurabi's Code. If the slave exhibited symptoms of *bennu* "epilepsy"(?) within a month from the date of the purchase, the seller was required to refund the purchase price. Garlan (1988: 54) notes similar stipulations in the fifth-century Greek world. Contractual and legal warranties of this kind are understandable in the case of slaves, a relatively expensive durable good whose "defects" might be taught to the seller by experience but would not be visible to potential buyers by means of direct inspection. Plato (*Laws* 11 916a) was well aware of the problem.

If a man sells a slave who is suffering from phtisis or stone or strangury or the "sacred disease," as it is called [epilepsy], or from any other complaint, mental or physical, which most men would fail to notice, although it be prolonged and hard to cure . . . [I]f

> any professional person [a doctor or a trainer] sell any such person to a lay person, the buyer shall claim restitution within six months, saving only in the case of epilepsy, for which disease he shall be permitted to claim within twelve months. (translation of Garlan 1988: 54)

It seems probable that buyers also utilized trial rentals as a protective device. Hammurabi's Code provides a warranty against *teb'itum* "searching"(?). Possibly this obscure provision has to do with a trial inspection period of three days (see Gurney 1983: 23). Along the same line, after calling in line 22 for the purchase of "two days of the female slave Henut," the previously cited document continues in lines 25 through 28: "He said 'I am fully and completely paid with the price of (my) slave. As Amon endures, and as the Ruler endures, if the two days are unsuitable [*shemm*, literally "hot"] which I have given you in the female slave Henut, compensation (a refund?) shall be given piece by piece (of silver)' in the presence of many witnesses" (Wilson 1948: 144–45). (According to Lorton [1977: 58, n.239], "hot" is an "idiom for the slave's inability to work.") Perhaps a trial rental also underlies a clause in an Assyrian slave-sale contract of the first millennium that calls for the payment "to be bound to the foot" of a god. This technical expression recalls clauses in the Nuzi documents requiring that the so-called "brideprice" or indirect dowry to be "bound in the hem" of a daughter—that is, set aside for her (cf. chapter 2.F).

In various ways, then, the ancients sought to limit the severity of a problem identified by economists as adverse selection, or "the lemon principle" (Akerlof 1970). This refers to an economy lacking contingent markets in which an inequality of information between sellers and buyers about the quality of an object initiates a process in which market transactions come to be restricted to objects of below-average quality. To understand this process, imagine a distribution of slaves over a quality scale. If consumers know the mean quality but have no additional information about the quality of individual slaves offered for sale, then bids will be based on this expected value. Owners, knowing their slaves to be of below-average quality, will be willing to sell at a price reflecting mean quality, while at least some owners of above-average slaves will decide to withhold them from the market. It follows from this reasoning that the average quality of slave sold will be below that of the entire slave population. As a result of this adverse selection process, buyers will eventually adjust their bids downward, again lowering the quality of slaves offered for sale and the volume of trading.

Against this, an individual seeking to purchase a slave did not have to rely exclusively on estimated mean quality, inspection, and contractual/legal warranties. The reputation of the seller might also play an important role. For example, during the early Roman Empire, skilled expensive slaves were sold in shops rather than in the temporary facilities erected for periodic auctions of lesser-quality "merchandise." The commitment of the supplier to permanent and relatively expensive quarters and his investment in reputation operated to increase the confidence of buyers in his product. In Rome information about nationality, health status, and tendency to run away was conveyed by means of legally required placards worn by slaves on the platform. Also, a slave not guaranteed by the seller might wear a cone-shaped felt cap called a *pilleus* (Greek *pilos; OLD* s.v.). Egyptian contracts typically noted the parentage of the slave. Beyond this, the availability of quality signals is well illustrated by a letter (Papyrus Bologna 1086) of the late thirteenth century: "I have made inquiry in (the case of) the Syrian of the temple of Thoth about whom you have written me. . . . For your information, his Syrian name is Neqdi, son of Sereretj; his mother is Qedi from the land of Arwas; slave from the ship-transport for this temple in the boat of Captain Kener" (Jozef Janssen 1955–1956: 64; cf. Wente and Meltzer 1990: 125). Papyrus Brooklyn (cf. chapter 2.F) includes biographical data for the slaves owned by a woman who lived in the eighteenth century. Another document, Papyrus Rylands 4, albeit of the sixth century, shows that the current owner of a slave was able to obtain the contract that had transferred him to a previous owner. Papyrus Rylands 7, a slave sale contract, names the mothers and fathers of slaves. Without elaborating, Dandamayev (1984: 181) states that Neo-Babylonian contracts "sometimes contained detailed information about slaves." Information of this kind was presumably available to Babylonians from the slave registry hinted at in Paragraph 18 of Hammurabi's Code. Note in this connection the discovery of a register of hundreds of names at Sippar and a text from Kish that has been termed a "birth certificate." Indeed, an Old Babylonian tablet from Larsa involving a dispute over the ownership of a fugitive slave mentions in a rather obscure context a "certificate of integrity" concerning a servant of the temple of the god Shamash (Reviv 1989: 171). Much later, Achaemenid Babylonian texts state that slave transfers took place in the "royal tax office" or in the "king's registry." We may agree with Stolper (1989: 84) that these formulations imply the payment of registration fees.

The rather limited nature of the warranty, which protected the buyer only against flight and specific illnesses, served to lessen the deterrent effect of market insurance on the self-protection measures of the purchasers of slaves. Consequently, the impact of a problem called moral hazard in the insurance literature was mitigated, and the ability of the slave market to allocate risk bearing was not seriously impaired.

MARKET FOR FREE LABOR

Several older scholars, including Struve (1969) and Fish (1953) (but see also Diakonoff 1974b: 50), saw free agricultural wage workers in "considerable numbers" as early as the middle of the second half of the third millennium. One text of this era includes a list of priced worker days. Familiarity with this concept is demonstrated in the Sumerian version of the Gilgamesh myth by the characterization of Enkidu, Gilgamesh's companion, as the *lu-hun* "hireling."

However, Gelb (1965a: 242–43) argues strongly in favor of drawing this line in the late third millennium. This perspective is shared by Maekawa (1987: 69), who maintains that "hired labourers constituted a major source of manpower in the Ur III period" and goes on to suggest that

> Although it still needs a quantitative demonstration, my hypothesis is that the personnel who served in public institutions in various specialized categories were drafted for non-specialized labor less frequently after the pre-Sagonic period. This may have resulted in the recruitment of a vast number of hired laborers in the Ur III period. The replacement of men having specialized occupations by hired man-power in all likelihood occurred mainly in mobilizing collective labor for such projects as canal work.

It is clear that wage-workers were common during the Ur III and Old Babylonian periods.

Late-third-millennium Sumerian texts from Umma show *geme* "women" receiving grain in connection with agriculture, irrigation, building, and oil-pressing. Their grain is designated as *a* "wages." Note that *geme* does not mean "slave-woman" in these texts. Maekawa (1987: 52) observes that this term, "which had originally meant women brought from foreign lands, was used throughout the third millennium B.C. to denote women subject to other persons or institutions." Texts from Umma and other cities specify the daily wage paid to men for digging irrigation ditches, transporting grain, towing ships, and ploughing and sowing. Drehem's archives record the payment of in-kind wages (*a*) for labor classified as "rented," "labor supply," and "foreign." The Ur III era also knew firms employing specialist craftsmen, including smiths, carpenters, sculptors, goldsmiths, and stonecutters. Similarly, Old Babylonian texts refer to craftsmen (bricklayers, grinders, brewers, and carpenters), boat-towers, sailors, oxen-drivers, irrigation-canal-diggers, and even individuals "hired to do business" who worked for wages. Old Babylonian legal texts regard one who sells his labor-power as being *agāru* "hired" "from himself" (*CAD* s.v. *agāru* 1a). The word *agāru* is also attested to in the Neo-Assyrian period, and a recently published letter advises a ruler that the populace in a village "are hired workers. In the lands of the king they work for hire" (Postgate 1987: 261). The type of hired work done by the villagers is not mentioned, however. During the Neo-Babylonian period, contracts concerning the *agru* "hired worker" typically include the expressions "to place oneself at the disposal of PN (name of employer) for his wages" and "to go on the instructions of PN." The reader is invited to compare this formulation with that found in the Roman *locatio conductio,* a contract in which the *locator* "employee" places himself at the disposal of the *conductor* "employer," who "takes along" (makes use) of the employee (de Neeve 1984: 4).

Significant variations are observed in the barley wage paid to women for grinding grain in Ur III texts from Girsu. Also in Ur III Girsu, the *se-ba* "grain rations" of over 1,000 female weavers (*gim-us-bar*) varied appreciably: Most received 40 sila of grain per period, but many received 60 or 30 sila and a few even 100. In the face of differences of this magnitude, it is reasonable to entertain the hypothesis that, notwithstanding the classification of their payment as "rations," these were free workers, not slaves. Note in this connection that Early Dynastic III texts from Lagash mentioned by Yamamoto (1981: 97) and Old Babylonian texts from Nippur cited by Robertson (1984: 158) show *tur-tur* "employees," not slaves, receiving *se-ba,* not *a* or *idū.* (Renger [1984: 91] suggests that the etymology of Akkadian *idū* "wage" relates it to strength.) By way of possible explanation of the seemingly inconsistent terminology, I would offer the tentative suggestion that long-term employees are more likely to receive meals ("rations") than daily or other short-term workers. One reason for this difference would be that the employer has a greater incentive to invest in a nutritious diet for his long-term workers and slaves than for temporary workers (see Bardhan 1984: 69). Some scholars even believe that long-term hired workers were entitled to three days off per month (see Dandamayev 1984: 122). My proposed explanation is consistent with Waetzoldt's (1987: 119) observation that, in Ur III, *se-ba* "grain ration" and *sig-ba* "wool ration" seem "to apply to allotments issued to all personnel who were *permanently* attached to or employed by the state or by temple establishments, regardless of whether their status was free, semifree, or slave" (emphasis added). By "free" I assume that Waetzoldt means "hired."

Waetzoldt would no doubt caution that, on the other hand, "hired" does not necessarily mean "free." He notes a text that records "wages of hired workers" and then points out that the workers in question belong to a class, the *erin,* who performed obligatory labor in paramilitary work-teams (Waetzoldt 1987: 120; cf. "Contractual Slavery" under Assertion 5). Uchitel (1984: 308) notes that the "*erín* are so closely associated with oxen that their rations are usually called ... 'the fodder for *erín.*'" Thus the term *lu-hun-ga* "hireling" might not refer to a free person. This example, I would suggest, represents a fundamental misunderstanding. The *erin*-class received a plot of land from temple or ruler in return for providing labor services (cf. pp. 119, 131, and chapter 7.A). Provided that this obligation was fulfilled, the *erin* would have been free to hire out their "spare" labor-power on the market. The *erin* should not be confounded with the "serf," an undefined term notable primarily for its association with another undefined term "feudalism" and other very bad things. More realistically, the *erin* might profitably be compared to the Mycenaean *o-ka* personnel (Uchitel 1984: 155). Waetzoldt (1987: 131) himself notes "documents recording the rental of additional fields by service personnel. Craftsmen, scribes, merchants, herdsmen, administrative personnel, and even slaves rent such fields for themselves." With respect to the question of "free time" for farming, he cites one text in which individuals belonging to varied professional/social groups (including obligatory-service personnel and master builders) participate in harvesting, threshing, and other types of labor (Waetzoldt 1987: 132).

For the Old Babylonian period, R. Harris (1975: 245–46) informs us that at

Sippar harvesters received an *idū* "wage" of one-third to two shekels per month. She adds that the wages of hired workers other than harvesters vary markedly even when account is taken of whether the worker is an adult or child, duration of employment contract (daily, monthly, or yearly), and whether the wage is paid in silver or in barley. Several texts indicate that workers might choose among alternative payment modes. In both the Ur III and Old Babylonian periods, we find references to the receipt by artisans, fullers, and others of payments, probably incentive payments, that are called "gift" (Akkadian *qīshtu;* Sumerian *nig.ba; CAD* s.v.) (Waetzoldt 1987: 128). The Akkadian word *qâshu/qiāshu,* whose meanings include "to make a gift (of silver or goods) with the understanding of receiving something of equivalent value" (*CAD* s.v. *qâshu*), corresponds to Arabic *qāsa-jaqīsu* "measured," according to Krecher (1976).

There is very little direct evidence of the role of supply and demand in determining wage rates. Some information is perhaps provided by a nineteenth-century text instructing a contractor to hire 1,800 workers to do emergency work on a canal for which he was to pay no more than ten minas of silver. The latter stipulation seems to indicate that wage rates were not known in advance and, therefore, might be subject to market forces. Less ambiguous evidence of supply-demand-determined wage rates, albeit from a much later period, is provided in letters written by Babylonian temple officials during the seventh and sixth centuries. These letters show that hired labor, of great importance in this period, was commonly employed for regular canal work; and, more importantly, as Dubberstein (1938: 39) points out, "at times it was even difficult to hire as much free labor as was needed. This is corroborated by the statement that the laborers were hired for five shekels of silver a month, an unusually high scale of wages, even in comparison with the rising prices of the period." Dandamayev (1987: 272), who also cites this correspondence, explains that "the amount of the hired wage for free persons normally fluctuates between three and twelve shekels of silver a year, but, in some cases, it reaches thirty or more. For purposes of comparison, one shekel of silver could buy one *kur* (c. 180 liters) of barley or dates." He adds the most interesting observation that *agru* "hireling" evolves into a family name of professional hired workers (Dandamayev 1987: 278).

A letter written by an Egyptian farmer in *ca.* 2000 specifies the barley wage to be paid to a hired worker (cf. Assertion 13). Indeed, the evidence of in-kind payments to Egyptian craftsmen is ample for the second half of the third and second millennia. During the earlier period, these payments were often called *jesew,* and there are references to *jesewew*-people, who may be wage-workers or possibly purchased slaves. In the caption of a tomb-scene of the second half of the third millennium depicting workers uprooting and bundling flax, the worker who exhorts his fellows to work hard so that "the gang may be permitted to eat bread" may well have had piece wages in mind (Badawy 1983: 662). We may note in this connection Giveon's (1978: 54) suggestion that the Egyptians employed in the southern Sinai at Serabit el-Khadim's turquoise mines in the early second millennium were remunerated on a piece-work basis for deliveries of stone beyond the required output quota. This interpretation finds support in both the textual and topographic evidence. The texts make a distinction between *aqew* "base wage" and *feqa* "bonus" (Mueller 1975: 255, n.25). One may imagine that it was costly to supervise the widely dispersed miners at Serabit el-Khadim, a topographically complex area over a mile in extent. In this event it might easily be rational to introduce an incentive payment system. Other texts refer to the receipt by skilled artisans and quarrymen of payments classified as *mekew*, apparently meaning "base" or "regular wage" and *feqa* or *hesej*, literally "praise" or "favor" (Eyre 1987b: 179, 183, 198). Those receiving "favors" might be called "people of gold" (Redford 1970: 214–17). Perhaps an echo of the Egyptian practice of paying "favors"—incentive payments—to skilled artisans can be sensed in Exodus 3.21–22, wherein the Israelites who found "favor in the sight of the Egyptians" ask for and receive silver, gold, and clothes. An Egyptian text dated on paleographic criteria to the period from the late eighth to the sixth century records the payment of wages in silver.

The aforementioned evidence, especially the Egyptian, is fragmentary and sporadic with respect to time and place, but it scarcely supports Polanyi's view that land and labor markets are innovations of nineteenth-century Western Europe. Moses Finley's (1973: 65; cf. 1985: 185) claim that "historically speaking, the institution of wage-labor is a sophisticated latecomer" fits neither the Near Eastern nor even the Greek evidence.

E.M. Wood (1988: 71–72) comments on references to hired agricultural labor in the classical period as follows:

> What is significant about these references is not just their infrequency, but the fact that they include passages which make it clear that the use of wage-labour in harvesting was typical—so much so that the word "harvester" was virtually synonymous with "hired man". So, for example, in *Hiero* (VI 10), Xenophon writes that tyrants hire guards just like harvesters. Similarly, Demosthenes (XVIII 51) denounces Aeschines as not a friend but a hireling of Philip and Alexander, "unless a harvester or other hired man is to be called the friend and guest-friend of the man who pays his wages". The implication seems to be that harvesting was typically done by hired labourers (at least on larger farms). Given the importance of harvesting in a primarily agrarian economy, this is no small matter. Even to say, as Ste Croix does, that wage-labour was "confined mainly to the seasons of harvest, vintage and olive-picking" is already to say a great deal.

Homer, the earliest literary source of the Greek world, seems to attest to the employment of hired labor. In the *Odyssey* (4.644) we learn that the *thêtes te dmôes te* on the estate are numerous enough to man a ship. The *thêtes* are hired laborers (see Redfield 1986: 33; *Od.* 11.489–90; *Il.* 21.444–45; Hesiod *Works* 602; LSJ s.v. *thês;* but compare S. West 1988: 233). The verb *thêteuô* is employed in connection with *misthos* "wage" in *Il.* 21.444–49 and *Od.* 18.357–58. In these passages wages are paid, respectively, for building Troy's walls and shepherding services and for "assembling stones for fences, and growing tall trees" (R. Lattimore 1965). The *dmôes,* it may be added, may be slaves or, more probably, free persons holding land on condition of performing labor service (Beringer 1982: 281; Billigmeier and Turner 1981: 14, n.32). In *Od.* 10.84, *misthos* is paid for herding cattle and sheep. Hesiod mentions wages (*Works* 370) and hired agricultural labor (*Works* 602–3), as does a fragment of Solon (see Burford 1993: 187, n.13, 262).

A Linear B "ration document" of the second millennium from Knossos includes the word *we-ke-i-ja,* possibly meaning *wergeia* "day-work" (Ventris and Chadwick 1956: 170, 411). More significantly, it has been proposed to identify the Linear B form *e-mi-to* with alphabetic Greek *emmisthos* "in receipt of pay, hired," a word first found in the fifth century (in Thucydides 6.22; see LSJ s.v.). Melena (1975: 48) notes that "although there is no difficulty in thinking of the existence of such a compound in Mycenaean times, the term raises a delicate problem of meaning." The "delicate problem" involves, of course, that the interpretation of *e-mi-to* as *emmisthôn* "would testify to the existence of work for wages in the Mycenaean labour organization" (Melena 1975: 48).

It is desirable to approach the problem of wage-labor at a higher level of generality. Given the availability of a legally recognized market for slaves and the incentive to store labor (chapter 4.C) and, even more basically, the prevalence of family firms in the ancient economy due to high transaction costs (chapter 2.D, G), it is predictable that the importance of an impersonal market for wage-labor would be much less than in the modern West. But this is not to say that transaction costs were so high as to make the wage-labor market inactive or even thin.

Furthermore, given the evidence for incentive payments, one is hardly encouraged to accept Jacob J. Janssen's (1975b: 139) assertion that "labor (in other words time) possessed only a vague value" to the Egyptians.[19] In addition, the Deir el Bahri ostraca from the reigns of Hatshepsut and Thutmose III demonstrate a concerted and detailed effort to control productivity. There are daily quotas, lists of where men were working, records of absences, lists of supervisors, and the like (Eyre 1987b: 184). One might, I suppose, argue that the work was overadministered but hardly that there was no concern for the value of time. Eyre (1987b: 184–85) suggests reasonably that Deir el-Medina's crewmen being a permanent, skilled workforce operating "on a restricted site . . . were probably controlled in rather less regular detail [than the workers at Deir el-Bahri]," who seem "to have been people on temporary attachment, not professional gangs."

Assertion 7

Polanyi (1981: 135) suggested that "a supply-demand-price system implies fluctuating prices that control supply, if not production itself." But he did not in so many words deny the existence of a supply response in antiquity. This position, however, has been explicitly put forward by Humphreys (7a) and Diakonoff (7b).

Assertion 7a

The major distinction between the modern economy (capitalist or socialist) and that of earlier or less developed societies is that exchange prices in the latter, whether fixed or bargained, have little connection with production decisions (Humphreys 1978: 49).

Assertion 7b

Commodity circulation did exist [in the ancient Near East], but commodity production as such did not—i.e., there was no system having as its object the creation of profit by the production of commodities specifically for the market. Hence no accumulation of capital took place (Diakonoff 1974a: 523).

THE SUPPLY RESPONSE

The evidence points in the opposite direction. Discussing the early second-millennium Assyrian trade with Cappadocia, J. Lewy (1958b: 91) notes that "if informed that the demand for these commodities [garments and tin] was particularly heavy the merchants in Assur who had them for sale helped their customers by assembling goods, donkeys, and drivers in advance so that the next caravan could leave immediately." Thus, a trader in Kanesh notified his suppliers in Assur that he had dispatched a caravan of silver and requested that they purchase tin for him immediately and have it "piled up" (*nadûm*) so that it might be sent back to Kanesh with the transporter (Veenhof 1988: 255). A merchant in Assur wrote to another in Kanesh as follows: "As for the silver you sent me, since tin is delayed, we did (could?) not buy any tin. We will buy textiles for the silver and I will dispatch them to you with the first opportunity. Treasure (literally 'lie upon') every 10 minas of tin which reaches you over there, there will be no tin later on!" (Veenhof 1988: 253) As Veenhof (1988: 253) rightly notes, "a lack or shortage of tin in Assur made traders buy textiles instead and realise how valuable unsold stocks in Anatolia were." With reference to the same trade, the merchant Puzur Assur wrote to Waqartum in Assur informing her in technical detail about the type of textiles she should produce for the Anatolian market. Another letter, presumably to a refiner, requests the making of good copper so that the writer's customers will buy it.

A similar behavior pattern is evident in temporally and geographically distant Greece. Figueira (1984: 26) discusses

> the example of the Aiginetan merchant Sostratos, whose legendary profits are mentioned by Herodotus (4.152.3). A Sostratos is localized at Gravisca as a dedicant to the Aiginetan Apollo. A Sostratos has been associated by Johnston with dipinti on late 6th-century Attic vases, which may be interpreted as merchant marks. Here we have one or more

men, probably members of the same family who seem to have profited from packaging luxury goods for Etruscan customers. I doubt that there are the sort of profits that Herodotus mentions in pottery alone. The pottery so marked is not a cross-section of contemporary Athenian pottery, but a selection based on specialist knowledge. Sostratos needed to gather information on the tastes and requirements of his customers. Hence, economically, the Greeks settled in Etruscan ports were not economically peripheral, because they could plan rationally to order consignments of goods ahead of time. They then planned ahead with an eye toward the capacities of their suppliers and on how their goods for sale might be collected from a variety of sources.[20]

Based on available documentation, Larsen (1976: 89) estimates that Assur shipped by donkey to Cappadocia about 80 tons of tin over some fifty years. At a copper:tin ratio of 9, this amount of tin would have been combined with 720 tons of copper to produce 800 tons of bronze. Again, a text of *ca.* 1800 from a city in southern Babylonia refers to 18 tons of copper imported from Tilmun in the Persian Gulf. A text of the same period from Mari lists some 11,000 pounds of tin deposited in the palace storehouse. It is difficult to imagine that tin and copper in these quantities would have been mined in the absence of an export orientation. Copper-smelting facilities have been excavated in the Oman Peninsula, probably the Magan of the international-trade-oriented Babylonian texts of the later third millennium. Note, more importantly, during the period from 1500 to 1100 the distribution from Sicily to Israel (and even northern Babylonia) of copper ingots produced for export in a standard shape, the "ox-hide" or "double-axe," suitable for carrying and "walking" and, perhaps, of a standard weight. A Babylonian metal inventory of the eighteenth century includes "refined copper of Alashiya"; Millard (1973: 212), noting that this *erû misû* was transported in blocks, suggests that "we may, perhaps, envisage the ox-hide ingots or their ancestors here." More concretely, a shipment of some thirty-four of these ox-hide ingots was found off Cape Gelidonya (southwestern Turkey) in the wreck of a sunken freighter which had probably been sailing west from Cyprus, where early evidence of copper production has been found. More recently, an even larger wreck tentatively dated on the basis of its ceramics to the fourteenth century has been located along the coast of Turkey at Ulu Burun near Kas. To date, this vessel has yielded more than forty tin ingots, including the earliest known specimens of the ox-hide shape, thirty-nine bun-shaped ingots of copper, and eighty-four ox-hide copper ingots with more than 100 still buried in the sand. "If we assume," with Pulak (1988: 34), "that each ingot has an average weight of 25 kg., this would correspond to approximately 183 talents of copper in the shape of ox-hide ingots alone." A thirteenth-century Egyptian inscription describes Alashiya (probably Cyprus) as producing copper "in millions, in endless masses, in hundreds of thousands" (Holmes 1975: 91). Again, the Amarna letters (cf. chapter 2.C) attest to the shipment from Alashiya to Egypt of some 54,000 pounds of copper during a period no longer than twenty-five years. Also, the excavation of Late Bronze Age Cypriot pottery at Marsa Matruh strongly raises the possibility of a Cypriot trading post on Egypt's northwestern coast. Knapp (1985: 247–49) believes that the relatively large settlements founded in the mid-second millennium on or near the coasts of Cyprus should be understood as responses to copper exports. How much more of a supply response would be expected of a "modern economy"? We might footnote this discussion by mentioning a tablet from Ugarit calling for fitting out a fleet of 150 ships and the distribution throughout the eastern Mediterranean in the fourteenth to thirteenth centuries of the stirrup jar, the hallmark of the Mycenaean specialty oil trade.

COMPARATIVE ADVANTAGE AND TEXTILE EXPORTS

In the middle of the third millennium, Ebla exported fabrics to Anatolia, Mesopotamia, and Syria-Israel as well as to Byblos and other Lebanese coastal cities. An Eblaite text shows the import of 17,000 sheep from various cities (Pettinato 1981: 202–16). By the end of the third millennium, however, Babylonia was the leading exporter of woolen textiles (see, e.g., Leemans 1960a: 98–99, 140; 1968: 179). A number of cities possessed large workshops employing hundreds of women in spinning and weaving. For example, a late-third-millennium text from Eshnunna lists 585 female and 105 male employees in a weaving house. Interestingly, the excavations at this site uncovered a sizable building dating from this period with an elaborate water system, perhaps a "woman's house," in which large numbers of women lived and produced textiles. One of the excavators, Delougaz (1967: 196–98), considers it more likely that the building was a tannery; leather-making consumes large amounts of water. Two southern cities, Ur and Girsu, had large textile industries and exported lower-quality woolen cloth to the Persian Gulf in exchange for copper. Note in passing that in the early second millennium the Isin region in southern Mesopotamia exported leather products to Syria, Iran, and Tilmun.

Oppenheim (1970: 131–32) suggests that "the popularity of the Babylonian production has to be accounted for by certain specific qualities which we have no means of establishing in spite of elaborate Sumerian and Akkadian terminology describing such cloth and specific items of clothing." This is not an unreasonable hypothesis. Attempts to imitate Babylonian textiles are perhaps reflected in Assyrian texts describing garments as being *sha Akkedê* "after the fashion of the Akkadians." An alternative, or perhaps complementary, explanation for this "popularity" may be that Babylonia had a cost advantage in the production of woolen textiles generally or, more probably, in certain branches of the industry.[21] Specialization in textiles can be understood in terms of comparative advantage—that is, Babylonia had relatively low marginal costs of producing textiles in terms of the various goods it (ultimately) imported.

INVESTMENT IN CAPITAL GOODS

As early as the beginning of the sixth millennium, the residents of Umm Dabaghiyah in northern Mesopotamia invested in facilities to take advantage of commercial opportunities, apparently in hides. The excavations at this settlement, as summarized by S. Lloyd (1978: 71), revealed

> substantial buildings . . . of a sort already observed at Yarim Tepe (level I) and clearly designed for some purpose other than domestic habitation. Rows of rectangular compartments, too small for habitation, were grouped in a grid-shaped plan, as though for storing some commodity suitable for trade. The evidence of animal bones found in profusion nearby, of which onager [wild ass] and gazelle accounted for 68% and 16% respectively, led the excavators to consider some sort of commerce in skins—possibly those of the onanger. . . . This theory was rather dramatically confirmed in the final season of excavation when, on the walls of the dwelling-houses in the deeper levels, rudimentary mural paintings were found, clearly representing onangers in flight, apparently toward a line of netting staked on the ground.

Based on the design of the buildings, the excavators surmised that they were employed to dry the onager skins.

Eshnunna's tannery or textile-producing facility, with its elaborate water system, was noted earlier. In Girsu the excavators found a ceramic-making installation with a minimum of fourteen potter's kilns. Elsewhere at this site, the excavators uncovered not only a text attesting to the export of fish to another city in southern Mesopotamia but drains, large tanks, complete and stacked fish skeletons, and other evidence suggestive of a fish-processing industry, all dating from about the middle of the third millennium (H.E.W. Crawford 1973: 234–35).[22]

Sumerian myth also testifies to significant investment in capital to take advantage of trade opportunities. In Emerkar and Ensukushsiranna, the *masmas* ''exorcist-priest''(?) speaks of the digging of an ''Eridu Canal'' by means of which the citizens of Erech in Sumer would ferry their wares to Aratta, a city placed in Afghanistan by the balance of contemporary scholarship (see chapter 1). Of course, there is no independent confirmation of a maritime traffic between Erech and Aratta. Nevertheless, the myth does serve to demonstrate that the ''supply response'' was not alien to Sumer's mindset in the third millennium.

No wild-growing species of date palm have been discovered in southern Mesopotamia. Therefore, it is difficult to understand the effort of importing and covering the region with large groves of sucker-propagated date palms except as a response to emerging market opportunities. The easily preserved, calorie-rich fruit is well suited for export. Sumerian texts of the early second millennium include a very large variety of terms for different kinds of palms and their parts, and in literature the date palm is the *gis-ni-tuk* ''tree of riches.'' The date palms were artificially pollinated by shaking male flowers over female flowers and by tying male flowers down to female. Since one male tree produces enough pollen to fertilize more than twenty-five females, artificial pollination made it possible to curtail significantly the space allocated to male trees and, consequently, to increase yields per planted acre. The importance of this supply response is underlined by the fact that the date palm does not begin to bear fruit until the age of five years and requires skilled care in transplanting, pollination, and fruit treatment. Paragraphs 60 to 65 of Hammurabi's Code and business documents are concerned with the giving out of grain fields to "gardeners" to convert into date orchards or with owners having their date groves pollinated by outsiders. Thus, a field and meadow along the Urash canal in Dilbat (contemporary Dulaihim) belonging to Nahilum was leased for three years to Puqussum "in order to put down (boundary) stones and to grow (date palms). Puqussum will claim for the 3 years growing of date palms (everything) which (could be grown) in the meadow and in the midst of the field, as much as there is, and also by the scraps (of plants) of the meadow" (Koshurnikov and Yoffee 1986: 123–24). Fragmentary data presented many years ago by Pruessner (1930) indicate that in the eighteenth century the selling price of an orchard (expressed per unit of land) was double that of a grain field. (A roughly similar ratio of values held in first millennium Babylonia [see Dubberstein 1938: 36–37 and Stolper 1974, I: 191–93.]) A Minoan (Cretan) seal depicting a date palm on a ship should be cited. L. Morgan (1988: 26) explains that "the idea of importing live trees, even across water, should not surprise us: evidence for Egypt [see chapter 4.A] demonstrates the practice. . . . Normally, however, one expects the suckers to be transported, not the full-grown tree." In texts of *ca.* 2500 from Ebla in Syria, the toponym Tilmun (Bahrain) occurs as a component in the names of several (presumably) imported goods, including "Tilmun date-palm" (Potts 1990: 88).

The laborious construction of agricultural terraces for vineyards in the hills behind Ugarit and around Jerusalem can be understood only in terms of the lucrative markets provided by the neighboring urban centers. A Ugaritic mythological text includes the proclamation, "I will put into his fields vineyards, into the fields of his zeal a tunnel (or channel) I will set up" (Baldacci 1981: 366). Heltzer (1978: 118) provides data indicating that land prices in terms of silver were higher at Ugarit than at other ancient Near Eastern sites. The construction of agricultural terraces in the environs of Ugarit and Jerusalem is comparable to the Aztec practice of cultivating *chinampas,* segments of land artifically constructed in lakes, in the vicinity of such large cities as Tenochitlan (Hassig 1985: 46–53, 67). Market opportunities can also be seen behind the industrial installations excavated at Ugarit, Athienou, Philistine Tell Miqne, Israelite Tell Beit Mirsim (biblical Debir or Khirbet Rabûd), and Gibeon. Very significant olive-oil producing facilities were excavated at Ugarit. Indeed, a text from that port records the shipments by sea of large quantities of oil to various destinations, including Alashiya (Cyprus), Egypt, Sardis in western Asia Minor, and Rish, a harbor-town north of Ugarit. In the second half of the second millennium, Atheniou, located in central Cyprus on the main route to the island's east coast, housed a significant pottery manufactory as is witnessed by the remains of almost 10,000 vessels, heaps of clay, unbaked sherds, and other evidence. The recovery in a later stratum of nearly half a ton of copper, installations consisting of plastered platforms, channels, and large pithoi suggests that the site went over to copper working. Tell Miqne, identified with Philistine Ekron, housed extensive industrial facilities of the eighth to seventh centuries. One of the excavators, Gitin (in Gitin and Dothan 1987: 215–16), summarizes the findings as follows:

> [T]here were 111 agricultural/industrial installations at Ekron. . . . Of these, 102 are oil presses, 8 are wine presses, and 1 may be associated with the manufacturing of textiles. . . . Even with only a little more than 2 percent of the site excavated, it is now clear that the industrial zones took up at least 20 percent of the cities of strata 1B and 1C.

Gitin (in Gitin and Dothan 1987: 215–16) attributes the dramatic growth of this city on Israel's southern coast, from 10 to 50 acres, to the growth of the olive oil industry, and he adds that the excavations "revealed the largest olive oil production center to be found anywhere in the ancient Near East." No doubt the oil pressed from the olives cultivated in the surrounding hills was marketed inland to (say) Jerusalem and also exported by sea to Egypt, Phoenicia, and Cyprus. At Tell Beit Mirsim, southwest of Hebron on the main road linking Egypt with the Judaean hills, large numbers of loom weights and dyeing vats (or possibly olive presses), each weighing about a ton, were found. Northwest of Jerusalem at Gibeon, no less than sixty-three underground wine vats and cellars were discovered, some 7 feet deep and capable of storing 25,000 gallons of wine. Note also the discovery of a late Babylonian installation producing oil jars and hints of industrial facilities in texts of the seventh to fifth centuries referring to the "city of the metal workers," "city of tanners," and so on.

The trade objective explains the massive stone quays and copper-smelting facility founded no later than the middle of the third millennium at Buhen, just below the Second Cataract of the Nile in Sudanese (Lower) Nubia. The motivation is underlined by a Sixth Dynasty tomb inscription at Aswan wherein Harkuf, an "overseer of dragomans" (cf. chapter 4.A), boasts that pharaoh had sent him to Yam (Nubia) "in order to *weba* ['open'] (the) road to this country. I did it within seven months (and) I brought back the beautiful and exotic products therefrom" (Kadish 1966: 23–24). There is, moreover, little reason to doubt W.S. Smith's (1965: 39–40) suggestion that the establishment at Kerma near the Third Cataract in the Sudan (Upper Nubia or Kush), no later than the first half of the second millennium, of a facility for manufacturing faience (a dark blue colored glass resembling lapus lazuli) served the interests of trade. The evidence for manufacturing at this site consists of raw materials and discarded imperfect pieces. Gold and incense are generally believed to have been the main Egyptian imports from Nubia. Also in the first half of the second millennium, an inscription relates that in order to facilitate trade with the God's

Land, a Pharaoh Mentuhopte "bored for water in these mountains which had been impassable"; the officer Seanch adds the description of an elaborate well-station (Erman 1894: 506). Well-digging in support of trade and mining is also found in the thirteenth century. During the second half of the second millennium, there were "glass factories" at Thebes, Gurob, and Amarna where "Petrie found the remains of extensive glass and glazing factories, with substantial waste and spoil heaps and many moulds" (Eyre 1987b: 192). A later-second-millennium reference (Hieratic Ostraca 88.6) to the "*djadja'iew* of Coptos" may, according to Jacob J. Janssen (1975b: 159, n.143), indicate a geographically concentrated pottery industry on the east bank of the Nile at the origin of the desert route in the heart of Upper Egypt. The fact that vessels of the mid-third millennium bearing the same pot-marks have been found at various locations in Egypt is consistent with the presence of specialized centers of pottery production. A stela of the earlier second millennium from the Egyptian port on the Red Sea refers to "ships of the dockyards of Coptos" (Sayed 1978: 71). Although the great tombs built for pharaohs were obviously consumer goods intended to keep them satisfied for eternity, their vast expenditures beginning in the second millennium or earlier to cut a "canal of the two seas" between the Nile and the Red Sea (and the Mediterranean?) is another story completely (Sayed 1983: 32–36). All this capital construction casts doubt on—no, negates—Leemans' (1977: 5) claim that "capital invested in commercial enterprises was small." Of course, it was "small" in absolute terms by contemporary standards. But this comparison is hardly relevant.[23]

INVESTMENT IN HUMAN CAPITAL

Why, moreover, would presumably self-contained individuals or households have been willing to invest in human capital—that is, to sacrifice current consumption to make the investment required to learn one of the skilled crafts mentioned earlier or one of the many others recorded in Near Eastern and Mycenaean texts unless they perceived a remunerative market for their services?

The importance of this factor is underlined in Paragraph 189 of Hammurabi's Code by the provision that an artisan who failed to teach an adopted child a trade faced the loss of his apprentice to his biological family (Meek 1969a). Paragraph 200B of the Hittite Laws sets the price a father must pay to have his son trained as carpenter, smith, potter, leatherworker, or fuller (Goetze 1969a). A contract of the sixth century from Nippur apprentices a free man to learn the craft of the bleacher. Texts from Gurob in Egypt's Fayum attest to the training of textile workers, including Asiatic slaves, probably in the "harem" at Mi-Wer (Gardiner 1953). Tablets of the second half of the second millennium from Pylos in southwestern Greece refer to a large number of crafts and to people training for an occupation (Samuel 1966: 84). Homer (*Il.* 23.712) mentions the rafters of a house locking "as when a famed builder of houses has fitted them." Written contracts of apprenticeship and training are mentioned by the Greek historian

Xenophon (*ca.* 428–*ca.* 354) and the orator Isocrates (436–338) (cited by W.V. Harris 1989: 68–69).

The evidence just presented, it seems fair to conclude, demolishes Assertions 7a and 7b.

NOTES

1. Consider the behavior of treaty-like prices at an early American "port-of-trade." The buying prices for fur published by the Hudson's Bay Company were largely constant over time and, hence, well known to its Indian trading partners. Nevertheless, Ray and Freeman (1978: 63, 66–67) report that "the actual rates of exchange did vary more often and more widely, depending upon the intensity of French competition and local variations in supply conditions."

2. In support of the treaty as contract perspective, note that an Akkadian technical term for treaty, *riksu* (or *rikiltu*), often is applied to marriages and commercial contracts (e.g., for hiring shepherds and fieldworkers).

3. Snell looked at prices from the merchants' balanced accounts in the Sumerian city of Umma from 2044 to 2030. (For the balanced silver accounts, see the discussion of Assertion 11.) Snell (1991: 133) concludes that "the prices in the series do not correspond to what one expects from the demand curve of classical economic theory, which should indicate the presence of a market. That is, the merchants do not buy more of a product when it is cheap and less when it is expensive." Prices in competitive markets are determined by demand *and* supply. Observed *equilibrium* prices and quantities trace out the demand curve only in a special case: The supply curve shifts over time and the demand curve remains unchanged. When prices and quantities are not at their equilibrium values or when both the demand and supply curves shift over time, observed variations in prices and quantities are best described as "noise." Snell's findings are "noise." The estimation of demand and supply curves is a significant econometric problem even when contemporary data are utilized.

Snell (1991: 136) also is of the belief that undated texts, such as the Old Assyrian texts, are "in general worthless for the study of ancient economic history, which *must* be the study of economic decisions over time" (emphasis added). Nevertheless, it is self-evident that the Old Assyrian tablets are invaluable tools for studying ancient economies.

4. In one case at least the *direct* evidence for plunder seems to crumble under analysis. In the early second millennium, an official named Hor led a well-armed expedition to an amethyst mining district in the Eastern desert to the southwest of Aswan. Berlev (1987: 156) does not state this in so many words, but he leads the reader to believe that the Nubians who mined the stone had been forcibly enslaved following Egypt's "conquest and pacification of Nubia" in the reign of Sesostris I. The evidence he cites is slender at best.

> As a matter of fact the Nubians are not included in the list of the expeditionary brigade. In the inscription and on the stele [of Hor] the Egyptian detachment and the Nubians are treated separately. And what is more, no daily norm of output is fixed for them, as was done in the Sinai and as would have been natural for an expedition working a short time in the mines or in quarries, with a fixed task or job [*baket*]. (Berlev 1987: 153)

The fact that the Nubians were not counted as members of the expedition and were not assigned production quotas seems to point to their being free economic agents, not slaves.

Berlev (1987: 153) seeks to surmount this difficulty by adding, "and what is more, the output of amethyst is *compared* with the production of grain, and the labor of the miners of amethyst with the labor of farmers, who at harvest had to account for the year" (emphasis added). We are thus led to think of extortion and/or taxation. Elsewhere, however, Berlev (1987: 152) reports that "the work, however, is not precisely indicated. Hor only gives an idea of it by comparison: the amethyst mined was as much as the grain on the threshing floors before storing it in the granaries. The imagination paints heaps of amethyst, if only such is possible, lying like heaps of grain." It is rather obvious that Hor's comparison between harvested grain and mined amethyst suggests only the magnitude of his accomplishment. There is also reason to doubt that Hor compares the Nubian miners to tax-paying farmers. Hor says, "(As for) every Nubian, his [*baket*] (shall be) like that of a(ny?) servant who acts by the power of this god, by the effectiveness of his Sovereign, one who abides enduring forever" (Sadek 1980: 85, 87). *Baket* might be translated "job" or "tax to be paid" or "wage (payment) to be received" (Sadek 1980: 87).

5. The meaning of "good words" emerges from 1 Kings 12, wherein the Israelites ask King Rehoboam to lighten the "heavy yoke" and "grievous service" that had been imposed on them by his father Solomon (v. 4) whereupon Rehoboam's advisers urge him to "speak good words to them, then they will be your servants forever" (v. 7) (see Weinfeld 1982). A similar expression and meaning, it is interesting to note, is found in Greece and Rome. The Greek verb *euphêmein* "to be silent" and the Latin phrase *fauēre linguis* "to be lucky with tongues" both have the secondary meaning "to say good words" (Rose 1959b: 183–84; *OLD* s.v.; LSJ s.v. *euphê-*). Rose (1959b: 184) adds the telling point that the time of "good words" was a time when "no work must be done, not only by human inhabitants of the farm but the draught-cattle enjoying a holiday."

6. As Peacock and Williams (1986: 60) explain,

> [The peasant's] agricultural produce and livestock products must be processed. . . . These processes will require commodities, such as millstones, pots, or cloth, which may or may not be available within the micro-environment where the peasant lives and works. Almost everywhere from China to Europe, the solution is the same. Some members of the community will combine part-time farming with a craft. . . . The surplus is then taken to a periodic market, where members of different communities with access to a variety of resources will meet to exchange food and goods to their mutual benefit. The point is that a rudimentary system of markets seems to be a necessary and inevitable aspect of the peasant economy.

7. The preponderance of the *nadītu*'s in Sippar's economic transactions may be due to the concentration of the excavations in the "cloister" area. According to Stone (1982: 50–51), their role was more modest at Nippur, where the pattern of excavation was more random.

8. In the fourth century B.C.E., a lender for an Athenian maritime venture required the prior lenders to subordinate their claims to his (W.E. Thompson 1979: 235). Monitoring by maritime lenders is discussed by Bolkestein (1958: 113). The economics of limited liability and opportunistic behavior by highly leveraged owner-managers are discussed with great insight and clarity by Jensen and Meckling (1976: especially 330–43).

9. Distraint for debt is also assumed in Paragraphs 22–24 of the Eshnunna Code (Goetze 1969b: 162) and in Tablet B paragraph 44 of the twelfth-century Assyrian laws (Meek 1969c: 184).

10. The oldest records of land transactions are pictographs from the twenty-seventh century. For the Ur III Dynasty, there are no clear cases of field sales, but we have two contracts that may refer to private land sales. There are references to privately owned land, rental contracts, and sales of privately owned orchards (see Gelb 1979: 69–70 and Leemans 1983: 91–92). In the Middle Babylonian period, there are sales of extensive grain fields and land purchases by the ruler (Leemans 1983: 73, 97).

11. Temples and states (mainly the Ur III Dynasty) were in no way the sole owners of land. Deimel (1931) calculated from the Lagash documents that the total area of the temple estates amounted to some 77 to 116 square miles. Utilizing essentially the same basic data and approach, Diakonoff estimated that the territory of Lagash comprised about 1,158 square miles, of which some 772 consisted of naturally irrigated land (cf. chapter 7.A). Diakonoff's evidence is summarized and discussed by Kramer (1963: 76); see also Foster (1981). There are, moreover, references to privately owned agricultural land in the Ur III texts. In addition, the *se-ur-ra* texts show a temple farming a "mortgaged field" and, apparently, lending out teams of plowmen and ox-drivers to independent field owners (Gelb 1979: 69–70; Jones and Snyder 1961: 253, 262, 269–70).

Very rough estimates of the land administered by Egyptian temples in the later second millennium range from one-sixth to nearly the total arable area (Eyre 1987b: 204). In fact, Papyrus Wilbour, a document of year 4 of Rameses V (1142 B.C.E.), shows, alongside temples in Middle Egypt, more than a 1,000 small-holders of agricultural land, including 131 women, who possibly owned their plots (Allam 1989: 128–29, 135). Calculations reveal that the plots enumerated in the Papyrus, some of which are technically ascribed to temples and others to government agencies, comprise less than 5 percent of the total available agricultural land of Middle Egypt (Katary 1989: 23–24).

References in the Mycenaean Linear B texts to the land holdings of the *damos* ("public"? "community"?) make it certain that the "palace" did not own all the land. However, the texts do not permit the calculation of the relative shares of palace, *damos,* and other (unmentioned) landowners. As Palmer (1984: 156) well notes, "the palace simply registers the arrangements in which it has an interest." With respect to the problem of private land ownership, we find numerous attributions of plots of land to individuals (Ventris and Chadwick 1956: 239–50). The named individuals are not said to be holding the plots from anyone or in return for performing some service. Further, the plots are designated as *ktimena* meaning "private" or "cultivated." Ventris and Chadwick (1956: 233) suggest that "*Ktimenai* may once have meant 'land outside the *ager publicus* reclaimed by private initiative.' "

12. "Subjects" is also the interpretation of van Selms (1958: 198), who notes that in Genesis 26.20 "the herdsmen of Gerar" maintain "the water is ours," not "the water belongs to the king." This interpretation is also supported by Paragraph 129 of Hammurabi's Code: "If the wife of a seignior has been caught while lying with another man, they shall bind them and throw them into the water. If the husband of the woman wishes to spare the wife, then the king may spare his slave." Meek (1969a: 171) is justified in rendering "slave" as "subject." The Egyptian word *nedjet,* sometimes rendered "serf" or "slave," had the meaning "subject, taxpayer" in the fifteenth century (Lorton 1974: 115, 163, n.4). Note also a Urartian inscription of the early seventh century concerning the return of a house to two individuals called *qatura* "slaves, subjects" (Zimansky 1985: 81).

W.V. Harris (1989: 70) notes that "Aristotle [*Politics* vi.8.1321b34–38] takes it for granted that there should be in every state an official with whom private contracts could be registered (as there was not in Athens, where they could be deposited with private citizens).''

13. Many major uncertainties remain in the interpretation of the various components of purchase price in the land sale documents of the third millennium. However, the procedure employed for identifying cases in which vendors are large groups is clearly inappropriate: ''Under sellers, we include all individuals who received gifts in return for their sold property, that is, both primary sellers (who received the price and gifts) and secondary sellers or primary witnesses (who received only gifts)'' (Gelb 1979: 69). Why classify as communal owners those who received ''additional'' or, better, ''side'' payments? Probably these side payments served to compensate those persons who surrendered annuities from the property and/or, perhaps, surrendered the use of buildings on the sold land. Surely this is a more reasonable interpretation than the puzzling assertion that the ''additional'' payments represent ''a payment in addition to the total value of the sold property'' (Gelb, Steinkeller, and Whiting 1991: 224). Why, even more strangely, should those who received a ''gift'' (*nig-ba*) for undertaking to validate the sale against future legal challenges be classified as communal owners? See Gelb, Steinkeller, and Whiting (1991: 235–36). Despite Gelb, Steinkeller, and Whiting (1991: 17), there is no direct evidence that owners (individuals and nuclear families) needed the consent of ''secondary sellers'' to permit the alienation of their fields.

14. J. Lewy (1961: 39) has noted the prevalence of relatives as witnesses to the transactions of the Assyrian merchants involved in the Cappadocian trade.

15. According to Heltzer (1976: 23, 25), ''it is definitely clear'' that in Ugarit ''the village as a whole had the collective responsibility for performing obligatory labor'' and paying royal tithes. I have been unable to locate concrete evidence of agricultural communes at Ugarit. Heltzer (1969: 37) does, however, cite a text mentioning the *sbr* in six villages, a term that may refer to local communal assemblies. On the other hand, it appears that Mycenaean Greece knew the agricultural commune under the term *damos*. The *damos* is encountered as owner and leaser of land, and, in one text, it determines that the land held by a priestess is subject to taxation (see Mylonas 1966: 266–67). It is of interest in this connection that the Ma tablets fix tax assessments by town (Shelmerdine 1973).

16. The term *feudalism* is best reserved for a decentralized political system involving franchises; see Auster and Silver (1979: 38–39).

17. In discussing legal-economic problems arising from undivided inheritances, Westbrook (1991: 119–20, 132), citing Daube, notes the connection between the Roman *ercto non cito* and the biblical ''brothers dwelling in the same house'' (Psalms 133.1).

18. An Egyptian lawsuit (Papyrus Cairo 65739) of the second half of the second millennium suggests that merchants traveled from house to house (residential? commercial?) offering slaves for sale (Gardiner 1935: 141–42, 145).

19. In supporting his assertion that considerations of profitability are seldom relevant ''in economic systems dominated by the production of use-values,'' Garlan (1988: 72) notes that, although ''slaves did not always show much enthusiasm for their work,'' there is ''no evidence of any discrimination in the pay of slaves on the one hand and free men on the other on public building sites (in particular that of the Erechtheum of Athens in 408–407), nor is there any sign of competitiveness between the two groups when it came to being hired.'' It should suffice to note in response that hired workers have also been known to shirk and, further, that it is not obvious whether supervision costs would be different for rented slaves and hired free workers.

20. Millett (1991: 192, n.55) notes that "in the 330s Kleomenes, Alexander's governor of Egypt, organized an information service, despatching grain ships to where prices were reported to be high."

21. The export success of Yorkshire in the sixteenth to seventeenth centuries was based on its production of cheap woolen cloth of excellent value.

22. The ancient world knew an extensive commerce in preserved fish products. For example, literary sources reveal that fifth-century Athens imported fish products from places as distant as Byzantium and Spain. Archaeological investigations have revealed numerous salting facilities bordering the Mediterranean and Black Seas (see R.I. Curtis 1991).

23. Engels (1990: 140–41) has properly asked the supporters of the primitivist school of ancient economies,

> Why did classical cities construct immense commercial structures (stoas), often far larger than other public or religious buildings in their cities? Why did they devote vast spaces to commercial markets? Why did they construct impressive harbor complexes (Caesarea, Carthage, Corinth) if trade was not important?

Fair questions. Mattingly's (1988) survey of the archaeological evidence leads him to believe that in the Roman Empire investment in olive-oil production was triggered by its export potential.

6

The Credibility of Markets

Assertion 8

As a general rule, the cities (e.g., Babylon) of the ancient world possessed no marketplaces of any significance. We first meet an important market for the retailing of food in the seventh century B.C. *at Salamis in Asia Minor (based on Polanyi 1981: xl, 78–79, 146).*

Polanyi (1981: 124) explains his preoccupation with the absence of marketplaces as follows: "Obviously, the market as a *place* preceded any competitive mechanism of the supply-demand type." It should be noted first that although markets require mechanisms enabling traders to communicate, they do not require face-to-face gatherings of all traders. Second, the economist does not build *competition* into his definition of "market." Markets may be competitive, with equilibrium prices being determined by "supply and demand"—that is, by the interaction of many price-taking buyers with many price-taking sellers. On the other hand, markets may be monopolistic to one degree or another. Note, for example, the limiting case of price-making behavior ("bilateral monopoly") in which the single buyer of a product bargains with its single seller.

Polanyi's assertion is nevertheless surprising because marketplaces—the geographic concentration of transactions—are a predictable and easily implemented adaptation to high information and transportation costs. In a world without daily newspapers,[1] the location of similar trades in a compact area would have reduced the cost to consumers of acquiring information about prices and product characteristics. The resulting increase in information acquired would reduce price dispersion and help traders to interpret market signals accurately. The gains from reducing travel time between shops would be greatest for relatively standardized goods and for "search goods," whose quality is easily ascertained by inspection (Nelson 1970: 323–25). The benefits to consumers were not forgone because, despite Polanyi, there is ample evidence for marketplaces in the ancient Near East.

Nehemiah 13.16 (fifth century B.C.E.) tells of the "men of Tyre . . . who brought in fish, and all manner of ware, and sold on the sabbath unto the children of Judah, and in Jerusalem." Ezekiel (27.13, 17, 19, 25), a prophet of the sixth century, spoke of Tyre's active *ma'ărāb* "market," and earlier, in the later eighth century, Isaiah (23.3) pointed to Tyre as the *sāchār* "market" of nations. The larger of the Assyrian trading stations in Cappadocia were called *kāru,* a word whose basic meaning is "embankment, quay, mooring place" (*CAD* s.v. *kāru* A). A text from southern Babylonia records the sale of a house in the "fish *kāru,*" and various documents refer to the sale of grain, wool, and slaves in the *kāru.* The Egyptian word *meryet* also means "trading place" and "quay." An unsuccessful attempt to sell some cloth on the "bank" is reported in a text of the early twelfth century (Ostraca University College, 19614, Setnakht). Further, documents of the fifteenth to twelfth centuries describe the harbors of two Levantine cities, Gaza and Ashkelon, as *meryet-yam* "sea-market(-port)." As early as the Old Kingdom, there were stations at the First Cataract on the island of Elephantine (Abew) and on the east bank at Sewenet (current Aswan), literally "the market" (H.S. Smith and Giddy 1985: 319).

In Mesopotamia, terms for "street" also connote a marketplace. Thus Sumerian texts of the second half of the third millennium speak of goods "being on the street." Tablets of the earlier second millennium speak of the *sūq shimātim* "commercial street" and of the *sāchiru* "peddler, retailer," who sold goods on the "street." A text of Sippar mentions rows of contiguous shops of goldsmiths (or money-changers, cf. Assertion 9). Fifteenth-century Nuzi had a "street of fowlers" and, similarly, Jeremiah (37.21) refers to a "baker's street" in Jerusalem. The Bible also notes *hutsot* "streets" in commercial contexts in 1 Kings 20.34, 2 Samuel 1.20 (the "streets" of Philistine Ashkelon), and, probably, Ezekiel 26.11–12 (Tyre's "streets"). "Gates" (Akkadian *bābū* or *abullāti*) also served as marketplaces. A Sumerian text of the later third millennium has wool, perhaps royally owned, being "placed at the gate." For Nuzi we have a will including a clause that the inherited property "to anyone at the gate she [the wife] may not sell" (Beich 1963: 44–45). Edward Lipiński (personal correspondence) calls my attention to the phrase *bāb abulli,* an expression designating the gate as a place where business is transacted (*CAD* s.vv. *bābu* A 1d2'b'; *abullu* 1b). There are references in commercial contexts to the *babtu* "quarter of a city, neighborhood," a word arguably derived from *bābu.* Texts of the earlier second millennium record that the copper of several individuals lies at Assur in the *babtu* and show merchants using silver from the *babtu.* Babylonian and Assyrian texts of the first millennium speak of the "gate of buying." Note also the evidence of grain sales at Samaria's gate in the ninth century (2 Kings 7.1). Another Akkadian word, *machīru,* often has the abstract meanings "price, market value" and "commercial activity." Röllig (1976) has shown, however, that beginning in the Old Assyrian and Old Babylonian periods, *machīru* also has the concrete meaning "marketplace." The *machīru* is a place for *machāru* "receiving" goods. Slaves, garments, and grain are purchased in the marketplace and loans are repaid there. At Mari grain is "(measured) in the container (used in) the marketplace"; a tablet is written in Nuzi's marketplace and a stela with "correct prices" is set up in the marketplace (*CAD* s.v. *machīru* 1). Again, loans are given, sacks are bought, and captured Arab camels are sold at the *bāb machīri* "marketplace gate" (*CAD* s.v. *machīru* in *bāb machīri*). In the Old Babylonian period *bīt machīri* "seems to refer to the stall of a merchant. . ., small in size . . . and adjacent to other stalls" (*CAD* s.v. e).

An Assyrian tablet of the early second millennium refers to the sale of some real estate near the "(city) square." Ninth-century Assyrian sources also mention *ri-be-tim* city squares—for example, *rebīt* Nineveh, and the Gilgamesh epic mentions the "square of Uruk." According to Speiser's (1964: 68) translation, Genesis 10.11 refers to the building by "Assur" of "public squares." A text from Old Babylonian Sippar mentions the "square of the Large Gate" (*CAD* s.v. *bābu* A1d2'). Other texts from Sippar reveal that Sippar possessed a *ribītu,* within which were located *bīt machīrātu* "shops" and taverns. Cuneiform tablets of the mid-second millennium from the temple of the goddess Belte Kalli in Qatna, on the edge of the Syrian desert, mention *tar-be-re-ti,* arguably "marketplace, place of contracts (or contracting)" (Dahood 1981b: 83).

Several of Jerusalem's gates appear to have specialized in particular kinds of merchandise: the "Fish Gate" (Zephaniah 1.10; 2 Chronicles 33.14; Nehemiah 3.3), the "Sheep Gate" (Nehemiah 3.1, 32; 12.39), and the "Pottery Gate" (Jeremiah 19.2). That Egypt was also familiar with specialized marketplaces emerges from Montet's (1964: 97) observation that in "the scenes depicting the various arts and crafts they are almost always shown in groups on tombs of all periods." Indeed, a text of the Fifth Dynasty places an *areret nehep* "gate of potters" at the solar-temple of Neferikare. An indication of pronounced locational specialization is found at Athens (as Polanyi suggested) in the inclination of Athenian writers to identify places in the Agora with the goods sold there (wine, olive oil, pots, garlic, fish, perfume, clothes). Rome of the early Empire had a number of markets specializing in different types of slaves.

Buildings thought to have incorporated shops have been excavated at major ports such as Ugarit and the "palace"-town of Agia Triada in Minoan Crete. The latter shops, dating to the second half of the second millennium, are especially interesting because they face on an *agora* and architecturally anticipate the *stoa* of classical Greece (Cadogan 1976: 104–7). In the fifth century B.C.E., there was a commercial stoa in Athens' port, the Piraeus. Humphreys (1967: 385) reports that the Russian excavations at Olbia, an Ionic Greek colony of Miletus in the Ukraine, "revealed an agora flanked by large fifth century [B.C.E.]

stoas which seem to have used for trade, and among the rich private houses near it one at least seems to have belonged to a wine or oil merchant, who had equipped it with a cistern for storing his wares.''

Shops have also been found at inland sites, including first-millennium Hazor in northern Israel; mid-second-millennium Jericho; in the early second-millennium strata at Kanesh, the Assyrian trading station in Cappadocia, where a small open square was also excavated; and in third-millennium Eshnunna. The four ovens believed to be capable of baking leavened bread found in one Eshnunna structure suggest a bakery. Houses whose rooms had wide openings onto the street were discovered in Assur near the ''Gate of the Coppersmiths.'' Early second-millennium Ur had ''showrooms'' (i.e., rooms entirely open at the front). (An Old Babylonian letter assures its recipient that ''for the ten shekels of silver which you will send me, they will measure out to you good, reliable barley in the house at the window'' [*CAD* s.v. *aptu* 1b].) Somewhat later, Mari's palace, a center for the production of textiles incorporating extensive warehouse facilities, possessed a *kār ekallim* ''palace market'' and, according to Dalley (1984: 15), ''this part of the palace plan closely resembles the plan of a modern bazaar in the Near East.'' The excavation of a Hittite city uncovered remains of a shop with a ''bar'' of mud-brick. Catering facilities have also been found at Kanesh and Troy (Hisarlik) in western Anatolia. Egypt's Amarna, on the other hand, lacked shops and bars but was well provided with streets, crossroads, and squares.

Assertion 9

In ancient societies the use of money for indirect exchange was negligible. The great civilizations of Mesopotamia and Egypt did not use coined money. Coins are first met in Asia Minor in the seventh century B.C. *(based on Polanyi 1981: 119–20).*

ECONOMIC SIGNIFICANCE OF MONEY

Money has been defined compactly and cogently by L.H. White (1989: 204–5):

The money of an economy consists of its *generally accepted media of exchange*. . . . A *medium of exchange* . . . is an item acquired through exchange with the intention of later disposal in exchange for some further good, i.e., acquired in order to be spent. In still other words, a medium of exchange is an item acquired as an intermediate link in a planned chain of exchanges. . . . A generally accepted medium of exchange is a good which not only plays an intermediate role in one agent's plans, but which other agents are routinely ready to accept in trade. This definition of money reflects its intersubjective and not merely subjective character.

From the perspective of standard economic analysis, the main advantage of an exchange money system relative to a barter system is that it lowers trading costs by reducing both the average number of transactions a trader must participate in and the number of prices he or she must know. Money reduces the required number of two-way market channels and makes circuitous trade patterns viable. The disadvantage is that it requires a society to make a significant investment of scarce resources in increasing its stock of the money commodity (or commodities) and in the creation of a new capital good, a general agreement or convention to use some specific commodity for this function. It will not pay a society to make the latter investment until economic development has increased the division of labor and the number and variety of goods traded and, consequently, has elevated search costs beyond some level. At this point, however, the introduction of exchange money contributes to economic development by lowering transaction costs and thereby facilitates further increases in the number and variety of goods, the number of transactors, the extent of economic specialization (including professional middlemen and specialized traders), and the diversity of the credit market. Alchian (1977: 139) has put forward an alternative approach tracing the origin of money to the costliness of information about attributes of the goods available for exchange:

> If costs for some goods are low and generally low across members of society, the good will become a medium through which information costs can be reduced and exchange made more economical. But it will rise only with the rise of chains of experts in various goods and commodities, who know the goods cheaply, whose reputation for reliable evaluation is high, and who, because of that knowledge and low cost of assuring buyers, become specialist middlemen and buying and selling agents.

Thus Alchian's theory, like the standard one, implies that money will be introduced only when economic development has carried specialization to a certain point. Barter exchange, of course, would tend to persist in commerce with moneyless communities, with those having different money commodities, and where the number of traded commodities is small. Brunner and Meltzer (1971: 800) observe that the magnitude of money's net social productivity increases with the rapidity of economic development—that is, the rate of introduction of new products, methods, and markets.

Polanyi qualifies his argument to the point of incoherence, but his thrust is unmistakable: Exchange money appears as an adjunct of market exchange, so the absence of money implies the absence or at least the unimportance of market exchange.

THE USE OF MONEY IN NEAR EASTERN ANTIQUITY

In fact, the ancient Near East knew money very well in the generic sense of common media of exchange. Mesopotamian texts of the middle of the second half of the third millennium already show us street vendors, and, according to Foster (1977: 35–36, nn.47, 48), the use of silver to pay rents and purchase dates, oil, barley, animals, slaves, and real estate; in addition, "silver was widely used in personal loans and was often in possession of private citizens and officials. A businessman might have silver on deposit at various places." It would not be surprising if the combination of relatively high communications costs, gaps in markets for income-earning assets, and the vulnerability of the ancient economy to shocks operated to increase the demand of business houses for cash balances. Documents from later in the third millennium refer to "silver of deliveries" (for paying for deliveries) and silver for buying cassia, salt, and tin (Hallo 1963: 138–39). In addition, workers might be paid in silver. M. Lambert (1963: 80), who studied sale and loan contracts and tax receipts, found that silver was used by many levels of society, not just by merchants. Silver also served as a medium of exchange in the earlier second millennium. The Old Assyrian tablets distinguish between silver as a means of payment and merchandise (*luqūtum, shīmum*). Veenhof (1972: 365–66) notes repeated requests to " 'let my tin become silver again, be turned back into silver.' " According to Veenhof, "this shows that the merchants considered silver and gold as the starting point of a commercial enterprise, which was finished when the goods bought [in Assur] had again been converted into (more) silver and gold."

In Babylonia, during the earlier second millennium, the price of silver in terms of barley was some 7.5 times greater than in Cappadocia, where silver (as the main export good) was presumably in abundant supply. Much or even most of the silver imported into Mesopotamia may have served primarily to augment the money stock of the importing region. Silver was employed to make small payments during this era (for instance, paying a courier to deliver a letter or to purchase some fish for a meal). It also paid for slaves, temple offices, house rentals, fields, and a large consignment of paint. Indeed, the usage of silver was sufficiently commonplace that in the law codes of the time (Hammurabi's Code, Laws of Eshnunna) the tort law sometimes calls for restitution in kind but usually requires payment in silver. This monetary restitution feature is also found in the laws of Ur-Nammu (late twenty-second century), the Lipit-Ishtar Code (twentieth century), the Hittite laws (third quarter of the second millennium), and even in the allegedly "tribal" Covenant Code in Exodus 21.33–34: "And if a man shall dig a pit . . . and an ox or an ass fall therein, the owner of the pit shall make it good; he shall give silver to the owner of them. . . . And if one man's ox hurts another's so that it dies; then they shall sell the ox, and divide the price of it." During the New Kingdom, Egyptians paid taxes and rents and purchased land, slaves, oxen, cloth, barley, meat, cakes, wine, and honey for gold and silver and, in addition, took interest-bearing loans of gold. During the reign of Ramesses XI, we hear of free tenants who pay gold into Pharaoh's treasury (compare Katary 1989: 212). With respect to the sale of barley, it is informative to cite the Tomb Robbery Papyri, wherein a woman testifies in court that the silver in her possession was obtained by selling barley. Castle (1992:

259) aptly points out that "the veracity of her testimony is irrelevant, it was intended to be plausible." One Kai testified that he and his accomplices stole 5 *kite* of gold and "we bought barley with it in Thebes and split it among ourselves" (James 1984: 264–65). A wife confessed that she had purchased barley with stolen silver. Again, in the fourteenth-century Theban tomb of Kenamun, two quayside stall-traders hold balances suitable for weighing out precious metal. Castle (1992: 262) makes the telling point that the extension of the meaning of *hedj* from "silver" to "payment" "suggests that the exchange of silver in commercial transactions was or had been general practice."

Copper was employed as a medium of payment in Mesopotamia in the Fara and Old Babylonian periods and at Alalakh in the fifteenth century. An inscription of the twenty-fourth century records the payment of Egyptian craftsmen in copper. In the later third millennium, Ankhtyfy claims that he paid for a "house" (a tomb?) "with my own copper" (Fischer 1961a: 62). Powell (1990: 82) explains that "copper is used as 'small change', because silver is too valuable to exchange using the primitive weighing technology available." The Assyrian texts from Cappadocia demonstrate that small payments were settled in tin, the *annak qatim,* literally "tin of hand." Babylonian tablets of slightly later date refer to *pit-rum* "loose" silver. In the second half of the second millennium, Egyptian traders employed "beaten copper" or "copper in beaten state" to make up differences in the value of the goods they exchanged. Powell (1990: 88) believes that barley "functioned throughout most of Babylonian history as the 'small change' *par excellence.*"

The evidence continues to mount that the Mesopotamians in the later third and earlier second millennium used coils (Sumerian *har;* Akkadian *shewirum*) of metal—mainly silver but also gold, and the "cheaper metals" bronze, lead, tin, and copper—as money. The coils were manufactured in standard sizes corresponding (roughly at least) to multiples of the shekel and could be used for exchange by placing entire coils or pieces on a balance and weighing them. Visual evidence possibly reflecting a similar practice is provided by a scene from an Egyptian tomb of the second half of the second millennium, wherein an individual is weighing out coils of metal. Mesopotamian sale documents of the second half of the third millennium refer to weighing out of silver by the smith: "The one who weighed out the silver"—Sumerian *(lu-)kug-lal-a;* Akkadian *shāqil kaspi;* and probably Latin *libri pens*)—usually a smith (*simug*) or a goldsmith (*kug-dim*) or a merchant (*damkar*). In Ur III the metals disbursed by Lú-^{d}Enki the "smith" often take the form of rings of various weights. "Ring money" is mentioned in the Mari texts and is common in Babylonian documents of the early second millennium (compare Genesis 24.22 and Job 42.11). The Cappadocian and Egyptian texts of the later second millennium refer to several qualities of metallic money.

1 Samuel 2.36 refers to an *ᵃgōrat kesep* "piece, lump" of silver. The use of silver that is in "pieces" or "broken" as money is indicated in late-third-millennium Nippur. From roughly the twenty-third to the fifth century B.C.E.,

Mesopotamian texts call a type of silver used in payments by the name *shibirtu*. Powell (1978a) argues for interpreting *shibirtu* as scrap silver or fragments. Egypt's counterpart would be *hedj em qenqen* "silver scrap" (Castle 1992: 273). Hoards of precious metals found at various Near Eastern and Greek sites dating from as early as the middle of the third millennium are often referred to by scholars as *Hacksilber* "cut-silver." Balmuth (1975: 296) suggests that "although many of these have been called silversmith's hoards, the practicability of exchange by weight suggests that *Hacksilber* could simultaneously be both material for a jeweller and material for exchange." Note that the votive offerings at Delos include ingots made from golden *phêgmata* "flakes, fragments." Loewe (1955: 146–47) reflects on 2 Kings 12 wherein it is recorded that, in the ninth century,

> a collection-box for a repairs fund was set up in the Temple with a hole bored . . . (v. 10) in its lid for the reception of (presumably) small fragments of silver (*Hacksilber*). When some quantity had been collected, the officers concerned *tied it up* (v. 11, . . .) [compare Greenfield 1985: 83] and *counted it out* (. . . , v. 12). (emphasis added)

That the silver is *m*^{e}*tukkan* "counted" raises the possibility that it bore a mark of guarantee.

In Genesis 42.25 and 44.1, Jacob's sons are found traveling to Egypt to purchase grain carrying "money sacks" (or, perhaps, "tied pieces of money"). The money sack or bundle is also found in Proverbs 7.19–20, wherein a woman seeks to entice her lover by telling him "for my husband is not at home, he is gone on a long journey; he has taken the bag of money with him." A hymn recorded on Assyrian tablets of the seventh century to the commercially oriented sun-god Shamash (cf. chapter 1) refers to the merchant as *nash kīsī* "he who bears the bag." A text of the earlier second millennium includes the instruction "open my money bag and [. . .] a ring of sufficient weight." The "sack" in which merchants carried their money assumed the meaning "business capital" in Sumerian *kus-du-gan* and in Akkadian *naruqqu, kīsu.* Egyptian marketplace scenes from mastabas of the middle of the third millennium show traders with small linen sacks tied behind their shoulders. The linen sacks appear to be considerably smaller than the sacks for carrying wares to or from the market, and thus may be money sacks (see Hodjash and Berlev 1980: 45).

EVIDENCE FOR COINAGE

The evidence regarding the origin of "coinage" or at least *guaranteed money* and its presumed absence in the ancient Near East is not nearly so plain as suggested by Polanyi and, more recently, by Goldsmith (1987). To begin with, the references to "tied pieces of money" recall the earlier second millennium's *kaspum kankum* "sealed bags of silver" (cf. Assertion 5). Sealed silver is also noted in texts of the late third millennium. Old Assyrian documents speak of silver "marked" (*uddû*) with its weight (*CAD* s.v. *idû* 4.a). In reflecting on these references, it comes to mind that in eleventh-century-C.E. Egypt and elsewhere in North Africa, in Talmudic times (*ca.* 400–500 C.E.) and earlier in Carthage and in Rome (the *Tesserae*), various coins and (probably) metal fragments were kept in purses labeled on the outside with the contents and sealed by governments or private merchants (compare the term *kosa* in the *Rig Veda*). In addition to keeping the coins "fresh"—that is, preserving their full weight—Udovitch (1979: 267), who studied the usage in medieval Islam, explains that "these packaged and labelled purses made settlement of accounts much more convenient . . . by obviating the need to weigh, array, and evaluate coins for every individual transaction. Significantly, most payments and transfers of funds were executed by the actual physical transfer of the purses." In short, the sealed purses functioned as large-denomination "coins." That this was the role played by the *kaspum kankum* is consistent with the call in eighteenth-century contracts from Larsa for merchants to pay for palace-owned goods with "sealed silver." In one tablet the source of the "sealed silver" is a certain Sin-uselli, possibly the same person whose seal inscription identifies him as "Assayer of the House of Truth (*bīt kittum*) of Ur" and "Servant of (King) Samsuiluna" (Stol 1982: 150–51; compare Bjorkman 1993: 9–10). More directly relevant, however, is the fact that the documents from Cappadocia refer to payments of metal "of (or under) my seal," or "of your seal," or "of the seal" of a third party. According to S. Smith (1922: 183), the "mina of the *bīt karim*" is an official coin of the Old Assyrian trading station. In the Old Babylonian period, there are references to silver "of the seal of Babylon" and other cities. Zaccagnini (personal correspondence) suggests that these references may be to "intact parcels." "Goldsmiths'" hoards of precious metals found in the É.babbar temple of Old Babylonian Larsa included little sacks, probably made of leather. Fragments of the bullae used to "lock" the sacks, several of which are marked with the seal of Sin-uselli, state the weight of the contents, but not what they held. Sealings from the necks of leather bags have been recovered in Ur III strata of the temple of Inanna at Nippur (Zeitler 1987: 223–25). Heichelheim (1958, I: 110) refers rather tersely to "pots and leather bags which we have found officially sealed . . . in Bronze Age Egypt." Indeed, the Amarna letters make several references to a "pot held in pledge" (Moran 1992: 335, 339).

Although they are in the minority, some Egyptologists (e.g., Černý 1954: 910–12) are inclined to believe that Egypt knew a silver coin in the second half of the second millennium. This belief is founded on the expression of prices in terms of the *shat/shaty/shenat/seniu,* an ideographically written word conventionally translated as "piece." Apparently the term refers to a metal object of a given weight. (In the Old Kingdom it is determined by a lump of metal.) In the Eighteenth Dynasty, a text (Papyrus Brooklyn 35.1453A) records the delivery of silver *shatys* to a woman at the *meryet* "quay, marketplace" (Condon 1984: 63–65). There is even an Egyptian inscription, on the Giza monument, of the middle of the third millennium that quotes the price of a house in this uncertain monetary unit. The actual payment consisted, however, of a bed and two types of linen cloth valued at four, three, and two *shatys*, respectively. More importantly, a marketplace scene of the mid-Fifth Dynasty depicted at Saqqara on the double tomb of two brothers shows two traders offering to exchange a role of *netjerew*-fabric (linen) for a *djebawet* "price" of six *shat* (Altenmüller, cited by Renger 1984: 55–56). James (1984: 258) calls attention to the fact that "the purchaser is not shown with any reciprocal object which he can trade against the cloth." Clearly it is a cash transaction. Visual evidence of the *shat* in use may be provided by a market scene of the thirteenth century from a tomb at Thebes. A man takes a container of beer or wine from a booth in exchange for two white circular objects. Glanville (1935: 36) considers it "likely that they are enlarged representations of the shaty." Significantly, in a mid-second-millennium magical text (and elsewhere), the term *shat* arguably denotes the flat seal of a signet ring (*djebat;* see Castle 1992: 266). The seal, of course, is closely linked to the known origins of coinage in the Greek world. *Sêma,* the Greek word meaning "sign, token," has been found on coins of the seventh and sixth centuries B.C.E. from the temple of Artemis in Ephesus: "This is the *sêma* of Phanes." Balmuth (1971: 3) concludes that this is "the equivalent of a sealed piece of pre-weighed metal." Copper coins are indicated when, in *ca.* 2000, Hekanakht (cf. Assertion 13) sends to his agent "24 copper *deben*s" for renting land. James (1984: 245) explains that "the letter says quite clearly '24 copper *debens*', not '24 *debens* of copper', which ought to signify 24 pieces of copper each weighing one *deben.*" Castle (1992: 263–64) notes that "the primary lexical value of *dbn* appears to involve the concept of circularity" and, citing Weigall, he suggests that originally the word *deben* indicated a metal ring, "perhaps acquiring a fixed weight which later became a standard."

In Genesis 23.16, Abraham "weighs" for Ephron's field the sum of 400 shekels of silver *kesep ʿôbēr lassôchēr* "current money of the merchant." The related (abbreviated?) term *kesep ʿôbēr* "current money" appears in 2 Kings 12.5 in a fiscal context. Hurowitz (1986: 290, n.3), taking note of the Old Assyrian usage—*kaspum asshumi* PN (personal name) *equlam ittiq* "silver will travel overland to the name of PN"—concludes that the silver "must have been of a standard, recognized quality." Since there is no mention in Genesis of a test of the quality of the metal, it does not seem unreasonable to think of a "coin" guaranteed by a merchant's stamp or seal. (Fifth-century Israelite money-changers personally guaranteed Greek and Persian coins by striking them with a countermark.) With respect to "weighing," Balmuth (1975: 295–96) has observed that many words used for an amount of money derive from roots meaning "to count" or "to weigh" or "to cut off." She points out, however, that the English pound and the Greek *statêr* and *talanton* evolved from weights into coins, just as the meaning of Greek *koptein* and Aramaic *prs* changed from "to cut" to "to strike (coinage)." Seen in evolutionary perspective, the term "*weighed*" (and "cut") comes to mean "*paid.*" The evidence is consistent with the view that Abraham paid out partially or fully guaranteed coins for Ephron's field.[2]

Assyrian loan contracts of the eighth to seventh centuries utilize various formulas to advance "silver of (*sha*) (the goddess) Ishtar (of the city) Arbela (or Nineveh or Bīt Kidmuri)." Lipiński (1979a) argued against interpreting this phrase to mean "temple capital." Expressions of this kind, he suggested, refer to the quality of the metal, and their inclusion in contracts makes no sense unless the metal is impressed with a stamp of guarantee. Thus, we find a contract of the late eighth century lending "silver of (*sha*) the *damkar* 'commercial agent' of (*sha*) Ishtar of Arbela," in which *neither the temple nor the commercial agent appear as contractors.* It is difficult to see how this silver could be identified as "of the commercial agent" unless it bore a mark. Indeed, the document in question originates about 50 miles from Arbela in Imgur-Bel (Balawat). It would appear that silver impressed with the mark of the commercial agent of Ishtar of Arbela circulated and came into the hands of a businessman named Silli-Bel. Contracts of the seventh century that never identify the lender as a temple official or agent refer, in addition to "silver of Ishtar," to "silver of the *sag.du* of Ishtar" or to "silver of the *sag.mes* of Ishtar." Lipiński (1979a) suggested that the Neo-Assyrian normalization of the logogram *sag.mes* is *rēshāti* meaning "*first quality.*"

More recently, Lipiński (1985: 344) agreed with Postgate (1983) that *rēshāti* might mean "*first fruits,*" thus raising the possibility that "silver of Ishtar" is either silver donated to the temple or silver realized by the sale of in-kind donations. According to Postgate (1983: 158), "first fruits of Ishtar" is merely a "technical designation" for privately owned silver deposited in a temple for safekeeping. Postgate offers neither evidence nor explanation for the designation of deposits as "offerings" and, moreover, the description of loaned-out silver as "of Ishtar" seems utterly pointless under his interpretation: "silver is silver." A further problem is, as Postgate (1983: 156) admits, that the Neo-Assyrian temples employed *two* technical designations for the alleged private offerings/deposits: *rēshāti* "first fruits" and *ginû* denoting "regular offerings." The two terms might, of course, be interpreted more easily along the lines of Lipiński's original position, in which *rēshāti* refers to "prime quality" silver and *ginû* perhaps denotes "low quality" or "ordinary, standard" silver (*CAD* s.v. *ginû*).[3]

In addition, as already noted, many of the loan contracts do not mention the alleged "first fruits," and there is no impediment to thinking that the non-*rēshāti* silver, at least, was impressed with a stamp of guarantee by a temple. An Aramaic loan contract the mid-seventh century simply gives "silver of (*l*) (the god) Hadad" to a businessman named Sehr-nuri; and, indeed, mentions of "silver of Ishtar (or Shamash)" are found in texts of the earlier second millennium.

In the Near East and the Greco-Roman sphere, "capital" or, more specifically, "money" are well-attested nuances of words whose primary meaning is "head," including, for example, Akkadian *qaqqadu* = *sag.du/sag,* Demotic *djadja,* Greek *kraros* and *kephalê,* and Latin *caput/kaput* (Silver 1992: chapter

1). Further, Assyrian *rēshāti* is to be referred to Hebrew *rē'shît,* which comes from the same root as *rō'sh* "head" (Lipiński, personal correspondence; Mitchell 1988: 273). Old Babylonian commercial documents refer to "heads of Shamash." A number of older scholars interpreted such phrases to mean that temples issued coins engraved with the heads of gods (e.g., Johns 1904: 256; Olmstead 1930: 226). Texts of the mid-third millennium refer to an *e-sa(g)* "house of head." The interpretation "treasury" is supported, as Cooper (1986: 53) points out, by such titles as "scribe of the house of head." A working hypothesis is that the silver "heads"—Neo-Assyrian, Old Babylonian, and Sumerian—are "coins."

In his seminal article of 1979, Lipiński discussed two loan contracts referring to a silver *aklu* "loaf" and a *(c)huchhuru* "round loaf" that possessed "the high degree of fineness of Ishtar." Texts of the fifteenth century from Alalakh also refer to the monetary "loaf" or "talent" (*kakkaru*). It is plausible that these temple-issued "loaves" were "coins" accepted by the public without the necessity for tests of metal quality and, possibly, for weighing. Several bread-shaped ingots of the eighth century inscribed with the name of a king preceded by the Aramic letter *lamed* have actually been found in the palace of Zinjirli, a north Syrian state located on the only good crossing of the Amanus mountains from east to west. The meaning of the possessive *l* is debated. One possibility is that it means "belonging to" in the sense of personal possession. Balmuth (1971: 3), however, suggests that it means "on behalf of" or "in the name of" (its meaning on coins of later times) and, therefore, that the inscription represents a royal guarantee.[4]

Archaeology has provided additional evidence. First, a number of the bun-shaped copper ingots recovered from the Bronze Age shipwrecks off Gelidonya and Ulu Burun bear a mark (Pulak 1988: 711). Unexplained markings have also been found on a number of ox-hide or double-axe copper ingots of the same era (cf. Assertion 7; Silver 1992: chap. 1). Three metal rings in a hoard from Amarna, Akhenaten's capital, have incised designs on the ends (Frankfort and Pendlebury, cited by Castle 1992: 269). Perhaps the markings were intended to prevent the cutting of rings of a fixed weight and metal quality. The excavations at Assur uncovered lead ingots with a vague stamp and lead discs of various sizes with a symbol on one side (S. Smith 1922: 180–82). The so-called "Elamite coin" from a hoard near Kabul is a three-quarter-inch square of silver bearing a fragmentary inscription, and a fragment of a silver bar from a seventh-century site in Iran bears traces of cuneiform writing.

Such evidence suggests that in various places and times the ancient Near East had at least partially guaranteed money, stamped by temple or merchant to lower transaction costs and facilitate the widening and intensification of market exchanges.

THE QUESTION OF TOKEN COINAGE

Briefly defined, a "token" coin circulates for more than its commodity value and lacks an issuer's guarantee of convertibility. The cost of a token money is the cost of building brand-name capital—that is, of establishing user confidence in the token's monetary services. Given this confidence-capital, the use of a token money operates to raise living standards by lowering transport and storage costs and, most importantly, by reducing the real resources employed in acquiring the medium of exchange—for example, in mining silver or in producing cloth for export in return for silver (Friedman 1959: 4–9). The freed resources would, of course, be available for other production or consumption activities. The danger of a token money, evident in our own times, is that a monopolist issuer might seek, despite the ultimate destruction of his brand-name capital, to increase his command over the national income by "printing" excessive amounts of the token. This would tend to disrupt the economy; and, in the end (if large enough), the "inflation tax" might lead to a return to a strict commodity medium of exchange—whether the monopolist agreed or not.

The ancient Near East experienced periods of steep price inflation in Sumer under Ibbi-Sin, the last ruler of the Ur III Dynasty (Curtis and Hallo 1959: 109, n.35); in Egypt under Rameses VII during the later second millennium in the middle of the Twentieth Dynasty (Černý 1954: 911, 921; Jacob J. Janssen 1975a: 551–52); and in Babylonia's Persian period (Dubberstein 1938: 43). Is it merely a coincidence that Egyptian prices ceased to be quoted in "pieces" (the *seniu* noted earlier) at about this time? The importance of token money in causing inflation would, however, be difficult to isolate, because during the later Ramesside era the availability of gold, silver, and copper increased as a result of the looting of temples and tombs. The possibility that the ancient Near East knew a royal-, temple-, or city-stamped token coinage is raised more concretely by a Babylonian word, *nuchhutu* (found in the seventh and sixth centuries), and by another word from the Persian period, *ginnu.* The former word is found in a phrase often translated as "low quality silver which has one-eighth alloy in each shekel" (Powell 1978a: 223–24). *CAD* (s.v.) cites "silver with the *ginnu*-mark" and "silver with the *ginnu*-mark for buying and selling." Texts of the Persian period provide food for thought: A temple and a government official warn two goldsmiths employed by the temple of Eanna that "if you (again) cast (objects out of) silver provided with the *ginnu*-mark you will have committed a serious crime against the king"; "Give one mina of my silver, but there exists a royal order that silver with the *ginnu*-mark cannot be given (for that purpose), take (therefore) refined silver"; "The lord sent me twenty shekels of silver by PN [personal name], when I opened it, three shekels of it was (inferior) scraps and the balance had the *ginnu*-mark" (*CAD* s.v. *ginnu*). *CAD* concludes that "the marking of currency silver indicated that the metal was of inferior quality and only to be used as currency, not for the making of ingots or silver objects."

Was the melting down of lower-quality silver a hedge against fiat money inflation?

Assertion 10

In the ancient world, the farthest colonies were usually the first to be founded and, similarly, trade over the longest distances tended to precede trade over shorter distances. Note further that foreign commerce was much larger than domestic trade in Hammurabi's Babylonia (based on Polanyi 1981: liii, 78).

The allegation here is that whereas the more important long-distance trade is of an administered nature (cf. Assertion 1), local trade, with its presumably greater potential for regularized exchange of bulk items, is still in its infancy. In a strange way, Assertion 10 can be interpreted as an unconscious tribute to what Polanyi condescendingly calls "economistic thinking." If transport costs are put aside, differences in comparative advantage and, consequently, in the gains from trade would tend to increase with the distance between trading partners. That is, as the distance between two "countries" increased, so would differences in climate, natural resources, and technical knowledge and, hence, in the slopes of their transformation curves for, say, cloth (C) and metal (M), for given C and M.

Graham (1971) points out that Pithecusae (contemporary Ischia), situated in the Bay of Naples close to Etruria (Tuscany) and the river valley systems of Latium and Campania, was Greece's earliest colony (*apoikia,* LSJ s.v.) in the West and also its most distant. The archaeological evidence suggests that, basing itself on Etrurian metals, this hilly volcanic island, ill suited to grain cultivation, became the center of a metallurgical industry that exported its products to the eastern and western Mediterranean (cf. Heurgon 1973: 76).

Figueira (1984: 24) points out that Aigina, a successful trading state, depended on the conjunction in its market of "long distance, often extra-Hellenic, trading routes and local retailing networks" by means of which the Aiginetans introduced the *Aiginaia* or foreign craft goods into mainland Greece. Contrary to Polanyi, the Near Eastern evidence does not demonstrate the preponderance of long-distance over local trade or the unimportance of local commerce. Mesopotamian texts of the later third millennium provide clear evidence of inland navigation and trade in locally available products. Indeed, Snell (1982: 49), who studied texts of silver-balanced accounts from three merchants composed in one city in the same month of the same year, found that in terms of silver value about 90 percent of the goods acquired were of Mesopotamian origin (e.g., fish, grain, leather, wool) and only about 10 percent were of foreign origin (e.g., fruits, spices, metals). Many Babylonian letters of the earlier second millennium refer to domestic trade, mostly by boat (e.g., the *ma-sě* "grainboats" of the south). The ports of call were numerous, as were the goods transported: foodstuffs, wool, timber, and bricks as well as metals and timber. Large quantities of wine were shipped within Syria to Mari, including one shipment, probably from Carchemish, amounting to 1,100 gallons. For Egypt there is ample evidence of traffic along the Nile. A few examples should suffice. Rameses II (1290–1224 or 1304–1237) claims in a stela that he had "brought by water Upper Egypt to Lower and Lower Egypt to Upper, in barley, emmer, wheat, . . . , fruit(?), and beans without number" (Gardiner 1947, I: 21). Egyptian papryi of the later second millennium confirm the internal transport by freighter of various goods, including oil, wine, olives, fish, cucumbers, salt, garments, and papyrus. Papyrus Lansing, in extolling the life of the scribe, recounts that "the merchants [*shewtyew*] fare downstream and are busy as copper, carrying wares (from) one town to another, and supplying him who has not" (Blackman and Peet 1925: 288; Castle 1992: 256–57).

Assertion 11

The profit of the modern merchant depends on the spread between buying and selling prices and the incidence of bad debts. However, the income of the Mesopotamian trader depended mostly on landed property and the payment of rations from the palace stores. Thus, the Assyrian colony in Cappadocia engaged in riskless transactions under fixed prices. The traders made their profit on commission fees (based on Polanyi 1981: xlii, 87, 138–39).

The implication is clear enough. It is difficult to conceive of business without risk-bearing businesmen. "At some time before our era," Polanyi (1981: 139) explains, "the figure of the *tamkāru* was replaced by a figure resembling that of the merchant." The following response is intended only to illustrate the independent business role of merchants, not to explore fully and settle the long-debated problem of "palace" versus "private" traders (but cf. chapter 3). The evolution of the *tamkāru*'s role has been studied by Dandamayev (1971).

TAMKĀRU AND *DAMKAR*

In the cycle of stories about the Kings of Akkad, we find one (in an Akkadian tablet from Amarna and in Hittite fragments) about Sargon, the founder of the Dynasty, called "King of Battle," in which merchants (obviously independent, profit-seeking merchants) petition the great king (offering to pay his expenses) to open the trade routes to the north and northwest (Vanstiphout 1991: 228). The hymn to the sun-god Shamash (seventh century B.C.E.) compares the profitability and risks of long- and short-term investments and mentions "the *tamkārum* carrying his capital" (Nakata 1971: 101).

The Assyrians trading in Cappadocia in the early second millennium were basically independent businessmen, not agents of palace or temple. This is nicely illustrated by a letter wherein a great merchant complains that he was losing much profit because of delays in obtaining a loan to finance an enterprise. It is clear that merchants sent their goods to Cappadocia without guarantee of prices in advance, and, indeed, *ibbisû* ''losses'' are often referred to. Usuranum complains that

> you did not send me the money payable by my customers. I hear that my cloths which arrived with Uzaria's son have been sold for cash upon delivery. . . . Be careful and send me with the (next) courier a clear (report) about either the long-term claim(s) of mine or the (sums received as) cash upon delivery or the (sums credited to) my account. (J. Lewy 1956: 75–76)

Usuranum had no idea how much was due him for the sale of his goods. We find also the lament ''I bought tin at a bad (price)'' and the instructions ''if textiles are too expensive, buy tin'' and ''buy (pl.) one thin textile for me and let me know the price'' (*CAD* s.v. *shâmu* A.1b). Again, a merchant is informed that ''since tin was in short supply we did not take a loan from a moneylender and did not make purchases for you'' (*CAD* s.v. *shâmu* A.1b). Another reports that ''I saw a chance to get a bargain (so) I borrowed money at interest and bought'' (*CAD* s.v. *shâmu* A.1c). The agent Kurub-Ishtar asked his principals for silver, explaining that he had borrowed silver at interest in order to take advantage of ''a buy'' (Veenhof 1987: 56). Agents were instructed not to sell below a specified price, and in other instances their principals authorized sale *batiq wattur* ''at any price.'' A certain Pilahā wrote to Kulumā and Buzazu: ''As to the price of my *shilipka*-garment, your common interest should not be violated. Make as much as you can and send me (the proceeds) whether little or much'' (Balkan 1967: 400).

At roughly the same time, the Persian Gulf trade with Tilmun (Bahrain) was in the hands of merchants who styled themselves *ālik Tilmun,* a phrase translated as ''go-getters of Tilmun'' by Mallowan (1965: 6). Apparently, they were financed by private investors entitled to buy the copper they brought back from Tilmun at a contractually specified price but not responsible for any losses. An Old Babylonian partnership contract from Ischali states,

> 1 mina partnership money, at the beginning of the trading journey, from Bur-Sin did Naram-ilishu son of Sin-bani borrow. He will go; he will return and present his report to (his) principal. (If) he has entrusted (goods to another or if) he has left them behind, out of his own capital he must pay it back; (any merchandise) entrusted (or debts) outstanding the principal will not acknowledge. (Greengus 1986: 185)

At Nuzi, *tamkārū* appear on royal ''ration lists,'' but ''private'' individuals also employed them for their own enterprises. A lawsuit attests to self-employed merchants, at least in the slave trade: A merchant who wished to sell a slave for 60 shekels of silver refused to heed the buyer's objection that a royal proclamation had fixed the maximum price at 30 shekels. Other Nuzi texts show merchants borrowing from private lenders for business ventures. Ugaritic texts demonstrate private ownership of ships, and in one case a merchant (*mkr*) attempts to purchase ships. Elsewhere the king of Ugarit declared the vessel of Sinaranu the son of Siginu to be "exempt from duty when it arrived from Kabtur [Crete]" (Strange 1980: 102). We also have texts in which private individuals, including merchants (*mkrm*), pay large sums of gold for trading concessions and the authority to collect harbor taxes. At roughly the same time, the ruler of Cyprus, in requesting payment for a shipment of lumber, informs Pharaoh that "the people of the land murmur against me" (Liverani 1979b: 29, n.42). Why did the people "murmur"? Were the "murmurers," so to speak, "stockholders" in a royal export enterprise? Or, more likely, were they independent merchants who had not received payment for their lumber and asked the king to intercede on their behalf?

During the reign of Hammurabi and his son Samsuiluna over Larsa, individuals who were involved in the collection and sale of tax goods also "engaged in private commercial activities with the goods entrusted to them" (Stol 1982: 148). For the Old Babylonian period, there is little evidence connecting *tamkārum* with palace. *Damkar*'s do not appear on royal ration lists in the Ur III period. Further, during this era the seals of *damkar*'s do not depict royal presentations (i.e., an individual before a seated king), and in only one case is there a royal-name formula. The implication of this, Winter (1987: 79) suggests, is that these traders were not members of the bureaucracy or employees of the crown. Consistent with this perspective, although the balanced account documents of this era were prepared by (or for) a central accounting agency, little in the accounts demonstrates that the *damkar* was an employee of the palace. Again, as in Old Babylonian times, the balance might be privately loaned out. To place the asset, expenditure, and balance sections in economic perspective, it should be recalled that independent audits, whether initiated by private trading houses or government bureaus, are standard tools for monitoring the activities of businessmen operating with outside capital (cf. Assertion 5).

In some cases, the ancient texts make distinctions among *tamkārū* that are suggestive of a palace/private division of labor. For example, Heltzer's (1978: 128–30) disputed view is that Ugarit knew two categories of merchants: *tamkārū sha shêpi,* who were dependents of the king; and *tamkārū sha mandatti,* who clearly possessed their own trade goods and for whom there is no direct evidence that they traded with palace goods rather than their own. Heltzer's interpretation has been criticized by Vargyas (1986: 114–15), who notes, among other points, that *mandattu* "may mean private property, or the property of a trading company (*tappûtu*) . . . or may as well denote royal property" (cf. Rainey 1964: 313). Rainey (1964: 319) notes that "some of the foreign merchants who came [to Ugarit] evidently represented private or semi-private enterprises. A certain Aballā referred to the *tamkāru sha qātiya,* 'merchants under my authority' (lit. of my hand). Tamimmu, himself a *tamkāru,* also spoke of 'my merchants.' "

At Ebla, according to Pettinato (1981: 114), the *lu-kar* "man of the commercial center" is a private businessman and the kas_4 or *lu*-kas_4 "messenger" is a merchant for the palace. The Bible also provides evidence for tenth-century Israel, again disputed philologically. 1 Kings 10.15 takes note, in Gray's (1970: 262–69) translation, of that portion of King Solomon's gold originating in "the taxes (tolls) (*ʿonshê*) on the merchants (*tārīm*) and the traffic (*umissahar*) of the traders (*roklīm*) of all the kings of the Arabs (*ʿrāb*) and the governors of the land." This translation involves a number of emendations of the Massoretic text, most importantly *ʿonshê* for *ʾanshê* "men." Although the distinction is perhaps more literary than substantive, it seems possible, assuming *ʾanshê/ʿonshê* = "tax, toll," that tenth-century Israel had two classes of merchants: *roklīm* (and *sochare ha-melek*), who served kings, and tax-paying *tārīm* (and *sochare?*), who were basically independent merchants.[5]

Taken as a whole, the aforementioned evidence suggests that *tamkāru* and *damkar* might act as independent businesspersons and/or serve as agents for various principals, including other private merchants and the palace. A parallel may be found in the mythological figure of the adventurer Herakles, who, in addition to commissions (*aethloi*) on behalf of various principals, also acted on his own behalf (the *praxeis* and *parerga*) and, presumably, with his own capital (Silver 1992: chap. 5.B).

With respect to the claim that larger-scale trading in Pharaonic Egypt was a virtual state monopoly, Jacob J. Janssen (1975b: 163) remarks that "at present there is not material to prove that this is what happened, although there is no document proving the contrary." One can always argue about what constitutes "proof," but this is simply not true. The lines from Papyrus Lansing quoted in the discussion of Assertion 10 show us busy *shewtyew* "merchants" who apparently are subject to the tax collector, a reading that, contrary to Reineke's (1979: 11) view, does not suggest that they were royal employees. Another papyrus dating to this period (1350–1200) refers to "the itinerant merchant (who) sails downstream to the Delta to get trade for himself" (Wilson 1969: 432). The Tomb Robbery Papyri of the twelfth century include many references to *shewtyew* whose affiliations, if any, remain unstated. That these merchants were independent is suggested by the fact that "the scribes are otherwise particular in referring to the affiliations of witnesses for purposes of identification" (Castle 1992: 253). Further, Papyrus Boulaq 11 (probably dating to the Eighteenth Dynasty) provides no affiliations for its merchants. The latter, Castle (1992: 253, 257) notes, purchased meat and wine and, in one instance, paid in gold to the tune of 2.5 *shat*.

An earlier text (Papyrus Louvre E. 3226) shows us that departments of the royal administration regularly gave grain to specialized traders (*beneryew*) who, somewhat later, delivered dates (Megally 1977: 254–57). The terminology employed raises the possibility that the grain was sold and the proceeds used to purchase dates, or perhaps this was a barter transaction. The document does not disclose who produced the dates or where they originated. On the other hand, it is apparent that the date sellers were not government employees. Campbell (1970: 59) cites a papyrus of the fourteenth century from Kahun that was published in 1906 and lists three business transactions involving private persons. The traders, known as *sementyew* ''man with a sack'' according to Hatshepsut's inscription, brought incense from the ''God's Land'' (cf. chapter 1 and Assertion 9).

That a private individual in the late third millennium might own a cargo-boat is hinted at by the inscription of Qedes of Gebelein (cf. chapter 2.F) and proven by the Edict of Horemheb dating from the second half of the fourteenth century (Pflüger 1946: 261). As in Ugarit and Babylonia, we find references to ''the ship of Personal Name'' (Säve-Söderbergh 1946: 61). A Ugaritic text records the transfer of oil to ''Abrm of Egypt'' (RS 18.42: 3–4, cited by Castle 1992: 255). Papyrus Anastasi IV demonstrates that even a sea-going vessel was not beyond the means of a rich man: A rich man is mentioned as using his ship to bring goods to Egypt from Syria (cf. Assertion 12 for the late third millennium). Moreover, two other papyri concerned with merchants suggest that private commercial firms (*per neb;* cf. chapter 2.D) operated in Egypt as elsewhere in the ancient Near East. Papyrus Lansing states that ''the ship's crews of every 'house' [firm] they take up their freights. They depart to Syria'' (Blackman and Peet 1925: 288). Obviously, then, there were trading ''houses'' operating in Egypt besides Pharaoh's. The account of Wenamon provides strong hints that Syrian trading firms operated in late-eleventh-century Egypt (cf. Assertion 1). Wenamon, who traveled to Lebanon to purchase lumber for the bark of the god Amon, was informed upon arrival by the king of Byblos: ''As for . . . Sidon . . . surely there are . . . fifty freighters [Ugaritic *baru* 'small ships'] there which are in commerce [*(c)hubûr*] with Warkatara, for it is to his 'house' that they haul'' (Wente 1972: 147–48). B. Mazar (1986: 67) notes that ''Wakatara'' or ''Warkatala'' is a non-Semitic name that may be of Anatolian or Aegean origin. He was probably a merchant operating at Tanis in the northeast portion of the Nile Delta.

Assertion 12

The traders of the ancient world belonged either to the upper or the lower class. The commercial middle class is a product of nineteenth-century Western capitalism (based on Polanyi 1981: 86).

Along a related line, Kemp (1989: 259), an Egyptologist, states that ''rich people enjoyed the benefits of trading but did not pursue it as an occupation, whilst the idea that the activity could bring wealth and position on its own terms was literally unthinkable to all concerned.'' Nevertheless, it might be informative to know how exactly the commoner Qedes of Gebelein acquired the livestock, great field, large and small boat, and granaries to which he refers with obvious pride in the inscription he had erected in the later third millennium. A characteristic feature of tomb inscriptions of this era is the owner's reference to "making (material) acquisitions by my (own) arm [*(k)hepesh*]" (Polotsky 1930: 194, 196). These inscriptions, Nibbi (1981: 165–67) adds, refer to "fleets of cargo boats travelling backwards and forwards with valuable cargoes. . . . There can be no doubt that these texts speak of private enterprise and private fortunes" (cf. Assertion 11).

The evidence from elsewhere in the Near East is more ample than the Egyptian, however. That merchant firms varied in size and wealth is evident from the documents. The Assyrian trade with Cappadocia in the early second millennium was conducted not only by large merchants belonging to the *kāru* (the official governing authority of a commercial colony) but also by smaller entrepreneurs, who functioned as transporters and junior agents. Veenhof (1978: 117–18) cites several instances in which these "middle-class" businessmen succeeded in rising to become members of the *kāru*. Thus a dispute concerning ownership of some iron was settled by the decision of the "*kāru* Kanesh, small and large" (Matouš 1974: 185). Babylonian trading firms also employed agents of varying degrees of independence. Similarly, at Ugarit one merchant refers to the "merchants under my authority" and another to "my merchants."

The relative importance in antiquity of "middle-class" (a vague term) merchants cannot be determined from the evidence. A text from Ugarit does, however, permit us a glimpse of a commercial middle class. In a lengthy list of taxpayers, the highest social group is that of *mrynm* "charioteers." This group included the large landowners and merchants who provided chariots at their own expense and served as the elite corps of the armed forces. But Astour (1972: 26) argues that "merchants of lesser importance fulfilled their duty toward the defense of the kingdom by serving with their own weapons in the ranks of *mzrglm* (guards)."

Assertion 13

Economic solipsism is an outstanding feature of the market mentality. This is the view that commercial activity is "natural" to men and that markets would thus come into being unless prohibited by the government or other external forces (based on Polanyi 1981: 14–15).

ANCIENT ECONOMIC MAN

Polanyi's main thrust anticipates scholars such as Moses Finley (1973, 1985) and Paul Millett (1991: especially 165–71), who maintain that, unlike modern economic man, ancient man was motivated primarily by considerations of status and communal solidarity. The postulate of wealth-maximizing used by contemporary economists is said to be utterly inappropriate to the "irrational," that is, nonutilitarian, ancients.

In a valuable article, W.E. Thompson (1982: 55, 59, 72) has extracted several nuggets of profit-oriented entrepreneurial behavior from Athenian documents of the fourth century B.C.E.: (1) "a loan by a banker to enable a captain to refinance the purchase of his ship on credit (Dem. 33.4–7) and a passage (Dem. 49.35–36) where the speaker implicitly admits [to the jury] that a banker would lend money to pay the freightage of merchandise imported for sale in Athens"; (2) "sums of one talent and three talents paid to the poletai for mining rights" and "from Lysias that one man and his son even borrowed 2000 drachmai to purchase mines"; (3) a "defendant sold some metalworkers to one Amyntas, who resold them to his brother-in-law Timochares of Acharnai on credit. The purchase price was 35 minai and the interest 12 minai, 34 per cent"; and (4) "Apart from the Orators, we find Socrates saying that a number of men made large sums from businesses such as milling, baking, and textiles." The following examples may be added to Thompson's. In Theophrastus' (*ca.* 370–*ca.* 287) *Characters,* we see an "unpleasant" person who specializes in short-term lending to small traders in the *agora* "marketplace" (cited by Millett 1991: 179–82). Obviously, the loans in question are for productive purposes, not for consumption. A fragment of the Attic orator Lysias (*ca.* 458–*ca.* 380) reveals that the impoverished spendthrift Aeschines, a pupil of Socrates, sought to coax a loan from a banker by explaining, "I am setting up in the trade of making perfume. I need funds (*aphormēs*) and will pay you interest at nine obols per month [1½ percent per month]" (translations and insertions from Millett 1991: 1). Aeschines' rationale for the loan would have been senseless if loans from bankers to entrepreneurs were not commonplace (compare Millett 1991: 1). Again, in a speech of Demosthenes we learn that one Pantaentus borrowed some 105 minai in order to purchase an ore-crushing mill (*ergastêrion*) and slaves (Millett 1991: 192–93). Examples might be multiplied. It is difficult to follow Millett (1991: 73) when he alleges an "absence of a productive or entrepreneurial mentality in Athens."

Millett (1991: 59, 72), despite the preceding examples, also suggests that "credit in Athens was overwhelmingly sought for non-productive purposes. Only exceptionally, if ever, did a borrower take out a loan with the intention of increasing his wealth." Let us grant Millett's (disputed) analysis of the source material in order to focus on the meaning and significance of his conclusion. In the first place, it might be objected that Millett nowhere tells us the fraction of all loans that should be for "productive" purposes before, to use his own phrase, he would be willing to "inject a productive element into Athenian credit relations" (1991: 59). At a deeper level, in order to judge the *economic importance* of productive credit, one should relate its quantity to total capital formation, not to total lending. Millett (1991: 191) comes close to this kind of formulation of the problem when he observes that "although quantification is out of the question, evidence for the familiarity of maritime loans strengthen the impression that they financed a significant proportion of Athens' overseas trade."

It is not easy to find historical evidence casting direct light on motives, whether of status or profit. But the letters from an Egyptian farmer named Hekanakht to his family in about 2000 B.C.E. are revealing. (The translation is that of Baer 1963; cf. Goedicke 1984.)

Letter 1

Be energetic in cultivating! Take care! My seed must be preserved. . . . You should send Heti's son Nakht and Sinebut down to Perhaa to cultivate [for us] *x arouras* of rented land. They shall take its rent from the *mn*-cloth woven there where you are. But if they have sold the emmer which is in Perhaa, they shall pay it (the rent) out of it (the payment for the grain) also, so that you will not have to concern yourself with the *mn*-cloth of which I said, "Weave it, and they shall take it to be sold in Nebesit, and they shall rent land for its price." . . . Now as for everything which Heti's son Nakht will do (for me) in Perhaa, I have allotted him a ration (for) not more than one month, amounting to a [*khar*] of northern barley, and I have allotted a second (ration) amounting to 5 [*hekat*] of northern barley to his dependents at the first of the month. If you overstep this (limit), I will treat it as a misappropriation on your part.

Letter 2

You shall only give this food to my people as long as they are working. Take care! Hoe all my fields, sieve (the seed grain?) with the sieve and hack with your noses in the work. If they are energetic, you will be thanked, so that I will not have to scold you. . . . Be energetic! You are eating my food. . . . Now I have caused 24 *deben* of copper [better: 24 copper *debens*] for the rent of land to be brought to you by Sithathor. Now have 20(?) *arouras* of land cultivated for us in Perhaa beside Hau the Younger by (paying) the rent with copper, clothes, northern barley or any[thing], but only after you have sold the oil and everything else there. (Source of bracketed translation: James 1984: 24)

Despite obscurities in meaning, it is clear that Hekanakht did not possess the antimarket mentality of fourth-century-B.C.E. Greek philosophers. Indeed, he possessed the "marketing mind," said by Polanyi (1981: 5) to be "peculiar to conditions of life under the type of economy the nineteenth century created in all industrial societies." So did the Old Assyrian merchants who discussed routes, including whether to take the "danger route" in order to avoid taxes; the Old Babylonian letter-writers who offered instructions about where "to look (for merchandise)"; and the important merchant at Ugarit who wrote to an associate advising him of the profitable trade opportunities in Hittite Anatolia. Significantly, the Akkadian word *nēmelu* "gain, profit," found from the Old Assyrian and Old Babylonian periods on (*CAD* s.v.), "is a *mapras* . . . noun derived from the Semitic verbal root *ʿml* 'exert', which is frequently attested in Hebrew meaning 'exert oneself' " (Gruber 1990: 413, n.10). A trio of mosaic designs at Pompeii offers eloquent and succint testimony of a market mentality: *Lucrum Gaudium* "Profit is a delight!"; *Lucrum Accipe* "Aquire a profit!";

and *Salve Lucru(m)* "Hail Profit!" (R.I. Curtis 1984–1988: 213). Nor was pride in material achievement completely lacking in antiquity.

ECONOMIC MODELS OF ANTIQUITY

None of this is to suggest that the ancient Egyptians and Sumerians spent every moment "accumulating capital." Marx's capitalist and the modern economic theorist's profit-maximizing entrepreneur are, after all, caricatures or models, not realistic representations of businesspersons. We may, however, cite a speech of the orator Demosthenes (384–322) in which he explains that Pasiôn, at his death the richest banker and manufacturer of his time, became a debtor out of *philergia* "a love of activity" (cited by Millett 1991: 72–73). A silver miner told the jury that he made a fortune by "laboring and working with my own body" and he did this out of *philergia* (Demosthenes 42.20, cited by W.E. Thompson 1982 and Millett 1991: 273, n.31). Thompson (1982: 65) notes that "several men . . . continued to sail as merchants even after amassing enough money to become lenders themselves." Similarly, in his *Oeconomicus* (20: 22–28), Xenophon (*ca.* 428–*ca.* 354) shows us an individual who purchased run-down farms, which he sold for a profit after having improved them. This was done, Xenophon reports, out of *philergia* (cited by Millett 1991: 272–73, n.31).

Finley's (1973: 23, 144) assertion that antiquity's "prevailing mentality was acquisitive but not productive" is entirely without merit; his claim that "no modern investment model is applicable to the preferences of the men who dominated ancient society" simply misunderstands the nature of economic models.[6] Finley might just as well have pronounced that mathematical models of investment are not applicable to the preferences of the men who "dominate" modern society. Economic theories, like workable theories in other fields, are useful simplifications. Having made this disclaimer, we should add that Old Assyrian texts characterize silver and merchandise that is not being turned over as "hungry": "You sent me silver saying: 'It must not get hungry!' Following your instructions I have bought tin, expensive. And now this tin has become hungry over there. But today tin is available at a price of 16 (shekels) for 1 (shekel) of silver and even more!" (Veenhof 1987: 62). The texts also refer to the "love of money" and the desire "to make money" (Veenhof 1987: 64).

Assertion 14

The uses comprised in the popular tidennūttu *contract in Nuzi society of the fifteenth century* B.C. *might, in modern terms, be classified as usufruct, tenancy, renting, and labor service. However, the vital and validating dimension of the transaction is the absence of gain made at the expense of another (based on Polanyi 1981: 70–71).*

Polanyi wishes to emphasize the importance in ancient societies of communal solidarity as opposed to economic motivations, but, inadvertently, he has accomplished the opposite result. The *tidennūtu* contracts Polanyi lauds were in all likelihood ingenious subterfuges designed to overcome legal obstacles to "exploitative transactions." More specifically, there is reason to believe that they represented an attempt to disguise illegal or illegally high interest charges as land or labor services.[7] Another legal subterfuge for which Nuzi is justly famous is the *mārūtu*-contract (see, e.g., Zaccagnini 1984: 82–83 and chapter 7 of this book). It would appear that, at this time, land (or some categories of land) could be legally transferred only to a relative of the landowner (cf. Assertion 6). (The land lists from Nuzi do distinguish between "paternal fields" [e.g., JEN 641] and fields *sha bābi* "of the gate"—i.e., the marketplace; cf. Assertion 8.) Alternatively, land sales were unenforceable in the courts or were highly taxed. To circumvent the restriction, whatever its exact nature, the landlord—in return for a *qīshtu* "gift, compensation" (*CAD* s.v.) equal to the estimated value of the land—legally adopted the buyer (compare T.L. Thompson 1974: 208–11). A prominent businesswoman at Nuzi named Tulpunnaya was adopted frequently as a "son" in order to acquire land.

Assertions encountered in the literature that only the lender profited from a *tidennūtu* contract and discussions about whether the adopter or adoptee instigated a *mārūtu* transaction are economically naïve. An uncoerced exchange benefits both parties. Unless each of the contractors views his postexchange position to be superior to his preexchange position, exchange will not take place. Trade is a positive-sum game. With respect to the *tidennūtu* and *mārūtu* transactions, the main lesson is that when ancient governments sought to stamp out economic exploitation, ancient men and women sought to find legal expedients by means of which they might continue to exploit or be exploited. This truth is also evident in archaic Greece, as we shall see in chapter 7.B. The legal fictions became as convoluted as any of today.

NOTES

1. In fact, ancient gates and streets were places of advertising. Information was conveyed by means of posted notices and public criers. Note the Roman *proscriptiō* "a written notice announcing a sale" (*OLD* s.v. 1) that was posted by the *praeco* "auctioneer" (*OLD* s.v.). Merchants used eye-catching signs and painted labels (Latin *tituli pictī*) on transport containers to advertise their wares—for example, "fish sauce, the flower of the flower" (R.I. Curtis 1991: chap. 7). Rome's celebrated comic poet Plautus (*ca.* 250–184) mentions the practice of having street-criers warn potential creditors against persons who were bad risks (H.E. Oliver 1907: 131). In an epigram attributed to the poet Theocritos (first half of third century B.C.E.), a banker boasts that customers can withdraw their deposits at any hour of the day or night (Millett 1991: 211). In the Bible we read, "Tell it not in (Philistine) Gath, nor announce it (publish) it in the streets of Askhelon" (1 Samuel 1.20). The twelfth-century Assyrian laws call for the herald to make several announcements before the sale of land is finalized and registered. The loss

of a Sumerian merchant's seal was announced by a horn-blowing herald "(so that) no one may have any claim against him" (Ali 1964).

2. Note should also be taken of some rather mysterious monetary units: A text of the mid-third millennium from Isin records the purchase of an orchard for copper "hoes" (*(c)hapūtu*) inscribed with the name of the goddess Ninisina; in earlier-second-millennium Mesopotamia, payments are made in "sickles" (*CAD niggallu* 1.b) and "axes" (*pāshu*); in Genesis 33.19 Jacob purchases a parcel of land at Shechem "for a hundred *kesitah*" ("lambs"?) (cf. Job 42.11). Mention should also be made of ambiguous references in Judges (16.5 and 17.2, 10) to amounts in silver (e.g., "eleven hundred in silver") with no specification of the unit.

3. *CAD* recognizes no relationship between *ginû* and *ginnu,* silver of low quality that might be marked by the king(?) (cf. p. 165 and Powell 1978a: 224). In a New Kingdom Egyptian text (Papyrus Boulaq 11), a merchant receives (broken) *shayt* "loaves" (James 1984: 260–61).

4. Grierson (1977) holds that the weight (about 500 grams) of the inscribed discs from Zinjirli makes it unlikely that they served a monetary purpose. The objection is not totally convincing. Grierson himself cites an example of the sale of a Syrian slave girl for a price amounting to 373 grams of silver (Gardiner 1935: 145–46). More basically, de Cecco (1985: 819) notes that not all monetary instruments are meant to serve the same purpose: "Some of them are better suited to serve as stores of wealth, others are better suited to serve as means of payment. . . . Large denomination instruments are used for storing wealth in the countryside and among the poor even today." This fundamental point is overlooked by Austin and Vidal-Naquet (1977: 57) when they suggest that the absence of small denominations in Greek coin hoards of the sixth and fifth centuries "implies that the invention of coinage did not aim initially at facilitating local trade" (cf. Wallace 1987: 386).

5. Elat (1978: 530–31) maintains that "*ʾanshê* is no corruption at all, but rather a literary extension to *tārīm,* a term formed from the root *twr* which means 'to spy, to explore, to act as an emissary, to travel from place to place' " (transliterations mine). He also maintains that only in the Persian Period did *rokēl* come to be limited to "retail merchant." On the other hand, Dahood (1981b: 83, n.3) supports the reading *ʾanshê* by identifying it with Ugaritic *unt* "tax, dues." 1 Kings 10.28 refers to the purchase of horses in Kue (Cilicia, south of Taurus) and Egypt (or Musri, just north of Taurus) by the *socharê ha-melek* "king's dealers, merchants, traders."

6. Note should be taken of the profound influence of accounting on the cultures of Mesopotamia and Egypt (Baines 1983: 575; Vanstiphout 1991: 218). According to Finley (1973, 1985: 105), "farmers living close to urban areas produced specialty crops for the market." Engels (1990: 202, n.25) asks the pointed question, "How would they know enough to grow specialty crops if they lacked any means of calculating profit [as Finley alleges]?" On the economic rationality of ancient accounting practices, see Macve (1985).

7. See Silver (1983c: chap. 18). There are no Nuzi law codes, but we have proclamations and records of law courts that dealt with economic matters (see, for example, Zaccagnini 1975: 202–5).

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III

The Response to Changes in Economic Incentives and Public Policy

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7

New Markets and Land Consolidation

According to Leemans (1977: 5–6), "the cases known and the quantities of . . . trade are so small, that it cannot be concluded that there is evidence that the trade of the Babylonians, and earlier of the Sumerians, was really very important." One problem, of course, is that Leemans does not tell us what the Babylonian and Sumerian trade was "small" relative to. Without a benchmark for comparison, such statements are difficult to interpret and evaluate. As Hahn (1983: 32) insists in his review of early Greek trade, "given the modest size, population and productivity of the *poleis* . . . we can speak of a *relatively* 'significant' trade in Archaic Greece, a trade which, from the beginning concentrated on staples." More importantly, the indirect evidence of the importance of trade also needs to be taken into account. For example, under Assertion 10 it is noted that the most distant colonies were usually the first to be founded. This would not have happened if the main motives for colonization were, as is usually assumed, "the lack of land and other similar hardship." Clearly these colonial ventures represent a significant effort by ancient economies to reap gains from international trade. The same may be said of the construction of purpose-built vessels and the innovations in commercial containers cited in chapter 4 and, again, for many of the major investment projects noted under Assertion 7 in chapter 5. To take a most significant illustration, we do not have much direct evidence for the export of dates. But why, if not for an export motive, did the Mesopotamians take the trouble to cover their landscape with female date palms? Postgate (1992: 184) observes that

> in the Old Babylonian period at Dilbat and Sippar there is considerable evidence for a family or a *nadītum* building up large holdings of agricultural land which can only have

represented a business venture, but in general we do not know enough about society, especially in the third millennium, or about the background of these individual transactions to be sure about the significance of land sales.

Finally, changes in settlement patterns may well reflect changing opportunities for trade. Thus, for example, van Andel and Runnels (1987: 168), who studied the southern Argolid, have suggested that archaeologically attested shifts from nucleated to dispersed patterns of settlement may correspond to increased production of olive oil for the market. We will return to this theme in the discussion of Babylonia later in this chapter.

This chapter is concerned with the kinds of profound local economic transformations that so often accompany the introduction of new agricultural products for new markets (see Silver 1983c: chap. 6). The evidence presented of land consolidation and of changes in the status of the labor force from independent farmers to dependent workers supplements the kinds of direct evidence Leemans has in mind and contributes to a more balanced picture of the importance of long-distance commerce in antiquity. To begin with, we should note that the land-consolidator is typically an individual who has acquired some familiarity with the needs and circumstances of relatively distant markets and has access to the capital needed to implement his insights. For the reasons given in chapter 3, ancient land-consolidating entrepreneurs were drawn disproportionately from the ranks of merchants and officials of temple or palace and wealthy aristocrats.

A. SUMER

The pattern of transformation alluded to in the preceding discussion becomes evident in Sumer in the middle of the third millennium. The rulers of Lagash "Storehouse" are known to have purchased large estates and small fields. As early as *ca.* 2570, we have a tablet that shows an individual, a priest or prince, purchasing fields from a number of sellers, including King Enhegal. A tablet found in Lagash shows that during the reign of Eanatuma (2454–2425), an official of the neighboring state Umma purchased fields evidently (Vanstiphout 1970: 26).

All this land-buying took place during an era of flourishing intercity and longer-distance trade involving southwestern Iran (Elam) and the Persian Gulf. The Lagash ruler, Enanatuma I (2424–2405), reports in an inscription that he "enlarged the temple Eanna-of-the-foreign-countries," no doubt to serve the needs of foreign merchants (Cooper 1986: 55; cf. chapter 1). Documentary and archaeological evidence indicates that grain, flour, and woolen textiles were exported by Lagash in return for lumber, cattle (cf. chapter 2.F), metals, and, evidently from southeastern Iran, stone (e.g., diorite).[1] The imported metals were employed not only for works of art but, it is safe to assume, to manufacture various industrial and agricultural tools.[2] Adams (1984: 104) notes an "apparent substitution of metal for clay and stone implements" over the course of the third millennium. Texts from the town Girsu in Lagash record individual grain shipments of about 10 tons and substantial amounts of copper. Analysis of plant remains demonstrates that wheat, as a better-quality cereal suitable for bearing the costs of export, was cultivated during this era, possibly representing 17 percent of the crop. Something of the nature of this trade is reflected in the myth Enmerkar and the Lord of Aratta, identified with Afghanistan (a land possessing major deposits of tin along with gold and lapis lazuli), wherein the Sumerians exported grain in return for semiprecious stones and possibly tin (cf. chapter 4.A).

Land consolidation may have involved the extension of the existing natural watering to high lands requiring artificial irrigation. There are references to the construction of reservoirs. For example, an inscribed brick of Entemena records that this ruler ''built for Ningirsu the reservoir of the Lum[a]gim[du] (-canal), (out of) 648,000 fired bricks and 1840 standard *gur* (2649.6 hl.) (of bitumen)'' (Cooper 1986: 66). J.S. Cooper (1986: 67) notes that the reservoir was first built by Eanatuma. Barton's (1929: 81) venerable translation of one of King Urukagina's inscriptions refers to the digging of wells on the ''highest parts of . . . [the royal] elevated field.'' Kramer (1963: 318) translates, ''if the king's retainer dug a well in the highest part of the field.'' Most recently, J.S. Cooper (1986: 71) rendered the text as ''when the *shublugal* would build a well on the narrow edge of his field.'' Clearly the inscription refers to the ''irrigation channels which were in the field'' in question (Cooper 1986: 71). Komoróczy (1976: 28–30) suggests that Enki and Ninmah, a Sumerian literary composition portraying the gods as digging canals in order to earn their sustenance, should be dated to this era. Irrigation devices and weirs are already mentioned in tablets of the first half of the third millennium from Ur, and a simple type of machine for raising water, the shaduf, is actually pictured on a cylinder seal from the middle of the second half of the third millennium.[3] In the Lagash area, the technical terms for irrigation facilities and their management appear in about the middle of the third millennium. Adams (1981: 44) suggests that the newly emerging technical vocabulary denotes ''a transition from localized, ad hoc, generally small-scale irrigation concentrated along the backslopes of particular natural levees to extensive, increasingly artificial, intercommunity systems.'' An index of the magnitude of Lagash's undertaking is provided by references to the laying of baked bricks for two weirs in more than 500,000 quarts of *kar* ''bitumen.''

The process of land consolidation and irrigation evidently transformed a significant fraction of the class of commoners into dependent workers. More precisely, the formerly independent farmers assumed the status of *shublugal* (originally ''king's man/subject''?), meaning that in return for labor services, they received allotments of ''nourishment land'' and, or instead of, wages in kind. A second, more obscure, labor category mentioned in the inscriptions is the *iginudu,* who may be a slave or a hired worker.[4] The explanation of the emergence of a relatively large body of dependent workers as an adaptation in local economic organization to take advantage of new trade opportunities that ordinary working farmers were unable to comprehend or exploit is consistent with the data. It appears to provide a solution to a problem that has concerned historians of the era, for, as Oppenheim and Reiner (1977: 96) point out, "to speak here of conquered and subjugated population strata offers a much too obvious answer, which moreover has no base in the known history of the region." There is no reason to assume that small farmers sold or deserted their farms and went to work for the great men of the day because they were forced to or because they were impoverished or that their living standards deteriorated as dependent workers. Just the opposite was probably the case. Urukagina's inscriptions attest that even prior to his reforms, the *shublugal*'s owned asses, houses, and probably gardens/orchards and fish ponds.

B. ARCHAIC GREECE

The evidence concerning trends in the economy of Attica prior to Solon's reforms in *ca.* 594–593 is so scanty that it is difficult to form a coherent picture.[5] Looking back at this era, the ancient Greeks themselves—that is, the *Athenaion Politeia* (*A.P.* 5–6) attributed to Aristotle and Plutarch in his *Life of Solon* (*S.* especially 22)—saw Solon's new economic policies and *seisachtheia* "disburdening" as taking place against a background of growing commercialization in Attica's economy.[6] The available evidence favors the view that during the seventh to sixth centuries, the emerging pattern of comparative advantage favored Attica's production of oil and wine of high quality for domestic and overseas markets, as opposed to cereals for domestic consumption (Lewis 1941; Woodhouse 1938: 164–65). Vines and olive trees had been grown before that time for local markets and subsistence but were not of high quality and represented a relatively small share of agricultural output (French 1964: 22).[7] The overseas markets for Attica's wine and oil included the Black Sea region, Sicily, Etruria, Egypt (Naucratis), and the Aegean islands (French 1964: 25, 43–44, 50). The evidence for increased exports in the seventh to sixth centuries is primarily archaeological. It takes the form of Attic pottery suitable for carrying wine and oil, including "SOS," plain panathenaic, and black figure (B.F.) amphorae. The semidecorated amphora called SOS, dating from the later eighth to the first half of the sixth century, has been found at numerous Mediterranean sites, especially Etruria and beyond. The Attic origin of the majority of these vessels has been confirmed by clay analyses. The SOS, whose neck and handles evolved to better conform to the requirements of transport, is the first Attic storage jar to be exported in quantity. In a number of cases, names (possibly of traders) are inscribed on the containers in the genitive case. Johnston and Jones (1978: 140) maintain that "with regard to Attic exports, we must conclude from the distribution of SOS amphorae that good quantities of olive oil were shipped from Attica during the seventh century; judging from the evidence of the amphorae, this trade trailed off in the sixth century." B.L. Bailey (1941: 70), on the other hand, has stressed the export of plain panathenaic ware from *ca.* 650, and he suggests that "though a survey of the Attic B.F. ware exported may illustrate the wide extent of Athenian commerce, it does not by itself illustrate the wealth and variety of the interests involved." Starr (1977: 68), however, is cautious with respect to exports in the seventh century: "Although quantitative evidence is lacking, wine and oil exports from Greece probably became significant only in the sixth century."

On the import side, Garnsey (1988: 107–8), citing such scholars as Rhodes, Bury and Meiggs, Boardman, and Austin and Vidal-Naquet (authors "who are usually alive to the dangers of modernistic 'economic' explanations in Greek history"), has acknowledged an "impressive consensus . . . that Athens already relied on imported corn to supplement the local crop by the end of the seventh century and the beginning of the sixth." The evidence of grain imports is indirect and hardly conclusive. For example, the Greek pottery found in Sicily demonstrates to Bravo (1983: 18) that the Sicilian grain trade, attested to in the classical period, began much earlier. Further, while the Greeks undoubtedly carried Egyptian luxuries and specialties (e.g., papyrus, fine linens, and glass) home from Naucratis, they still needed to load ballast, and the plentiful Egyptian grain would have served better than sand or rocks. Most important, as Bury and Meiggs explain, is that "toward the end of the seventh century Athens planted a small settlement at Sigeum near the entrance of the Hellespont: it may have been intended to stake a claim on the corn route from the north coast of the Euxine which was later to become the main source of Athens' supplies" (quoted by Garnsey 1988: 108). Hahn's (1983: 33) more general remarks merit quotation despite their overpopulationist flavor and the omission of concrete supporting evidence:

> The turning-point from a period of plenty to one of scarcity in grains was sometime about the end of the 7th century, under circumstances difficult to reconstruct fully. . . . The very fact that most of the [Greek] colonies were established in areas suited for agriculture shows that the *poleis* founding them had neither land nor food enough. . . . In the 6th century, the outlines of the major grain routes of the future could already be seen: from the rich agrarian regions of Sicily and Southern Italy to Corinth, and from there on to the other Peloponnesian cities, with the *diolkos* [see p. 84] linking the two harbours facilitating the distribution of the food staples. The other great centre was the Pontus region, in the western half of which Herodotus tells us, "grain is sown not only for consumption, but also for sale" (Hdt. 4.1). . . . Naukratis was built on the availability of grain, and had been a centre of the grain trade even before a number of *poleis* joined to develop it as an entrepôt in c. 560.

There is good reason to believe that the late seventh or early sixth century was a turning point for Attica's wine exports and grain imports.[8]

Domestically this reorientation in productive activity was accompanied by and, indeed, made possible by a change in agricultural organization, whereby (at least in areas surrounding the city itself or with access to ports) land ownership and/or land control passed more and more from small, independent farmers into the hands of wealthier, more worldly wise aristocrats (the *kaloikagathoi*) and traders (Solon's *kakoi?*) (see Starr 1977: 123–28). "All the land was in the hands [i.e., under the control] of a few" (*A.P.* 2.2).[9] These men recognized the emerging opportunities and were willing to invest in olive presses, storage containers, the preparation of new land, and vine and olive tree stock and then to wait several years before taking a harvest (Lewis 1941). The previously independent farmers (and others) shared in the gains from wine and oil production by providing *edouleuon* "labor service" (literally "they slaved") (*A.P.* 2.2) to the investing group as *thêtes* "wage-laborers" (*S.* 13.2), *hektêmoroi* (*hektêmorioi*) "sharecroppers" (*A.P.* 2.2; *S.* 13.2), and, more obscurely, as *pelatai* "neighbors, clients" (*A.P.* 2.2; LSJ s.v. *pelatês*).[10]

Aristotle (2.2) speaks of the *misthôsis* "rent" paid by the sharecroppers.[11] The rental share owed by the *hektêmoroi* has long been debated. Rhodes (1981: 91) carefully summarizes the discussion and concludes that "although some have thought retention of five-sixths to be unduly generous it is hard to believe that a peasant could keep himself and his family on one-sixth of the produce of 'his' land." Despite many valuable insights, the discussion has suffered from a failure to define the parameters of the problem. Of what exactly did the "produce" consist? What fraction of "his" farm did the "peasant" (an anachronistic term) devote to this "produce"? Aristotle (*A.P.* 2.2) testifies to the existence of free and independent farmers prior to Solon.[12] Therefore, despite Solon's allusions to coercion, it is reasonable to assume that the small farmer freely gave to the trader as rent a portion of his produce of wine and oil in return for vine and olive stock and, further, that the farmer reserved some unknown (to us) fraction of his land and other productive resources for subsistence production. One-sixth of the wine or oil produce from a plot of land might be more valuable than six-sixths of the plot's alternative grain produce. In this event, the farmer might be in a position to purchase not only necessaries but a few luxuries. The exact shares would depend, in the first instance, on the inputs contributed by each of the contracting parties.

The more important question is why the contractors resorted to the much maligned (by contemporary commentators) sharecropping mode of economic organization. The main advantage of sharecropping relative to fixed-rental (and fixed-wage) contracts is a more equal sharing of risk between the contracting parties. This feature is of great importance when there is significant yield variability, as in viticulture and olive-growing, and when large uncertainties arise with respect to physical productivity and marketability due to the newness of product. For the unsophisticated small farmer, the uncertainties of the market would probably be a decisive consideration against independent farm operation. The main problem with sharecropping contracts is their invitation to opportunistic abuse. Thus, for example, in his zeal for a higher income the sharecropping farm operator might abuse the investor's vine and tree stock and other capital goods. This type of problem is mitigated when the operator owns his own animal stock or, as was often the case in archaic Greece, retains formal ownership of the land. More importantly, the opportunism problem is also alleviated when the contractors are bound by ties of kinship, friendship, or other long-term relationships that may be grouped under the rubric ''patron-client relationship'' (Otsuka and Hayami 1988: 53–54). These mitigating considerations apply reasonably well to the situation of the Greek *hektêmoroi* and *pelatai* vis-à-vis the investor-traders in wine and oil.

During the seventh century and the earlier sixth, the productivity and the market conditions for wine and oil became more familiar to the general public. In the absence of significant economies of scale in wine and oil production, the balance of economic advantage began inevitably to swing against the sharecropping mode in favor of independent farm operation and fixed-rental contracts. And, indeed, as is demonstrated by the later literary and archaeological evidence, by the fifth century Attica became a land of small farmers (Jameson 1992: 142–46; Rihill 1991: 103). An increasing number of individuals sought to share in the gains from participation by borrowing to reclaim or purchase land and productive stock (Andrewes 1982: 378; Fritz 1943: 30–31). That the loan market might be resorted to for funds is explicitly stated in an anecdote (almost universally rejected as apocryphal) that several of Solon's friends borrowed money to purchase estates (*A.P.* 6.2; *S.* 15.6–7). This direct testimony to the alienability of land, a market for loans, and profit motivation must be taken into account, although it is often dismissed by contemporary scholars as a ''fourth century invention'' (see, e.g., Fine 1951: 180–81; Millett 1991: 263, n.39). It is consistent, however, with Aristotle's (*Politics*) report that Solon passed a law limiting the amount of land a person might acquire (cited by Manville 1990: 15). The existence of a land market in archaic Greece is also demonstrated by Hesiod's (*Works* 340–41) advice to his brother, in *ca.* 700 B.C.E., that he should honor the gods ''so that you may buy (*ôneomai*) the lot (*klêros*) of another and not another yours'' (Evelyn-White 1936). ''Hesiod,'' it should be noted, was a world-wise individual, not a rustic, and there is no reason to assume that his advice applied only in Boeotian circumstances.[13] It is true that the testimony of Aristotle and Plutarch (and the verses attributed to Solon?) is much later than the events described. It is equally true that there is no evidence that land was inalienable in Attica (cf. E.M. Harris 1988: 357–58 and Woodhouse 1938: 81). What has happened is that the *assumptions* of the ''substantivists'' have been repeated so often and with such vehemence that they have acquired an aura of fact.

The security offered for the loans allegedly taken by Solon's friends is not stated in the sources. But Aristotle (*A.P.* 2.2) states clearly that ''all borrowing was on the debtor's person down to the time of Solon.'' We may take it as given, then, that the existing legal institutions did not enforce land-mortgage contracts. Nevertheless, the references to the *horoi* (*A.P.* 12.4; *S.* 15.5)—that is, the pillars designating encumbered land—show that it was possible by means of one device or another to obtain cash on the security of land (Andrewes 1982: 377). As Woodhouse (1938: 150) understood, the effect of the Classical and

Hellenistic hypothec-contract might have been achieved, albeit more circuitously and at a higher transaction cost, by means of a contract well attested to in fourth-century Attica. This contract, called *prasis epi lysei,* was a *sale* of land in which the seller reserved the option of redemption/repurchase (Fine 1951: especially 143, 156–60; cf. E.M. Harris 1988).[14] Briefly stated, the transaction would work as follows.

1. To obtain the cash he wanted, the landholder (borrower) sold some or all of his land to a lender (buyer).
2. An erected *horos* testified to the "enslavement" of the land (i.e., to the change in ownership).
3. The original landowner (borrower) retained possession of the land and paid (in kind or money) rent (corresponding to interest payments) to the lender (new owner).
4. Upon the expiration of the contractually stipulated period, the original landowner (borrower) repurchased the land (corresponding to debt repayment) from the lender (buyer). At this time, the *horos* was removed forever.
5. In the event of nonpayment of interest (rent) or principal (repurchase price), the lender (buyer) simply kept the land.

Fine (1951: 91–92, n.111, 183–85, 200–201), who doubts that mortgage contracts were drawn in Solon's day, believes that, even before Solon, a transaction similar to *prasei epi lysei* was employed as a legal fiction. There is little to gain from refusing to identify, in operational terms, the *horoi* removed by Solon with those of later times (cf. Gernet 1981: 305; J.H. Oliver 1963).

There is no doubt that it was possible to borrow on the security of one's body (*A.P.* 2.2; 3.4; 6.1; 9.1; 12.4; *S.* 13.2–3; 15.3–4). At the same time, as Fritz (1943: 30–31) has explained, the evidence "leaves no doubt that the practice of selling hektemors into slavery became more and more frequent in the second half of the seventh and sixth century, that is, *just at the time when the export of olive oil from Athens experienced its greatest expansion*" (emphasis added). Manville (1990: 119, n.81) adds that "the importance of wine and oil in the economy by this time may find some further proof in the Solonian *telê* which rated a man's wealth in 'measures both dry and wet together' " (*A.P.* 7.4). However, the *hektêmoroi* as a group should not be equated with the debt-slaves. The *hektêmoros,* we may assume, typically owned land that, together with his labor-power, he contributed to the oil-production enterprise. As Gernet (1981: 310, n.10) admits, Aristotle (*A.P.* 2.2) "puts this group in a period markedly earlier than Solon, and *before* he talks about debts"; and, further, Plutarch (*S.* 13.2) clearly distinguishes between the *hektêmoroi* and the debt-slaves:

All the common people were in debt to the rich. For they either tilled their lands for them, paying them a sixth part of the increase (whence they were called Hectemorioi or Thetes), or else they pledged their persons for debts and could be seized by their creditors, some becoming slaves at home, and others being sold into foreign countries. (Perrin 1914)

Classics scholars (e.g., Manville 1990: 116; M.L. West 1978: 242) prefer to portray the rise in debt-slavery in terms of a vicious cycle of poor harvests and borrowing. Classical economists ask why debt-slavery peaked when, as Fritz noted, "the export of olive oil from Athens experienced its greatest expansion." This should have been and undoubtedly was an era of rising prosperity. It seems clear that as they became familiar with the markets for wine and oil many people, large and small (not excluding former *hektêmoroi*), pledged their bodies for loans so they could purchase vine and olive stock and participate (*A.P.* 12.4; *S.* 15.5). The diffusion of information reduced uncertainty and, consequently, sharecropping and land concentration declined in relative importance. There is no reason to assume, with Gernet (1981: 35), that the *horoi* and the *hektêmoroi* "disappeared at the same time." Like the proverbial old soldier, the *hektêmoros* simply faded away. Increased participation by small investors in wine and oil production is consistent with Plutarch's (*S.* 13.2) statement that "all the common people were in debt to the rich." It is also consistent with the Athenian orator Isocrates' (436–338) glowing remarks about the olden days when the rich made low-interest loans to the poor so that they might participate in trade (cited by Millett 1991: 264–65, n.45) and with the claim of the Greek historian Androtion, Isocrates' pupil, that Solon reduced the interest obligations of the poor (*S.* 15.3).[15] Naturally, some of our small investors are bound to fail due to inability to run a business, technical incompetence, laziness, or just bad luck. Even if the failures represented only a small minority of the risk-takers, the total number of those falling into slavery might still rise precipitously. This might well have been perceived by contemporary observers as an agrarian crisis.

C. BABYLONIA

The Ur version of the Tilmun myth Enki and Ninhursag mentions that about eight countries—Tukrish, Meluhha, Marhashi, Magan, the Sealand, Zalamgar, Elam, and Ur, representing Sumer—delivered their goods to Tilmun (probably Bahrain). Kramer (1977: 59) points out that "while the location of some of these lands is still a moot question, this does not detract from the value of the evidence it provides for the existence of a vast international commercial network about 2000 B.C., which is probably the approximate date when this myth was first composed."

In the southern Babylonian city of Larsa during the reign of Rim-Sin (1822-1763), there is evidence of a resurgence in the export of woolen garments to Tilmun in exchange for copper and also of a flourishing trade with Eshnunna, in northern Babylonia. Businesspersons such as Balmunamhe and other *tamkārū* from Larsa purchased many fields and had villages named after them. A similar trend toward land consolidation took place at Nippur beginning in about 1900.

Balmunamhe raised sheep on a large scale, as did Rim-Sin himself; Iltani, a priestess and princess; and the Nanna and Ningal temples at Ur. Rim-Sin's immediate predecessor Warad-Sin had built or restored "Tilmun" temples at Ur (see chapter 1). Butz thinks it possible that Tilmunites were settled near Eridu and the Hor (al Hammar), where Ur's Nanna and Ningal temples had pastures (cited by Howard-Carter 1987: 89). These locations would have permitted Tilmunite merchants to monitor the packing of the wool they purchased, as in thirteenth-century England (Silver 1984: 113), or even to participate directly in wool production. This evidence is consistent with flows of capital into more profitable opportunities.[16]

Paleobotanical and textual evidence strongly suggests that by the end of the third millennium, southern Babylonian agriculture had experienced a drastic reorientation, away from the cultivation of wheat and into that of barley. Wheat declined to 2 percent of the crop and then disappeared in the first half of the second millennium.[17] (Possibly southern Babylonia became a net importer of wheat during the Old Babylonian era.) This change has been interpreted as a reaction to soil salinization due to widespread irrigation agriculture, with barley being more salt tolerant than wheat (see especially Jacobsen 1982: 9–11, 16, 57–60, 67; Powell 1985). On the other hand, although agricultural documents of this period are abundant, they do not, in contrast to those of the third millennium, refer to soil salinity. Note in this connection the term *ki-mun* "ground of salt." Moreover, as Adams (1981: 149–52) explains, agriculturalists would, in any event, have cultivated more barley to provide fodder for their enlarged herds of sheep. Texts from Ur III Sumer frequently mention barley-fed sheep.

This leaves open the possibility that specialization in stockbreeding and land consolidation may have been triggered by increased external demand for wool and textiles, combined with an increased demand for meat in response to higher incomes. A variety of qualitative indicators and quantitative data on real wages (in terms of silver and barley) suggest that in the earlier second millennium Babylonia enjoyed significant prosperity if not, as some believe, a "golden age" (see, e.g., Farber 1978: 38–40; Leemans 1950a: 113). Indirect evidence of increased meat consumption is provided by Oppenheim's (1967a: 44–45) observation that "references to fishing and the role of fish as a staple diet begin to become rare in the second half of the Hammurabi Dynasty," suggesting that another "protein-rich source of food came newly within reach." Indeed, a nineteenth-century text from Larsa shows "fat-tailed sheep" being consumed, apparently as part of the remuneration of canal-diggers (H.E.W. Crawford 1973: 232–34; Gelb 1973: 82–83).

An economic change explanation of the shift from barley to wheat is also strengthened by the fact that salinization is by no means inevitable. It can, as Adams (1981: 149–52) points out, be controlled by appropriate land use and irrigation practices. That this fact was understood at the time is hinted at by the recommendation of a fallow system and elementary forms of drainage in a Sumerian "agricultural manual," actually a literary text inscribed in *ca.* 1700

B.C.E. Indeed, texts from Girsu in Lagash show us as early as the twenty-fourth century the effort to combat soil salinity by means of a weed fallow system to dry the soil deep down. Powell (1985: 37–38) brings together additional evidence of measures to control salinization:

> The term . . . [*ki-duru*] . . . has recently been investigated by S. Yamamoto who has argued that . . . [it] describes land that has been "soaked in water immediately before plowing". The usage of this term resembles so closely the anti-salinization process known as leaching that one naturally asks whether there is any evidence to support the identification, and indeed one finds it in the same [Girsu] texts (DP 573 and 577). . . . That the Sumerians knew how to cope with salinization is indicated by cultivation records for the Presargonic field called [*dun.uh*]. In the second year of [Urukagina], 5 bur of this field were recorded as "saline". . . . In the same year, however, 8 bur of this field were flooded, plowed, and planted, and in the third year of [Urukagina] 864 sila of emmer [a wheat] were planted in it. Thus, emmer was being planted in a field that had previously been described as saline, which does not support the theory of an agriculture forced to abandon the planting of emmer due to progressive salinization of the soil.

The evidence is consistent with the perspective that the decision by agriculturalists to channel scarce investment resources into building up flocks and converting fields into pastures instead of investing in antisalinization projects (weed fallows, application of irrigation water in excess of immediate crop needs, intensive drainage systems) was a rational (in cost-benefit terms) response to newly emerging market opportunities.

Note further that the rising trend in stockraising, a relatively land-intensive production activity, may well have contributed to a decreasing trend in the population in the former heartland of southern Mesopotamia (Brinkman 1984: 172–74). Predictably this change in economic specialization would also have caused an increase in the importance of the extended family relative to the nuclear family organization (see chapter 2.E). Lemche (1985: 193) comments that documents gathered by Liverani "seem to indicate that the extended family dominated Mesopotamian society around 2000."

NOTES

1. Excavations reveal that the production of stone vases became common at a site in the highlands of southeastern Iran in the early third millennium. Samples of this production have been found at various Sumerian sites (Potts 1982: 46–49).

2. With respect to the uses of the copper imported by Sumer, the archaeological evidence is dominated by statues, vessel-stands, and fine daggers and axeheads, although producer goods, including tools (saws, goads, awls) and agricultural implements (mostly sickles; rarely picks, hoes, spades, and ploughshares), also appear. Clearly, however, this represents a biased sample because it is drawn primarily from graves, temples, and palaces. The metal usage pattern is also distorted by the understandable Mesopotamian practice, also known for wood, of recycling the scarce metals of aging or damaged tools

while passing on works of art from generation to generation as heirlooms (see Kramer 1963: 103; Moorey 1982). Texts of the late third millennium record numerous agricultural tools (Hallo 1958: 91–92; cf. Forbes 1964, VIII: 87). Literary texts also make a contribution to the body of evidence; witness the "Copper-Silver Debate," which mentions the "stubble-loosening copper mattock," the "plough fashioning copper adze," the "firewood cutting copper axe," and the "grain-cutting copper sickle" (Kramer 1963: 265).

3. See Charvát (1979: 16) and Forbes (1964, II: 17, 34). In the earlier second millennium, Mari's ruler boasted that he had opened canals and thereby "made the lever-and-bucket (*schöpfeimer, dalum*) disappear from my land" (Klengel 1980: 79).

4. According to Yamamoto (1981: 105), the *iginudu*'s were divided between orchard workers and workers under craftsmen. Urukagina's reform text legislates the bread payment for the "*iginudu* doing service" (Cooper 1986: 75).

5. For earlier treatments of this theme, see Silver (1984: 84–85; 1992: chap. 11).

6. In "explaining" his absence from Athens, Plutarch (*S.* 2.1–2) reports that Solon himself made trading voyages before (and after?) his archonship.

7. The pollen evidence brought together by Runnels and Hansen (1986) suggests that, with the exception of Boeotia, the olive was not intensively cultivated in mainland Greece until the end of the Bronze Age or the beginning of the Archaic period. The Bronze Age evidence, moreover, is unimpressive and is consistent with reliance on the wild as much as the domesticated olive. Moreover, as Sallares (1991: 306) observes, "oil presses and other equipment for processing olives have not been found on archaeological sites in mainland Greece antedating the Late Bronze Age." The absence of oil presses strongly suggests that production was on a small scale. The practice of interspersing vines, olive trees, and gardens among rows of grain met the consumption needs of the farm household and, at the same time, the diversified portfolio of crops provided a hedge against yield variability—a severe problem in the case of olives (Semple 1931: 400).

8. Garnsey's (1988: 109) reasons for favoring "the late sixth or early fifth as the turning point" for Attica's grain imports are subjective and have more to do with his model of the ancient economy and the "danger" of "modernistic 'economic' explanations" than with the available evidence (see Manville 1990: 121, n.92).

9. The importance of the rise of external market factors in explaining transformations in ancient agricultural organization has recently been rejected by Gallant (1991a: 186) on the ground that the "implicit supposition" of such models is that farmers in the past were rational economic decision-makers imbued with a market mentality (cf. note 6 in chapter 6).

10. Perhaps the *pelatai* were also sharecroppers. Manville (1990: 111, 114–15) translates the term as "those who work for someone else"; citing various ancient sources (Plato *Euthyphro* 4C 3–5, D.H. 2.9.2, and Pollux 3.82), he maintains that the *pelatai* were free laborers working for in-kind or money wages.

11. Pollux, a Greek scholar of the second century C.E., testifies that Solon used the word *epimortos* for sharecropping and *mortê* for the rental share (cited by Andrewes 1982: 378).

12. Garlan (1988: 90) chooses, despite the testimonies of Aristotle and Plutarch, to deny the existence of "free and independent peasants" prior to the Solonian "crisis": "Let us distance ourselves from Aristotle, who had clearly read Solon's *Elegies* with the eyes of fourth-century Athenian obsessed by the question of debts, and instead attempt,

following Moses Finley, to interpret the pre-Solonian crisis in the light of an overall analysis of the phenomenon of dependency."

13. Bravo (1983: 24) suggests that "the name Hesiod is formed of *hesi-* (*hienai*) and of *odo* (cf. Hesychius s.v. *oda*) and means 'The one who sends cargoes of goods.' "

14. Millett (1982: 226) observes that the Attic Orators, intent on coming to the point, avoided "the ambiguous terminology of *prasis epi lysei,* with its implications of sale rather than security, in favour of the more straightforward vocabulary of hypothecation."

15. Millett (1991: 263, n.38) presents no evidence in support of his proposition that access of small farmers to markets "is a relatively recent phenomenon." Characteristically, Millett dismisses Isocrates as "crypto-oligarchic ideology" and Androtion as "almost certainly a fourth century invention" (1991: 263, n.39, 265, n.45).

16. Sources for concentration of land ownership, trade, and sheep herds: Adams (1981: 149–50); Hallo (1965); Leemans (1950a: 65–66; 1960a: 18–22; 1960b: 13, 36, 54, 117; 1968: 178–79; 1975: 139–40; 1983: 93–94); Potts (1983: 128); Stone (1977: 284).

17. Adams (1981: 151–52) and Jacobsen (1982: 39) present data indicating that grain yields declined from *ca.* 2400 to *ca.* 2100 and, perhaps, to *ca.* 1700. But, aside from the intrinsic measurement problems, such changes need not be due to deterioration in soil quality—for example, if, for good economic reasons, cultivators decide to fallow their land less frequently, the result, other things equal, will be lower yields (see Pettinato and Waetzoldt 1975 and Silver 1983b).

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8

Changes in Economic Policy and Organization

While Polanyi properly criticized ahistorical ''stage'' theories with their ''predilection for continuity,'' his own view of economic development is similarly flawed. Ancient economic institutions, according to Polanyi, ''evolved everywhere from the embedded economies of the tribal stage, and this development was never unrelated to the transcendent requirements of social solidarity.'' Social solidarity was accomplished through the declaration of ''equivalencies'' by the state—that is, by pervasive controls over prices, wage rates, rent, and interest. With the partial exception of ''small city states such as Athens and (partly) Israel, of the peasant type,'' this pattern of government control over exchange persisted for millennia (Polanyi 1981: lii, 61–62, 68). The market economy emerged in the eighteenth and nineteenth centuries as a ''new phenomenon, never witnessed before.'' The proper task of the economic historian is to seek the source of this ''inherent discontinuity of development''; the problem is to explain ''the origin of fluctuating prices, not of fixed prices'' (Polanyi 1981: liii, 6). Similarly, North and Thomas (1973: 1), in their admirable book *The Rise of the Western World,* claim that ''the affluence of Western man is a new and unique phenomenon.'' More recently, North (1991: 98), while disclaiming stage theories, nevertheless continued to pursue the ''Holy Grail'' of the once-and-for-all incremental evolution of efficient institutions: ''The central issue of economic history and of economic development is to account for the evolution of political and economic institutions that create an economic environment that induces increasing productivity.'' Note also North's (1985: 560) belief that a distinctive feature of the premodern world is that ''the state played no, or a very nominal, role, or was simply extortionist in its relationship to economic activity."

But the record shows that the oldest civilizations experienced lengthy periods of unfettered market activity and prosperity, including even affluence, interspersed with periods of pervasive economic regulation by the state and, ultimately, economic retrogression. Egyptologists, for example, have pointed to the increased documentation of private commercial activity during "intermediate periods" when the monolithic power of the Pharaonic state was shattered or weakened (Helck 1975: 138). Thus, Vinogradov (1991a: 161) speaks in a surprised way of the introduction and diffusion of important innovations during the First Intermediate Period (e.g., an improved plow, tools in farming and the crafts, a more productive breed of horned cattle and the use of bronze). He is surprised because "the conditions were far from propitious" (1991a: 161). But Diakonoff, the volume editor, wisely inserts a note that "the fact is that the stronger and more extended an ancient kingdom was, the worse were the conditions for trade because royal power laid its hand arbitrarily on the profits by way of taxation or by submitting the trader to administrative control" (1991a: 161). To employ Polanyi's and, more recently, Granovetter's (1985) terminology, the location of ancient economies along a "disembededness"-"embeddedness" scale with respect to the sociopolitical sphere is variable, not constant. Moreover, ancient economies, Near Eastern and Greco Roman, experienced "Dark Ages," periods of crisis, in which household economy increased greatly in importance relative to both markets and hierarchies. The proper task of the historical economist is to probe the sources of this observed variation.

As is the case of other facets of ancient societies, the evidence concerning *changes* in economic policy and organization is fragmentary. An inscription in Assur dating to very early in the period of the Assyrian trade with Cappadocia (roughly 1940 to 1800) states that the king "established" the *andurārum* of silver, gold, tin, grain, wool, and other commodities. J. Lewy (1958a: 23) interprets *andurārum* in this disputed passage as referring to "free movement" or "free trade."[1] Earlier, the father of this king had "established the *andurārum* of the Akkadians," meaning probably that he implemented policies to attract traders to the market in Assur. He records in a difficult building inscription, "I freed the Akkadians and their sons (from forced labor) and cleared (literally 'washed') them of their (obligation to pay) copper (as tax)" (Balkan 1974: 33, n.25).[2] Steinkeller (1981a: 165–66), taking into account the places mentioned in the inscription (e.g., Der on the main route from Babylonia to Elam), suggests that the mention of "washing" in the Old Assyrian text might "be explained as an allusion to a trade agreement by which Ilushima [the Assyrian ruler] opened the trans-Tigridian trade routes to the Babylonian merchants and permitted the export of copper to Babylonia."[3]

The widely discussed but philologically obscure reforms of King Urukagina (2351–2342) in Lagash challenged tradition and established a new economic order in which (it seems) many fees and taxes were eliminated, creditors might not seize property or persons for debt, and/or those who had sold themselves into slavery or had been enslaved for debt were freed, and the gods were "instated, installed" as masters over fields that, apparently, had belonged to the city ruler in earlier times (see, e.g., Cooper 1986: 70–81; Foster 1981 and 1995). Does this perhaps refer to the "high fields" discussed in chapter 7.A?

Suggestive evidence is available for Nuzi. This Assyrian state, as noted in the discussion of Assertion 14 in chapter 6, is noted for its *mārūtu*-contract, which disguised land sales as adoptions of the purchaser by the landowner. One of the earliest Nuzi tablets (JEN 552) tells of a *witnessed*—that is, legal—*land sale.* An adoption tablet of early date refers explicitly to a land sale.[4] Thus, the evidence raises the possibility that the *mārūtu* or sale-adoption contract arose in response to an intervening royal edict banning land sales. In connection with this hypothesis, note that government intervention in the economic sphere is reflected by the inclusion in many contracts, among them sale-adoptions, of a *shūdūtu* clause: "This tablet was written in Nuzi after the proclamation" (see, e.g., Müller 1971: 56–58: Zaccagnini 1975: 197, 200). As noted in the discussion of Assertion 11 in chapter 6, a royal decree fixed the price of slaves. Another more directly relevant decree issued in the "holy festival month" in the "city of the gods" had the effect of canceling a transfer of land. Unfortunately, the document does not make clear the exact nature of the voided transaction. The *shūdūtu* clause itself appears in the contracts only after a certain point in time. Further, several texts refer to "the new proclamation." In one legal text, an individual is accused of having violated the *shūdūtu.* A trial document hints vaguely at control over grain prices (or interest rates) by local governments. The dispute involves the advance of a shekel of gold, to be repaid, it appears, after the harvest in barley at the going market price. But in his defense the borrower successfully refers to a statement by the "elders(?)" (cf. chapter 3) of Tupshani(ni) that the lender must take barley "according to our price" (after Müller 1981: 446).

The data for changes in economic policy for mid-third-millennium Sumer, early second-millennium Assyria, and mid-second-millennium Nuzi is not nearly so clear and extensive as the evidence from Babylonia in the Old Babylonian period (1900–1600). The most famous representative of this era is, of course, Hammurabi (1792–1750). According to Oppenheim and Reiner (1977: 102), "After the fall of Ur III when legal and economic texts come to light, private property and trade appear to have reached a high level of development." It would appear that there was a pronounced change in economic policy during the affluent reigns of Rim-Sin in Larsa (cf. chapter 7.C) and Hammurabi in Babylon. The nature of the economic reforms they introduced is not entirely clear, but they probably involved government intervention in the sale and rental of houses and fields, minimum wages, maximum prices of barley, wine, bricks, and other commodities, and maximum interest rates (see, e.g., Leemans 1950a: 113, 117, 122; Sweet 1958: 103–11; Yoffee 1977: 45–47). Similar reforms were undertaken at Isin, Eshnunna, Mari, Hana, and Alalakh. Renger (1984: 95) maintains that the price regulations of the earlier second millennium applied to a specific city only; this limitation, he suggests, is implicit in references from various cities and explicit in the phrase *kīma ma(hī)r ālimma* ''according to the tariff of the city'' in the Edict of King Ammisaduqa (cf. Assertion 5). However, a business letter dating to the reign of Hammurabi's son Samsuiluna (1749–1712) refers to ''the wage of a hired laborer . . . written on the stele,'' possibly Hammurabi's (Sweet 1958: 109; *CAD* s.v. *narû* A.1). An ordinance of Rim-Sin is referred to in a legal tablet; apparently he permitted an (adopted) son to reclaim an orchard sold by his father to a third party. More generally, a steep increase in redemption texts [cf. chapter 7.B] as a proportion of land sales is noted at Nippur in the second half of the eighteenth century (Stone 1977: 281; Westbrook 1995).

Rim-Sin's Larsa was conquered by Hammurabi. Some twenty years after Hammurabi's conquest attacks by the Kassites, a mountain people, coincidentally with local revolts, severed Larsa and the southern area as a whole from Babylon's rule. The conquest in 1600 of Babylon itself, by this time a small principality, by the Hittites begins a new ''Dark Age'' (1600–1347) (see, e.g., Adams 1984: 97–98). During this era, urban life and legal documents relating to private commercial activities decline steeply. Leemans (1950a: 122) concludes, ''There is not much evidence of trade and consequently of prosperity.'' The Dark Age is also characterized by the ''disappearance . . . of all vestiges of social reforms—or experiments—of the Hammurabi era'' (Oppenheim and Reiner 1977: 159). With the ploughing under of Hammurabi's swollen bureaucratic administration and the end of affluence, as earlier after Ur III, the stage was being set for a new cycle of unfettered economic growth.

NOTES

1. In early second-millennium Babylonia, the word *andurārum* is employed in the formula for the emancipation of slaves.

2. In the Cappadocian texts, ''washing'' occurs in metallurgical contexts with the meaning ''purification, refining.'' However, in somewhat later texts from Mari and in Akkadian texts from Ugarit, ''to purify'' is ''to exempt, clean.''

3. Perhaps Ur-Nammu (2112–2095), the first ruler of the Ur III Dynasty, also followed a free trade policy. His laws state, ''By granting immunity in Akkad to the maritime trade from the seafarers' overseer, to the herdsman from the 'oxen-taker', . . . he established the freedom (*su.bar,* literally 'to open the hand') of Sumer and Akkad'' (see Finkelstein 1969: 281, 301–2). The ''tax-exempt'' concept of *freedom* is also found in Mycenaean (Szemerényi 1977: 111–16). At Pylos we find that a commodity, probably linen, is *ereutero* (*eleutheros*) ''free of impost''; Hittite *arawa-* is applied to both things (houses) and persons in the sense of 'freedom from corvée.'' In Herodotus 6.59 we find that a person is *eleutheroô* ''made free from debt.''

4. In a lawsuit cited by Weeks (1971: 299–300), the defendant complains that he did not receive the price due for the fields. The transaction being referred to is an adoption tablet. Zaccagnini (1984: 82) notes that it is possible to equate *qīshtu* ''gift'' with *shīmu* ''price'':

JEN 528 lists various amounts of barley given by Techip-tilla as "price" [*shīmu*], upon the occasion of five land purchases in the territory of the city Unapsewe. At least one of these purchases . . . is extant, obviously in the form of a sale-adoption (JEN 582): the 7 *imerū* 5 *sāti* of barley that are paid by Techip-tilla are described as "gift" in the *mārūtu*-contract (JEN 582), as opposed to "price" in the former document.

Also, an adoption tablet (IM 70764) refers to the transfer of land as a "sale" (Kassite *irana*). Fadhil (1981) suggests that it is among the oldest found at Nuzi.

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9

Concluding Remarks

Analysis of transaction costs provides numerous insights into the structure of the ancient economy. The role of temples as centers of commerce, inculcation of professional standards by gods, elevation of technology to the status of divine gift, religious syncretism and the composition of elaborate mythologies, and many more exotic, even bizarre, practices are comprehended as elements in a strategy, as techniques *chosen,* to cope with high transaction costs and to limit opportunism by increasing the stock of trust capital. Similar considerations lie behind the ubiquity of diversified, multinational family firms or houses, the relatively important entrepreneurial role of women (especially of highborn women), the concentration of similar trades in compact areas, and the holding of "excess" stocks of staples, labor-power, and money. The prominence within the contractual process of publicly performed conventional gestures and recitations, the stress placed on names, the intrusion of gifts, friendship, and ethical codes into exchange relationships, and other manifestations of personal economics fall into place as techniques for economizing on the resources used up in the process of transferring ownership rights.

We know that the ancient world was able to support great urban centers without evident difficulties. Young (1986: 6) suggests that in Sumer in the latter half of the Early Dynastic Period, "perhaps as little as 20 per cent of the population is living in villages. Perhaps 15 per cent is living in either large villages or small towns if you will, and all the rest of the population is living in agglomerations of people that are large enough to be called cities." In third-millennium Sumer, the built-up area of Ur occupied 100 acres and Uruk's walls enclosed 1,280 acres. Similarly, the walls of several Assyrian sites of the third millennium surrounded as much as 250 acres, as did the remains of Ebla in northern Syria. Egypt's largest city, Thebes, covered 3,200 acres by the second half of the second millennium. Also in the second millennium Hattusas, the capital of the Hittites, covered 400 acres. First-millennium Babylon occupied 2,500 acres, Nineveh spread over 1,850, and Athens spread over 550 acres. With respect to the agricultural productivity underlying Sumer's relatively large cities, the findings of Maekawa's (1974: 42) quantitative study of Sumerian grain production in the third millennium merit quotation:

> The Sumerians used the plow to which the drill for sowing was attached. A large volume of seed grain can be saved by the use of such a seed drill, compared to the scattering of seed. . . . Employment of wide furrows was the pattern in Sumer. This is deduced from the fact that three men followed two oxen with the seeder plow. . . . By using the drill and making wide furrows for lessening the seed volume, the Sumerians could expect maximum growth of cereals. This, coupled with proper irrigation, produced 76:1-fold of the seed amount in pre-Sargonic Lagash, which need not be attributed to fantasy.

Less systematic evidence pertaining to this era indicates respectable wool yields and dairy productivity (Gomi 1980: 143–44; Waetzoldt 1972: 5–6).

The evidence relating to productivity raises the more general question of technical sophistication in the ancient world. It is often assumed that technological knowledge depends on the application of prior scientific knowledge, of which there was little in antiquity. But Nathan Rosenberg (1982: 143–44), a leading scholar of technology, offers a more realistic perspective:

> [Technology] is a knowledge of techniques, methods, and designs that work in certain ways with certain consequences, even when one cannot explain exactly why. It is therefore . . . not a fundamental kind of knowledge, but rather a form of that has generated a certain rate of economic progress for thousands of years. . . . Thus, the normal situation in the past and to a considerable degree also in the present, is that technological knowledge has *preceded* scientific knowledge.

Rosenberg's point is well illustrated for antiquity by artificial pollination of date palms, control over water levels by gates (Akkadian *erretum;* Klengel 1980: 81–83), the speed and capacity of cargo vessels, building construction, glass-making, and metallurgy. Bab edh Dhraa, a city near the eastern shore of the Dead Sea, had already in the third millennium "mastered the essential materials and processes of building construction," according to G.R.H. Wright (1985: 38). C.S. Smith (1970: 409) adds that Ur's metalwork in the middle of the third millennium "reveals knowledge of virtually every type of metallurgical phenomenon except the hardening of steel that was exploited by technologists in the entire period up to the end of the 19th century AD." Further, Gavin (1981: 15) adds that in the middle of the second millennium, "the beads at Nuzi reveal every major form of ancient glass-making technology (including sophisticated uses of glass rods) was known there a thousand years earlier than had previously been supposed.'' The industrial era's increased reliance on scientific knowledge and its increased range and variety of fixed capital goods have steeply accelerated the rate of technical progress. The ancient epoch was, however, capable of sustaining lengthy periods of rising labor productivity and per capita incomes.

Evidence is abundant of the accumulation of human and material capital, including technological knowledge, circulating capital not directly involved in the production process (warehouses, specialized pack animals and receptacles, navigational channels and port facilities, and large purpose-built cargo vessels), and fixed capital—tools of artisans and agriculturalists, machines for lifting water, irrigation channels, terracing and other forms of land improvement and reclamation (e.g., desalinization techniques), specialized animal stock, significant investment in tree (date palm, olive) and vine stock, metallurgical facilities, and industrial installations for fish, leather, wine, oil, cloth, and ceramics.

The relatively high costs of communicating, contracting, and transporting inhibited, but did not prevent, the emergence in Near Eastern antiquity of recognizable markets for goods and factors of production. The precise importance of markets relative to subsistence production (and tax collection) is difficult to evaluate. We do know, however, that large cities lived by trade. Assyria's Assur, on the edge of the rainfall zone and without a sizeable agricultural hinterland, could not have produced its own food. This city lived by textile manufacturing and trade. Moreover, Assur's commercial specialization, while perhaps outstanding, was certainly not unique. This is demonstrated by Dalley's (1984: 20–24) remarks about Karana in northern Iraq. Located in an area of low and unstable rainfall and without the opportunity to employ irrigation, Karana flourished in the third and second millennia as a trading center, especially of tin. The city atrophied in the later second and first millennia, when there was a shift in the main track of the east-west trading caravans. Another city that lived on trade occupied the site of Khirbet el-Kerak at the tip of the Sea of Galilee (see chapter 4.C). Again, in western Anatolia, the foundation for the wealth of Troy (Hissarlik) was the Troad's fertile land and rich marine resources, but an extra dimension of wealth sprang from the city's position as a major cross-road of traffic by both sea and land. The city, whose mound covers about 8 acres, is located a few miles from the Aegean and the southern shore of the Dardanelles astride the route from western Anatolia to the crossing over the Hellespont to Europe.

The direct evidence for trade, occupational specialization, supply-demand-determined prices, investment in human and material capital, ''coinage,'' banking, and other ''modern'' phenomena is uneven with respect to time and place but is, nevertheless, abundant. The availability of a large labor force for seasonal work in agriculture and irrigation canal repair testifies to significant economic differentiation and division of labor. Indirect evidence for the strategic nature of trade and the receptivity of ancient economies to new commercial opportunities is provided by major transformations in the economies of Sumer, Archaic Greece, and southern Babylonia.

If, however, as Polanyi (1981: 124) states, "a full market system encompasses its society," then no such system has ever existed. Transaction costs alone would rule out a regime of complete markets. But the requisite functions demanded by Polanyi—the allocation of consumer goods, land, and labor (slave and free) through the supply-demand price mechanism; risk bearing organized as a market function; and elaborate credit, loan, and equity markets—can be seen, plainly at some points and obscurely at others, in the documents from the earliest times. In addition, the documents reveal a certain sophistication in economic thinking. The ancient Near Easterners at least appreciated the concept of opportunity costs and the externality problem. Indeed, the Old Babylonian period has been characterized by Hallo (1958: 98) as one in which "there was a price on everything from the skin of a gored ox to the privilege of a temple office." For good economic reasons—including tax exemptions, exclusive franchises, and, most importantly, a limited supply of individuals qualified to play the role of entrepreneur—many economic transactions took place within temple and palace where, no less than in today's large enterprises, they were mediated by authority. The evidence does not in the least suggest, however, that market-mediated transactions did not take place or were unimportant relative to hierarchy. As in the contemporary economy, we find, in the words of economist D.H. Robertson, "islands of conscious power in an ocean of unconscious cooperation." It is incorrect to magnify the economic flows of temple to Amazonian proportions while shrinking the market to a mere brook.

Selected Bibliography

ABBREVIATIONS

AA: American Anthropologist
AC: L'Antiquité Classique
AcS: Acta Sumerologica
ActaAnt: Acta Antiqua
AE: American Ethnologist
AER: American Economic Review
AF: Altorientalische Forschungen
AIIN: Annai del'Istituto Italiano di Numismatica
AJA: American Journal of Archaeology
AJBA: Australian Journal of Biblical Archaeology
AJP: American Journal of Philology
AJS: American Journal of Sociology
AJSL: American Journal of Semitic Languages
AnatSt: Anatolian Studies
AO: Archiv orientálni
Arch: Archaeology
ArchF: Archäeologische Forschungen
AS: Ancient Society
ASt: Assyriological Studies

AW: Ancient World

BA: Biblical Archaeologist

BASOR: Bulletin of the American Schools of Oriental Research

BO: Bibliotheca Orientalis

BSA: Annual of the British School at Athens

BSOMS: Bulletin of the Society of Mesopotamian Studies

CA: Current Anthropology

ChrÉg: Chronique d'Égypte

CJ: Classical Journal

CLR: Columbia Law Review

CP: Classical Philology

CQ: Classical Quarterly

CSSH: Comparative Studies in Society and History

EDCC: Economic Development and Cultural Change

EEH: Explorations in Economic History

EHR: Economic History Review

EI: Eretz Israel

GM: Göttinger Miszellen

GRBS: Greek, Roman and Byzantine Studies

HiRel: History of Religions

HPT: History of Political Thought

HTR: Harvard Theological Review

HUCA: Hebrew Union College Annual

IEJ: Israel Exploration Journal

ILR: Israel Law Review

JAOS: Journal of the American Oriental Society

JAR: Journal of Anthropological Research

JARCE: Journal of the American Research Center in Egypt

JAS: Journal of Asian Studies

JBL: Journal of Biblical Literature

JCS: Journal of Cuneiform Studies

JEA: Journal of Egyptian Archaeology

JEBH: Journal of Economic and Business History

JEEH: Journal of European Economic History

JEH: Journal of Economic History

JEL: Journal of Economic Literature

JEP: Journal of Economic Perspectives

JESHO: Journal of the Economic and Social History of the Orient
JFA: Journal of Field Archaeology
JHS: Journal of Hellenic Studies
JLS: Journal of Legal Studies
JMCB: Journal of Money, Credit, and Banking
JNES: Journal of Near Eastern Studies
JPE: Journal of Political Economy
JPOS: Journal of the Palestine Exploration Society
JPS: Journal of Persian Studies
JRA: Journal of Roman Archaeology
JSAH: Journal for the Society of Architectural Historians
JSOT: Journal for the Study of the Old Testament
JSS: Journal of Semitic Studies
JWH: Journal of World History
MCS: Manchester Cuneiform Studies
MH: Museum Helveticum
MQ: Mankind Quarterly
NC: Numismatic Chronicle
OJA: Oxford Journal of Archaeology
OLP: Orientalia Lovaniensia Periodica
Or: Orientalia
OrAnt: Oriens Antiquus
P&DR: Population and Development Review
PEQ: Palestine Exploration Quarterly
QJE: Quarterly Journal of Economics
RA: Revue d'assyriologie et d'archéologie orientale
RÉ: Revue d'Égyptologie
RIDA: Revue Internationale des Droits de l'Antiquité
RSC: Rivista di studi classici
RSO: Revista degli Studi Orientali
SAK: Studien zur Altägyptischen Kultur
SM: Scripta Mediterranea
SMEA: Studi micenei ed ageo anatolici
StOr: Studia Orientalia
StRom: Studies in Romanticism
TA: Tel Aviv
TAPA: Transactions of the American Philological Society

TC: Technology and Culture

UF: Ugarit Forschungen

VT: Vetus Testamentum

WEJ: Western Economic Journal

WO: Die Welt des Orients

WorldArch: World Archaeology

WZKM: Wiener Zeitschrift für die Kunde des Morgenlandes

YCS: Yale Classical Studies

ZA: Zeitschrift für Assyriologie und vorderasiatische Archäeologie

ZÄS: Zeitschrift für Ägyptische Sprache und Altertumskunde

ZfA: Zeitschrift für Archäologie

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