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Wirtschaft

Économie

The economy of ancient Egypt is a difficult area of study due to the lack of preservation of much data (especially quantitative data); it is also a controversial subject on which widely divergent views have been expressed. It is certain, however, that the principal production and revenues of Egyptian society as a whole and of its individual members was agrarian, and as such, dependent on the yearly rising and receding of the Nile. Most agricultural producers were probably self-sufficient tenant farmers who worked the fields owned by wealthy individuals or state and temple estates. In addition to these, there were institutional and corvée workforces, and slaves, but the relative importance of these groups for society as a whole is difficult to assess. According to textual evidence, crafts were in the hands of institutional workforces, but indications also exist of craftsmen working for private contractors. Trade was essentially barter with reference to fixed units of textile, grain, copper, silver, and gold as measures of value. Coins were imported and produced in the Late Period, but a system close to a monetary economy is attested only from the Ptolemaic Period onward. Marketplaces were frequented by private individuals (including women) as well as professional traders, both native and foreign. Imports were secured by conquests and military control in the Levant, from which silver, oil, and wine reached Egypt, and in Nubia, rich in its deposits of gold.

تصعب دراسة إقتصاد مصر القديمة بسبب قلة الأدلة المحفوظة (خصوصاً البيانات الكمية) وهو أيضاً موضوع مثير للجدل وتتعدد وجهات النظر به. مع ذلك فمن المؤكد أن الزراعة كانت المنتج الرئيسي ومصدر دخل/عائدات المجتمع المصري وأفراده التي بدورها تعتمد على مستوى النيل السنوي. أغلب منتجي المحاصيل الزراعية كانوا فلاحين مستأجرين مكتفيين ذاتياً يعملون بأراضي الأثرياء أو الحكومة أو ممتلكات المعابد. بالإضافة إلى هذه الكوادر، كان يوجد أيضاً قوى عاملة تتبع المؤسسات وعبيد و<<corvée>> (عمالة مفروضة على كل عائلة و قرية) ولكن من الصعب تقييم الأهمية النسبية لهذه الكوادر بالنسبة إلى المجتمع. كانت الحرف في أيدي القوى العاملة التابعة لمؤسسات بناءً على الأدلة النصية، ولكن يوجد مؤشرات لحرفيين يعملوا لجهات خاصة /لمقاولين. التجارة كانت غالباً عن طريق المقايضة بناءً على القيم الثابتة للسلع مثل النسيج، الحبوب، النحاس، الفضة، والذهب. تم إستيراد وإنتاج العملات المعدنية في العصر المتأخر ولكن وجد نظام قريب من الإقتصاد النقدي من العصر البطلمي وما بعده. ترددت الناس على الاسواق من ضمنهم النساء بالإضافة إلى التجار المحترفين من المحليين والأجانب. السلع المستوردة تم جلبها عن طريق الفتوحات والسيطرة العسكرية في المشرق والتي منها تم إستيراد الفضة، الزيت، و النبيذ إلى مصر، ومن النوبة تم إستيراد الذهب.

Economy in its broadest sense can be defined as the system, or the different ways, in which material goods are produced, distributed, and consumed. In everyday language, “economy” stands for the efficient use of scarce resources, and for the process of buying and selling that appears to be at the center of much modern economic activity. Such a popular use of the term is likely to neglect aspects of human society that are no less “economic,” such as taxation (an aspect of government economic policy), or subsistence (the self-sufficient mode of production and consumption in traditional agrarian societies). To put it differently, “economy” is not necessarily the same as “commerce.” In fact, trade seems to be just one aspect of an economic system, the relative importance of which is thought to be subject to historical change (see *Trade* below). There is actually no single aspect of human society that is irrelevant to its economy (geography, demography, and mentality were highlighted as particularly important by Janssen 1975b: 132 - 139).

Whereas modes of production and distribution can be reconstructed on the basis of textual, archaeological, and geological research, quantification remains the central problem in the study of an ancient economy, such as the Egyptian, due to the lack of preservation of many sources of information. Moreover, Egyptological discussions tend to concentrate on textual sources, the social and chronological distribution of which is unbalanced (institutional records of the New Kingdom and Greco-Roman Period being relatively well-represented). More integrative approaches that include archaeological data may well add significantly to our present state of knowledge.

Agrarian Production

There can be no doubt that production in ancient Egypt was first and foremost agrarian, the principal food crops being (emmer) wheat and barley, and the principal components of

the Egyptian diet being bread and beer. Many of these and other crops were produced by tenant farmers, who were largely self-sufficient as far as the production of their own food was concerned. They lived in what anthropologists refer to as a peasant society (or peasant economy): a society mainly consisting of self-sufficient agrarian producers who pay part of their crops as tax to the government, or as rent to the owners of the land they cultivate. A variation of the peasant society, more specifically relevant to modern developing countries, is that of farmers who sell cash crops and subsequently are able to buy food. Such a strategy may occasionally be reflected in Egyptian sources—for example, in the Middle Kingdom *Tale of the Eloquent Peasant*, in which the “peasant” (*shjtj*), actually a hunter/gatherer from the Wadi el-Natron oasis, intends to exchange his products (minerals, wild plants, animal skins) for grain on the market.

There is insufficient data to establish the amount of agrarian production (grain or otherwise) in ancient Egypt. Quantitative data are scarce and their chronological distribution is uneven. Estimates have been made, however, of the population and the total extent of fertile area during the Pharaonic and Greco-Roman periods. The figures usually quoted by Egyptologists are those arrived at by Butzer (1976: 81 - 98) on the basis of geological surveys, as well as textual and archaeological data on ancient demography and agrarian technology. Butzer calculated a fertile area of 22,400 sq. km. and a population of 2.9 million in the early Ramesside Period (about 1250 BCE), and 27,300 sq. km. with a population of 4.9 million in the Ptolemaic Period (about 150 BCE). The underlying assumption is that 130 persons could live from the production of one square kilometer in the former, and 180 in the latter period. Their food would basically include wheat and barley, vegetables, dates, and fish, and for the well-to-do the diet would include meat and fruit. The increase in agrarian production per square kilometer in the Greco-Roman Period

can be explained by improvements in agricultural technology (irrigation devices, new crops), and perhaps by a more efficient agrarian administration.

Some documents provide data concerning grain production per square kilometer, although there remain uncertainties about the measures employed and the quality of the fields referred to. Administrative texts from the Ramesside Period (1295 - 1069 BCE) suggest a norm of 2,700 to 2,900 liters per hectare (l/ha) for basin land—that is, fields of the best quality, submerged by the annual rise of the Nile in antiquity. (Conversion of liters to kilos is apparently a less than reliable process: references featuring the conversion display diverging estimates, in which the equivalent of one liter of grain varies between 0.512 and 0.705 kilos; see Baer 1962: 42; and Kemp 1986: 132.) The Ramesside quota match those found in records from early twentieth-century Egypt (Miller 1991: 262, 263; varying between approximately 2,000 and 2,800 l/ha for wheat, and between 2,500 and 3,400 l/ha for barley). Less productive types of land were expected to yield three-quarters or half of these amounts. It is uncertain how much of the land available for agriculture was actually sown with wheat or barley, rather than vegetables, fruit trees, fodder for animals, or flax. It is assumed, however, that most of the basin land was used for cultivating grain crops.

Ramesside sources inform us about the organization of agrarian production insofar as it is connected with temples and government departments. The personnel of these institutions were called *ibuty* (*ihwtj*; plural: *ihwtjw*). According to some texts (papyrus British Museum EA 10447 and Bologna 1086, ostrakon Gardiner 86), an *ibuty* was responsible for the yearly production of almost 16,000 liters of grain. For this he would have to work 5.5 to 6 hectares of basin land. The most important agrarian document of this period, Papyrus Wilbour, records even larger areas as the responsibility of an individual *ibuty*. Together, these sources suggest that the word *ibuty* refers to a

supervisor rather than (or as well as) a member of the actual workforce. On a higher level, the *ibuty* were supervised by scribes, priests, or high state and temple officials.

Institutional and Private Interests

The aforementioned documents also indicate that the institutional exploitation of one and the same plot of land often involved more than one party. Papyrus Valençay I, from the end of the 20th Dynasty (c. 1069 BCE; Gardiner 1948: 205 - 206), gives a clear example of the institutions and individuals who owned plots and were liable to taxation. The text is a letter written by the mayor of Elephantine, who was being held responsible for the production of barley on a type of government estate, the *kbato* (*h3-t3*), which, in this case, was incorporated into a Theban temple estate. A scribe of the latter institution came to collect the barley, but the mayor objected that the plot specified was not his responsibility. Instead, he argued, it was the property of some private individuals, and taxed as such by the royal treasury. The text thus shows the three types of landowners regularly mentioned in agrarian documents: royal, temple, and private. Papyrus Wilbour from the reign of Ramesses V (1147 - 1143 BCE) is a lengthy register of institutional fields in Middle Egypt and the parties entitled to their production. Among the institutions are large urban and small provincial temples, and a select number of government departments, such as the royal treasury and harems.

Basically, every institution had two types of agrarian domains. In the terms of Gardiner (1948), these were: “non-apportioning” (presumably worked or supervised by the institution’s own personnel); and “apportioning,” or *p(s)š* (cultivated by other institutions or private individuals). The major part of the crops of apportioning fields was kept by the parties taking care of their cultivation, while a small part (varying between 7.5% and 15%) went to what Gardiner considered to be the owning institution. This institution, however, should

rather be considered not as the “owner” but as having been entitled to tax received from the land (the percentage specified): apportioning fields were often in the hands of private individuals, who were the actual owners, and who yearly paid tax to the temple or government institution (Haring 1998). This situation is also reflected in Papyrus Valençay I. The people cultivating their own land and paying their tax to the royal treasury are there called *nmḥ(y)* (plural: *nmḥyw*), a word originally meaning “orphan,” but which in the New Kingdom had acquired the additional meaning “free” or “private,” and referred to people who owned property, but were not among the higher state and temple officials (*sr*; plural: *srw*; for this opposition see Römer 1994: 412 - 451). A similar status has been ascribed by Egyptologists to people called *nds* (plural: *ndsw*), “small one,” in texts from the First Intermediate Period (e.g., Moreno García 1997: 32 - 39), and to the *s n njwt tn* “man of this town” of the Middle Kingdom (Quirke 1991), but this interpretation has been disputed (see Andrassy 1998 for *s n njwt tn*; and see Franke 1998 for *nds*). In the Greco-Roman Period, *nmḥ(y)* became the equivalent of the Greek *eleutheros*. The word is seldom used in Papyrus Wilbour, but it is likely that the individuals listed there as the holders of apportioning fields and as payers of taxes had precisely that status.

On a lower level (with which the institutional documents were not concerned) were the actual cultivators, who may have been institutional workforces, private owners, or lessees. The latter (referred to in the previous section as tenant farmers) remain undocumented until the late Third Intermediate Period. By that time land leases had begun to appear as written contracts, a tradition that was continued in the Greco-Roman Period under the name *misthosis*. Documents from earlier periods occasionally refer to the practice, but the agreements themselves may have been oral ones. According to such contracts the lessee paid one fourth to as much as one half of the crop as rent (Donker van Heel 1998; Hughes 1952). The contract also mentioned the

harvest tax (*šmw*), about 10% of the crop, to be paid by the lessor to a temple or to the government, and it is tempting to regard the revenues from apportioning domains mentioned in Papyrus Wilbour as this very tax (Eyre 1994: 130; Haring 1998: 85). Since many of the plots in this document belonged to apportioning domains, and most of these to private individuals, there must have been a great number of wealthy landowners in Egypt who could act as lessors. Furthermore, although land was remarkably cheap when compared with other modes of production (such as cattle and slaves), people who were not wealthy would not be inclined to buy it (Baer 1962). It follows that very many of Egypt’s peasants probably leased the land they cultivated.

A special case of shared interests in fields, the incorporation of crown land (*kbato*) in the estates of other institutions, is illustrative of the complex interaction between temples and the government. *Khato* features prominently in Papyrus Wilbour and other agricultural documents. Plots of *kbato* were included in the temples’ apportioning domains, which means that the temples received only minor shares of their revenues; the major part went to the *kbato*-institution itself and was duly entered among its non-apportioning revenues. It is possible that the amount of *kbato* land far exceeded the temples’ own non-apportioning domains, so that it formed a major part of their estates in terms of productive area, whereas the amount of grain the temples received from it was relatively low. Data from Papyrus Wilbour also suggest that the status of *kbato* land could change: *kbato* land incorporated in some other institution’s apportioning domain could, over the course of time, become autonomous, non-apportioning domains. These characteristics of *kbato* help to explain the excessive proportions of some newly founded temple estates, as well as their reduction in later years.

This example makes clear that the question of whether temples were economically independent or, rather, integrative parts of the government administration, is pointless

(Haring 1997:17 - 20; Janssen 1975b: 180 - 182). They were clearly separate institutions, but not fully autonomous, and their interests were closely connected with those of government departments and the crown. Their economic power was therefore not necessarily a threat to state interests at any moment in Pharaonic history. The king would have to consider, however, the interests of priests and temple administrators. From the Old Kingdom onwards, it was possible for him to exempt temple estates from taxation or compulsory labor (*corvée*) by decree (Goedicke 1967 provides several examples). Such decrees were issued with respect to specific institutions and may therefore not represent a general policy. Government inspections of temples and their economic wealth are well attested for the Middle and New kingdoms; nation-wide temple inspections are known from the reigns of Amenemhat II, Tutankhamen, Merenptah, and Ramesses III (Spalinger 1991).

Apart from the inspections and certain fiscal aspects (such as *kbato*), the temples appear to have been closed economic units. There are no indications that the temples' wealth provided buffer stock for the population in times of food scarcity, despite suggestions to the contrary (e.g., Kemp 2006: 257). Indeed the marginal contributions paid by the temples of western Thebes to the nearby community of necropolis workmen in the Ramesside Period, and their reluctance to assist when the latter's food supply fell short (Haring 1997: 256 - 263, 268 - 273), emphasize that temples did not normally play such a role.

Labor

An income strategy different from subsistence was labor, either voluntary or compulsory. Compulsory labor is known from ancient Egypt in two forms: *corvée* and slavery. *Corvée* (*bh*) is well attested as periodical compulsory labor (especially in earlier periods), and everyone but the highest functionaries could be subjected to it (Eyre 1987a: 18 - 20). In the Old Kingdom, groups of workers subject to

this practice were called *mrt* and worked in agricultural domains founded by the government (Moreno García 1998). The same word *mrt* was used for the personnel of temple workshops in the New Kingdom; these were often prisoners taken during military campaigns (Eyre 1987b: 189). In the Middle Kingdom, temporary compulsory labor on state fields was controlled by the *hnrt* (interpreted as "labor camp" by Quirke 1990: 135 - 136). Even the *nmh(y)* of the New Kingdom (see *Institutional and Private Interests* above) could be summoned for service to government officials, as becomes clear from the decree of King Horemheb (Kruchten 1981: 30, 50).

Chattel slavery is attested in Egypt from the late third millennium BCE onward. Persons could be bought and sold, and inherited, and may thus be called slaves in the legal sense of the word, although Egyptian terminology is vague: *hm* (fem. *hmt*) and *b3k* (fem. *b3kt*) can both be translated as "slave," but also as "servant" (Hofmann 2005). Not only could the slaves themselves be sold, but also their services; Ramesside texts refer to this practice with the expression *hrw n b3k* "day of service" (Menu 1998). From the Late Period onward we know of the practice of individuals entering into slavery by contract as a means to pay off heavy debts (for example, papyri Rylands III-VII: Cruz-Urbe 1982).

Although it is clear that chattel slavery was common, it is more difficult to assess how important slavery was to the Egyptian economy. Economic anthropology considers two criteria for establishing the importance of slavery to society: 1) great hierarchical differences among social strata, allowing for the delegation of work to lower ranks; and 2) the existence of "open" economic resources (i.e., freely accessible means of livelihood), without which there is no need for slaves as a separate social category. The extent of open economic resources in ancient Egypt is far from clear, but Egyptologists assume that compulsory labor was chiefly *corvée*, rather than slavery.

Textual sources apparently concerned with wage labor actually refer to institutional workforces who were given rations. Rations could, however, be so high as to enable the receiving institutional craftsmen to trade with their grain surplus (Eyre 1987b: 201). The same craftsmen could use their expertise to produce items for the market in their spare time in order to obtain additional income (Cooney 2006; Eyre 1987b: 199 - 200). There are no indications of the existence of a free labor market for craftsmen or other specialized workers. It is unlikely, however, that craftsmanship was only institutional: archaeological and ethnological research suggests industry, seasonal or permanent, in peasant households and local workshops (see, for example, Köhler 1997 for pottery production).

Trade

Trade is at the core of modern economies, hence also of economy as a scholarly discipline. Industrial societies from the nineteenth century onward show rational patterns in collective demand, production, and labor. The value of these can be expressed in amounts of money, and this makes it possible to sell products and labor on the market. Thus virtually everything can be bought and sold, and the “rational” thing to do is to sell for a high price (or lower the price in order to sell more), and to buy, produce, and transport as cheaply as possible. This (modern) rational model however, proceeds from the assumption of considerable freedom of choice on the part of buyers and sellers. The degree of freedom may actually differ according to the type of society and its age, and is always restricted. Yet trade is eternal. The oldest economic texts from ancient Egypt concern sales of land (such as the inscriptions in the 4th-Dynasty tomb of Metjen) and houses or tombs (5th-Dynasty papyri from Gebelein: Posener-Kriéger 1979). Texts referring to trade, local and long distance, from later periods abound. Depictions in Old and New Kingdom tombs show marketplaces and merchants’ ships (figs. 1 and 2). Important

aspects of trade in ancient Egypt for which there are data include the following:

1. *Units of value and payment.* The exchange of commodities in Pharaonic Egypt can best be characterized as money-barter—that is, barter with reference to fixed units of value. Prices, whether formed by tradition or by demand and supply, seem to have been more stable than those in modern markets. They could be expressed, basically, in any commodity, but by far the most common were units of grain, copper, and silver (also popular was linen: see number 3 below). The price of any given object, piece of real estate, animal, and slave could be expressed in these commodities. Although “money” in the modern sense of the word did not exist in ancient Egypt, some of its definitive characteristics—such as standard of value and means of payment—were present.

An Egyptian word closely approaching our word “money” (and indeed often translated as such) is “silver” (*ḥd*). In the New Kingdom and later, the word was used to refer to payment, even if the payment was not actually in silver. This practice may have been a consequence of the increasing amounts of silver circulating in Egypt after foreign conquests. Until the Third Intermediate Period, however, there are no indications of a bank or government guaranteeing the value of the means of payment, or a fixed shape of that means (such as coins or bills), let alone fiduciary (as opposed to intrinsic) value. In documents from the 21st Dynasty onward, the silver used in payments is said to have come from “the Treasury of Harsaphes” (presumably in Heracleopolis); in the Saite Period a Theban treasury is referred to; and after the Persian conquest, the “treasury of Ptah” in Memphis. Müller-Wollermann (2007: 1353) has suggested that these temple treasuries acted as guarantors. Egyptian coins or other fixed forms of silver objects used for payment are not attested in these periods. However, hoards of Greek silver coins of the Late Period have been found in Egypt and there are indications of the circulation and even imitation of Greek coins at this time

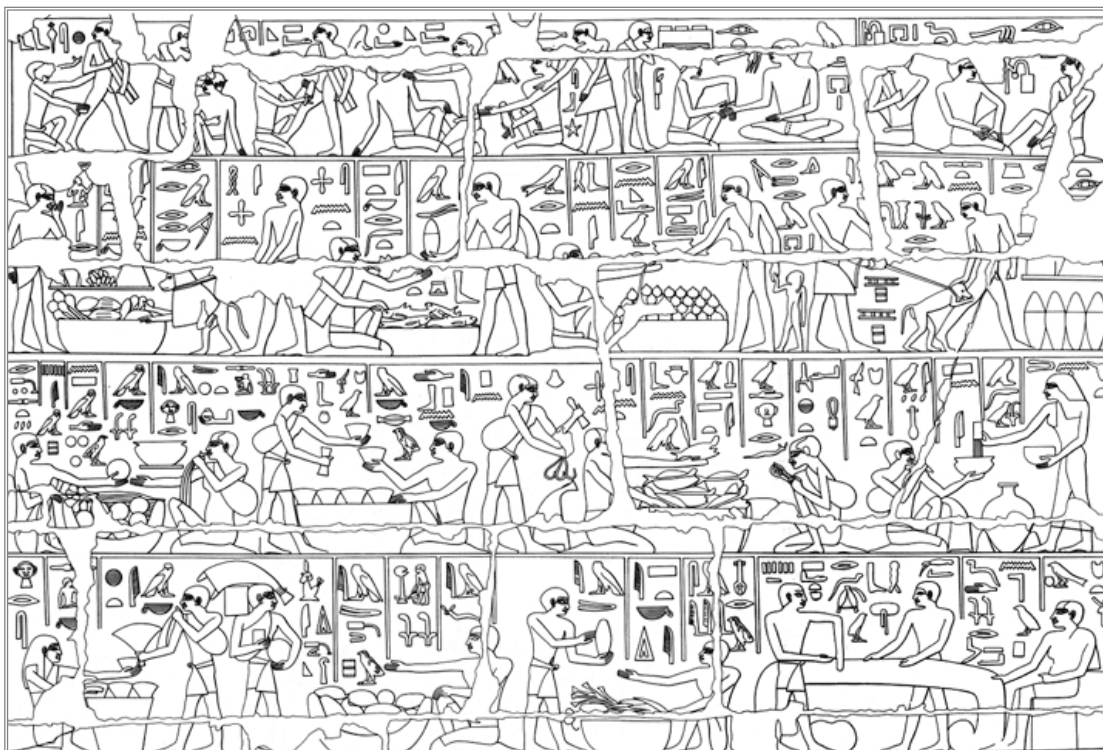


Figure 1. Market scenes in the tomb of Niankhkhnum and Khnumhotep, 5th Dynasty, Saqqara.

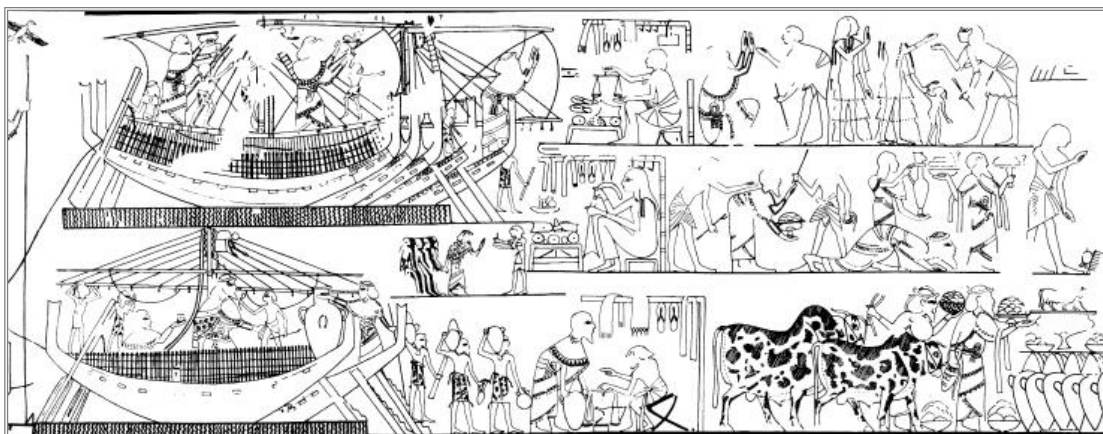


Figure 2. Levantine merchant ships at an Egyptian local market, Theban Tomb 162, 18th Dynasty.

(Müller-Wollermann 2007: 1355 - 1356). Coins inspired by the Greek ones but with Egyptian inscriptions date from the 30th Dynasty and the Second Persian Period. The Ptolemies conducted their own massive production of coins and the Ptolemaic Egyptian economy came to resemble a monetary system (including banks), although payment in kind remained common practice.

The value of grain fluctuated in the course of the agrarian year from low (when the harvests were brought in) to high (in the period preceding the harvests). Long-term fluctuations (such as the dramatic rise in grain prices from the reign of Ramesses III onward) may be due to failures in the government's economic policy, or to repeated ecological stress (low Nile floods). Loans of grain

between individuals could take advantage of short- and long-term fluctuations, besides requiring the payment of considerable interest (often 100% or more). The basic units of grain were the “sack” (*h3r*) and its subdivisions, the *bekat* (*hq3t*) and the *oipe* (*ipt*). In the New Kingdom, the sack was a unit of almost 80 liters, subdivided into four *oipe*, each of which in its turn was made up of four *bekat*. A further subdivision, the *bin* (*hmv*) (1/10 of the *bekat*, approximately 1/2 of a *ter*), was used for fluids, but not for grain (Reineke 1963). From the Late Period onward, grain was measured in *artabe* (*rtb*), a smaller unit than the sack, and often of uncertain capacity (estimates range between 32 and 40 liters; see Vleeming 1985).

The ratio of silver to copper was stable during much of the New Kingdom (1 unit of silver against 100 units of copper), but changed towards the end of the 20th Dynasty (1 unit of silver against 60 of copper). One unit of gold equaled two of silver. It is assumed that before the late Middle Kingdom silver was more valuable than gold, because whenever earlier texts mention both metals, silver is mentioned first (it having been the custom in economic texts to start with the most expensive commodities). The reduction in the value of silver is explained by its influx from the north, which increased through Egypt’s domination in the Levant, especially after the conquests of the early New Kingdom (Lucas 1962: 247). Egypt itself has few natural deposits of silver, as opposed to gold, a major Egyptian mineral resource.

Gold mining areas were located in the Eastern Desert, but it was the incorporation of Nubia into the Egyptian empire that gave the pharaohs access to vast gold resources. It is even possible that the value of gold decreased slightly in the middle of the 18th Dynasty due to its massive influx. Gold was especially important to Egypt’s foreign policy as a means of financing wars and of gift-giving among the political powers of the time. Copper was abundantly available in Egypt (mainly in the Eastern Desert and Sinai) and

was the prime material for tools before iron became common in the first millennium BCE.

The units of weight used for metals were the *deben* (*dbn*: approximately 90 grams in the Ramesside Period and later; considerably less in earlier periods; cf. Graefe 1999) and its tenth part, the *kite* (*qdt*). A special unit for silver was the *seniu* or *sb(en)ati* (*šnʿtj*), possibly 7.5 grams. Otherwise the *kite* was the unit preferred for precious metals, although gold rarely made its appearance in everyday economic traffic.

2. *Transport and its costs.* The foregoing section makes it clear that there could be trade without money. Payment and storage in kind often necessitated the transport of goods in large quantities. Long-distance trade, especially, depended heavily on the infrastructure available. Given the absence of paved roads in ancient Egypt, transport on land (in the Nile Valley and in the desert) entirely depended on manpower and huge numbers of donkeys (camels did not make their appearance in Egypt before the Late Period). Most transport of any substantial scale was by ship; administrative records mention ships capable of loading forty tons of grain or more (Papyrus Amiens and Papyrus Baldwin: see Janssen 2004: 27 - 30). Navigation on the Nile meant rowing downstream when heading north, and making use of the wind from the Mediterranean Sea when going south. Traveling from Memphis to Thebes could take two weeks or more.

Ramesside texts specify the costs of grain transport on the Nile as approximately 10% of the cargo (Janssen 1994). Apart from the costs of transport itself, there were tolls and customs to be paid. Tolls had to be paid when passing military strongholds in Egypt and Nubia, although temple ships could be exempted by royal decree. A scene in the tomb of the vizier Rekhmira depicts the collection of dues from towns and fortresses in southern Egypt; among these we find the fortresses of Biga and Elephantine (fig. 3: second from left in both registers). Customs are associated with international ports of trade. Possible early references are made in



Figure 3. Collection of dues from southern Egypt (detail), Theban Tomb 100, 18th Dynasty.

two letters (EA 39 - 40: Moran 1992: 112 - 113) from Cyprus in which the pharaoh and the vizier(?) are asked not to permit any claims being made against Cypriot merchants.

Unambiguous documentation on customs is present from the Persian Period, but it may reflect practice already current in the preceding 26th Dynasty (Briant and Descat 1998). Moreover, Herodotus informs us that that dynasty concentrated trade with Greek merchants in the settlement of Naukratis in the western Delta, which is a further indication of government concern with (and possibly revenues from) foreign trade. This does not mean that trade with foreign

merchants was restricted to government institutions, since New Kingdom tomb scenes show Levantine merchants engaging in trade in local markets on the banks of the Nile (fig. 2). These merchants were apparently permitted to trade in Egypt (to export their oil and wine, as well as the all-important silver for everyday economic traffic)—perhaps after the payment of customs.

3. *Markets and merchants.* Private exchange could probably take place everywhere and at any time. Sales or rentals of expensive items, however, would be effected with witnesses present, and might involve the taking of an oath on the part of the seller or renter,

promising that there were no claims by third parties on the item transferred. These were oral conventions (reflected in the unique textual documentation from Ramesside Deir el-Medina) until after the New Kingdom, when they became fixed parts of written contracts.

Texts and tomb scenes testify to the existence of marketplaces where movables changed hands. The Egyptian word for river bank (*mryt*) is often used with the meaning “marketplace,” and tomb scenes confirm that such places were indeed located at the river. The booths depicted in the scenes accommodate men as well as women. The latter could engage in local trade, probably as sellers of surplus produce of the household, especially textiles (Eyre 1998). (Linen) textiles were actually a common means of payment, very much like grain, copper, and silver, and are documented as such in the exchange of movables and real estate from the Old Kingdom onward (e.g., Posener-Kriéger 1979).

Trade in an institutional context seems to have been limited to men. The Egyptian word *šwtj* means “trader,” but not necessarily “merchant” (Römer 1992). Bearers of this title worked for temples and for the households of wealthy individuals, their task being to exchange the surplus production of these households (e.g., textiles) for other items, such as oil and metals. Such trade ventures are recorded in ship’s logs from the Ramesside Period (Janssen 1961). Although attested in institutional contexts only, traders may well have used their position and skills to engage in transactions for their own profit (Bickel 1998: 164 - 166), as did institutional craftsmen (see *Labor*, above).

Theories on Ancient Egyptian Economy

The economy of an ancient society—and one that is culturally very different from ours—such as Pharaonic Egypt is likely to display characteristics that do not have parallels in modern economies. Reconstructing such an ancient economy should therefore not exclusively proceed from modern economic

observations and theories. Entirely devoid of preference for any specific theory is the important work by Wolfgang Helck, who arrived at his conclusions empirically, on the basis of extensive collections and a superb overview of ancient data (see mainly Helck 1960 – 1969, 1975). Helck argued that economic consciousness developed slowly in Egyptian history and that the development of this consciousness was hampered by the centralistic economy of the Old Kingdom; only from the First Intermediate Period onward would private individuals increasingly wrench themselves free from the all-embracing redistributive state.

Janssen (1975b: 137 - 139) argued that characteristics of the ancient Egyptian mindset exhibited in religion and art, such as the (supposed) absence of individualism, would also apply to the economy. He saw the economic mind of the Egyptians as “realistic” rather than “abstract,” and little concerned with the motive of making profit. The character of the Egyptian economy as a whole he saw as mainly redistributive—that is, dominated by taxation and tributes. Janssen based his discussion on general characteristics of peasant economies worldwide. In doing so, he showed himself a proponent of a broader movement in economic history that had begun in the 1940s and was especially influential in economic anthropology. One source of its inspiration was the emergence of economies (in Eastern Europe and Asia) that were different from the “capitalist” market economies. Another was the anthropological interest in “primitive” economies (Eichler 1993: 2 - 4). An early reflection of this movement in Egyptology was Siegfried Morenz’s study of conspicuous consumption (1969).

The main inspiration for this “substantivist” or “primitivist” movement was the economic historian Karl Polanyi. He and his followers (mainly anthropologists) argued that economy was not to be seen as an autonomous phenomenon (that is, as a self-regulating market), but as embedded in a political and social context (Dalton 1971; Polanyi et al.

1957). This embeddedness shows itself in three different ways (also called “patterns of integration”): exchange (in commerce), reciprocity (in social structures, such as kinship), and redistribution (in politic centralism). This train of thought became influential in historiography (for example, in the work of Moses Finley) and in Near Eastern studies from the 1970s onwards. In Egyptology it found its clearest expression in Renate Müller-Wollermann’s discussion of trade in the Old Kingdom (1985). Authors discussing the nature of ancient Egyptian economy saw redistribution as its key feature (with or without specific reference to Polanyi: Bleiberg 1984, 1988; Janssen 1981). The Assyriologist and historian Mario Liverani used Polanyi’s theory to analyze international economic traffic as presented in Near Eastern sources (including the Egyptian) from the Late Bronze Age (Liverani 1990: 203 - 282). Liverani reached the important conclusion that the “patterns of integration” did not determine the actual economic processes, but rather their ideological presentation in texts and monumental depictions (ibid.: 22 - 24).

Others have voiced skepticism of, and even sharp protest against, the Polanyi-inspired view of ancient economics (Silver 1995). The turning point in Egyptology was late in the 1980s, when more modernist views were brought forward, notably by Barry Kemp

(2006; originally published 1989) and Malte Römer (1989). Kemp assumed (vs. Helck and Janssen) that there was no lack of economic consciousness in ancient Egypt, given the political and social competition clearly evident in the ancient records. He also pointed out that a redistributionist government would never have been able to meet the demands of an entire population—moreover, not even those of its own institutions. It follows that any economy is a compromise between state dominance and self-regulating market, in which private demand is an important stimulus and sets prices. Nonetheless, discussions in the 1990s still very much focused on redistribution (e.g., Eichler 1999), state service, and the absence of individualism (Bleiberg 1994).

The relative importance of government and market and the ways in which these were interrelated seems to dominate the present discussion of ancient Egyptian economy (see also Kemp 2006: 302 - 335). David Warburton, partly inspired by the theories of John Maynard Keynes, concentrates on government concern with production and employment (Warburton 1991, 1997, 1998). An economist recently characterized the role of the state in the economy of ancient Egypt as a “risk consolidating institution” (Wilke 2000).

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Janssen (1975b), despite its date and the restriction of its scope to the New Kingdom, is still an excellent introduction to the economy of ancient Egypt. Helck (1960 – 1969) provides a wealth of data for the economy of the New Kingdom. For more modern views of the economy of the same period, see Kemp (2006: 302 - 335) and Warburton (1997: 71 - 130). The demographic figures by Butzer (1976) are, despite the inevitable degree of speculation, well-argued and usually adhered to in Egyptology. The figures are supported by observations of the nutritional value of grain crops by Miller (1991). For land leases from the Late and Ptolemaic periods see Donker van Heel (1998), Verhoogt (1998), and Hughes (1952); for the Roman Period see Rowlandson (1999). A classic discussion of the sale and prices of land is Baer (1962). On the subject of labor, see the basic overviews by Eyre (1987a, 1987b). For trade in the Old Kingdom see Müller-Wollermann (1985). The basic discussion of the system of payment in Ramesside Egypt remains Janssen (1975a), which is based on the rich data from the necropolis-workmen’s settlement at Deir el-

Medina and thus enables comparisons of prices with the rations of the buyers and sellers, who were institutional workmen. Egypt's subsequent development toward a monetary economy is sketched by Müller-Wollermann (2007). Trade and transport are the subjects of two important congress volumes that appeared simultaneously: Altenmüller and Kloth (1998) and Grimal and Menu (1998). Extensive discussion on the same subjects is presented by Castle (1992). Liverani (1990) deals with international trade and its presentation in textual sources of the ancient Near East. On the use of economic theories by Egyptologists see Eichler (1993: 1 - 26). Recent discussions of theories and data are Warburton (1997, 1998) and Römer (2007)

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- Figure 1 Market scenes in the tomb of Niankhkhnum and Khnumhotep, 5th Dynasty, Saqqara. (Moussa and Altenmüller 1977: fig. 10).
- Figure 2 Levantine merchant ships at an Egyptian local market, Theban Tomb 162, 18th Dynasty. (Davies and Faulkner 1947: pl. VIII).
- Figure 3 Collection of dues from southern Egypt (detail), Theban Tomb 100, 18th Dynasty. (Davies 1943: pl. XXIX).