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ACCOUNTING AND REDISTRIBUTION: THE PALACE AND MORTUARY CULT IN THE MIDDLE KINGDOM, ANCIENT EGYPT

Abstract: This paper examines detailed historical material drawn from primary sources to explore the role of accounting practices in the functioning of several key stages of the redistributive economy of the Middle Kingdom, ancient Egypt. First, the paper attends to the role of accounting in securing a regular flow of commodities to the state, in the form of taxation in kind. The historical material suggests clearly that accounting practices played a crucial role in levying and collecting precise tax liabilities, and in monitoring the storing of commodities in state granaries and storehouses. The second level of analysis is concerned with the role of accounting in coordinating the outflow of commodities to consumption units focusing on two examples. The first relates to the role of accounting in the distribution of food provisions to members of the Royal family and palace dependents while on a journey; the second examines the role of accounting in the writing and execution of a series of contracts to promote the mortuary cult of a dead individual. In both cases, the paper argues that the accounting practices were linked strongly to the social, political and economic contexts within which these accounting practices functioned.

INTRODUCTION

This paper is part of a larger project that seeks to contextualize the emergence and functioning of accounting practices in ancient Egypt. Earlier work by the author has focused upon the development of the scribal occupation [Ezzamel, 1994], the use of ancient systems of human accountability in bakeries [Ezzamel, 1997], the assessment and collection of taxes

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[Ezzamel, 2002a], the relationship between accounting and the development of monies of account [Ezzamel and Hoskin, 2002], and accounting for private estates and the household [Ezzamel, 2002b]. Work in progress extends this analysis to the domain of royal (funerary) and divine (memorial) temples [Ezzamel, 2002c, 2002d]. In contrast, this paper seeks to examine the relationship between accounting practices and the functioning of some important sectors of the state-controlled economy in Middle Kingdom ancient Egypt.[1] My focus here will be upon the economic activities of the palace which, by the New Kingdom, became the most dominant sector in the economy. I restrict my analysis to those activities that could be conveniently grouped under the term "redistributive economy" thereby focusing upon the relationship between accounting and the economic activities of the state in antiquity. While this paper has some minimal overlap with an earlier study [Ezzamel, 2002a] there are a number of crucial differences. First, the current study charts accounting practices during the Middle Kingdom whereas the earlier study is concerned with the much later, and more contextually different, New Kingdom. Secondly, the paper contains interesting details on tax estimation/planning not contained in the earlier study. Thirdly, this contribution focuses on the redistribution of commodities to palace and temple dependents, an issue not covered in the earlier study.

Minted coins were not known in ancient Egypt until after the conquest by Alexander [Lloyd, 1983], and before then grain was one of the standard measures of value (money of account) for different commodities [Ezzamel and Hoskin, 2002].[2] Hence, the economy of ancient Egypt has been systematically described as a "grain economy". Indeed, as long ago as 1896, Weber [English translation 1976, p. 41] recognized the crucial importance of grain to ancient Egypt "the 'store-house' policies of absolute states, even that of Russia (where they were most developed) were hardly comparable in importance to those of the

[1] Ancient Egyptian history is typically divided into the Pre-dynastic and Dynastic eras. The Dynastic era is further divided into the Early Dynastic Period (3300-2700 B.C.), the Old Kingdom (2700-2200 B.C.), the Middle Kingdom (2050-1780 B.C.), the New Kingdom (1552-1080) and the Late Dynastic Period (1080-332 B.C.). The latter four periods were interspersed with Intermediate Periods, each lasting a considerable number of years.

[2] A modern parallel for the use of a standard measurement scale in an unmonetised economy is beaver pelts used by the early traders of the Hudson Bay Company (Spraakman and Wilkie, 2000).

Babylonian and Egyptian grain storage systems". In broad terms, the palace-based grain economy entailed crop collection [Ezzamel, 2002a] and its subsequent redistribution. In ancient Egypt, redistribution covered several activities. First, providing for the immediate needs of the palace and its dependants. Secondly, provisioning for priests, temple workmen, and workmen engaged in state projects. Thirdly, provisions and gifts offered in festivals. Fourthly, supplying a minimum sustenance for the population particularly during periods of economic hardship (e.g. low Nile levels).

Using material drawn from complete translations of original sources, this paper examines the roles played by accounting practices in both mediating and rendering some of these redistributive activities possible. While tracing economic activities involving grain will form an essential part of my investigation, economic activities involving provision of different goods such as other foodstuffs (e.g. meat, oil) and clothing will also be considered. The next section provides a brief sketch of the historical and socio-economic settings of the Middle Kingdom in order to contextually locate the accounting practices examined in the paper. The role of accounting in mediating and monitoring the inflow and outflow of commodities is considered within the context of Egypt's redistributive economy. In examining the outflow of commodities the initial focus is on those that involve the palace and its various dependants. The penultimate section deals with a different type of redistribution; that involving the temple, which as I argue below, was a critical part of the state economic apparatus. The final section examines the broader implications of the historical material discussed here for the role of accounting practices in the Egyptian society of the Middle Kingdom and draws together the main conclusions.

A variety of accounting practices were developed and employed by the scribes to underpin, indeed make possible, the functioning of ancient Egypt's redistributive economy. Accounting practices were at the center of all the critical stages that involved bringing commodities to the center as well as redistributing these commodities to the various centers of consumption. In their detail, accounting calculations identified centers of responsibility for taxable income, estimated taxable capacity, levied precise tax liability, and ensured the collection of levied taxes and their careful storage until they were redistributed as rations or wages. A system that both enumerated the precise types of goods and assessed their value either through quantification via capacity measures or through the use of a money of

account as a common denominator was used to endow the measurements with precession. Even when dealing with the mortuary cults of the dead, this accounting precession was mobilized to ensure that an accurate measure-for-measure equivalence was at work. It is argued below that, far from being an inferior, and simplistic precursor to modern accounting, this ancient accounting should be judged on its own terms and understood within the unique social, political and economic contexts in which it functioned.

The analysis in this paper suggests that even at this early juncture in human history, accounting practices mediated and were in turn mediated by, the social, political and economic contexts of the Middle Kingdom. This has parallels in Mesopotamia, the other writing culture of the time, where accounting practices both mediated and were mediated by the social, political and economic contexts of that ancient civilization [Schmandt-Besserat, 1992; Nissen, *et. al.,* 1993; Ezzamel and Hoskin, 2002]. In Mesopotamia too, accounting practices played a key role in facilitating contracts and economic exchange. Such parallels at least hint at the possibility of the timeless character of this aspect of accounting.

THE SOCIO-POLITICAL, ADMINISTRATIVE AND ECONOMIC SETTINGS OF THE MIDDLE KINGDOM

The Middle Kingdom period of ancient Egyptian history was characterized by socio-political, administrative and economic contexts significantly different from those of the Old Kingdom. The Old Kingdom exhibited high stability, self-assurance and very powerful centralized governments. The authority of the Pharaoh during the Old Kingdom was virtually unchallenged. Then around 2180 B.C. came the unexpected; the collapse of the Old Kingdom that resulted in state disunity and chaos, known as the First Intermediate Period, which lasted for about 130 years [Wilson, 1951; Gardiner, 1961; Grimal, 1992; Kuhrt, 1997]. A measure of the problems encountered during this period may be gleaned from The Admonitions of Ipuwer [Simpson, 1972, pp. 210-229; Lichtheim, 1975, pp. 149-163], which, although of a more literary than historical significance, are extraordinarily insightful. The Sage laments the weakness of the state, caused in no small part by the inability to collect taxes which left state coffers virtually empty:

> Lo, Yebu, [This] . . . are not taxed because of strife . . . What good is a treasury without its revenues?. . . See

> now, the land is deprived of kingship by a few people who ignore custom . . . See, the mighty of the land are not reported to . . . The king's storehouse is 'I go-get-it', for everyone, and the whole palace is without its revenues [Lichtheim, 1975, pp. 152-159].

At the end of this traumatic period, Egypt was re-united again and the Middle Kingdom was born. What is at times lost in the midst of concern with the anarchy and social upheaval referred to above is that, almost paradoxically, the First Intermediate Period provided the foundations for the unique civilization of the Middle Kingdom and its fundamentally different mode of government. As Wilson [1951, p. 105] has remarked, "we can see the period [The First Intermediate Period] as being the formative time of the classical Egyptian literature, with a productive literary movement of considerable vigor." These literary works are immensely important in explaining the form of government and administrative arrangements that emerged in the Middle Kingdom.

Responsibility of Government, State Bureaucracy, and the Economy: In contrast to the Old and New Kingdoms, Egyptologists typically ascribe to the Middle Kingdom a weaker and more decentralized government. The chaos which permeated the First Intermediate Period was not totally eliminated during the early years of the Middle Kingdom, as evidenced by the continued existence of provincial governors of considerable influence [Kemp, 1983, pp. 110-111]. Wilson [1951, p. 106] has also suggested that the Middle Kingdom "was at first very decentralized and has justly been called a "feudal" state. The tight control of the Pharaohs of the early Old Kingdom could not be regained." However, this is an over-simplification as some Pharaohs of the Middle Kingdom established a fairly powerful state underpinned by competent and innovative administrators (see below). Moreover, it was during the Middle Kingdom that a most important development, from the perspective of this paper, emerged in the form of more systematic and detailed bookkeeping [Kuhrt, 1997, p. 162] on a level not paralleled before in ancient Egypt. Despite the relative weakening of central authority, there remained a paramount expectation that the Pharaoh, at least in theory and most often in practice, protected, and provided for, his subjects and secured social justice. The ideal of social justice was rooted in the concept of *Maat*, which implied truth, justice, righteousness, and order not only among humans, but also between them and their gods, and

between the living and the dead [Hart, 1986; Lichtheim, 1992; Watterson, 1996].

In the Middle Kingdom, the Pharaoh relied on four crucial functions; the Vizierate, the Treasury, the Priesthood, and the Military. These functions were attended to by a large number of officials, with the Vizier immediately below the Pharaoh, followed by officials, courtiers, locals and semi-officials, all with varying status within the hierarchy [Quirke, 1990]. Each town was governed by a provincial official (mayor, town governor) who was also responsible for delivering taxes to the Vizier. Hence, responsibility for civil government during the Middle Kingdom cascaded gradually down a clearly defined hierarchy [Kemp, 1983]. The stable periods of the Middle Kingdom were characterized by a quest for structure and order effected through careful planning [David, 1986; Kemp, 1989]. Residences in large towns were redistributive sub-centers, upon which a significant proportion of the town population depended. A basic modular organization of society, where the population was divided into several distinct groups was used to spread urbanism and bureaucratic control into various parts of the country; despite the decentralized form of government, this model:

> . . . reflects the prevailing mentality of the Middle Kingdom, which tended towards an extreme structured view of society, apparent both in an inclination to devise arithmetic calculations for every facet of economic life, and in the attempts to control human behaviour and property by means of a strict bureaucratic framework [Kemp, 1989, p. 155].

The economy of ancient Egypt was a combination of two spheres: a local subsistence and a nation-wide redistributive system. For the majority of ancient Egyptians, a household economy, or oikos, developed at the local level where one produced mainly for oneself. Ancient Egypt also developed an elaborate redistributive system. At the end of the production or trade cycle subjects delivered the crop to government centers (if they were working for the state) or paid direct taxes (if they were working for themselves). Although the bureaucracy was aimed at supporting and reproducing the monarchy, the social system in ancient Egypt exhibited clear elements of a patriarchy that was perceived to ensure the protection of its subjects.

These administrative arrangements echo those identified by Polanyi [1944, 1947, 1977] as characteristic of redistributive economies. Although trading in local markets existed [Janssen,

1975] no market price mechanism was developed; rather, the economy was regulated in the main via the administrative machinery. A significant measure of centricity (i.e. goods flowing into the center and out of it again) was established to facilitate the operation of state bureaucracy, but the system was not monolithic. The palace played a major role in administering the economy, but it was supported by a complex network of pious foundations or religious institutions. Each of these foundations enjoyed a quasi-autonomous status, and each was involved in collecting and storing revenues, and in distributing them in the form of rations or wages [Kemp, 1989]. In summary the economic resources of ancient Egypt divided into three domains: the Crown, the temple, and the private.

It would be misleading to suggest that the Middle Kingdom was a monolithic period with essentially the same economic, political and social attributes. Because of diversity within each of these domains, Egyptologists have divided this period into an 'early phase', beginning with the start of the Middle Kingdom in 2050 B.C. to the end of the reign of Senusret II around 1878 B.C., and a"late phase' beginning with the reign of his successor Senusret III to the end of the Middle Kingdom at about 1780 B.C. This discontinuity corresponds to the latter half of the Twelfth Dynasty onwards, which is the era from which is drawn most of the historical material examined in this paper. That such division is important has been underscored by Quirke [1990, p. 2]: "The division of the Middle Kingdom into 'early' and *'late'* phases covers material culture and textual expression, and therefore represents a substantial change in which political motives need not have played a primary role."

The discontinuity occurred when Senusret III embarked on his Nubian campaign. Seeking to secure Egypt's southern borders, he had a channel cut at the First Cataract (near Egypt's southern borders with Nubia) to allow navigation during low Nile levels. This led effectively to the "creation of a new Egypt in the form of a navigable Nile from the Second Cataract to the Mediterranean." [ibid., pp. 2-3]. But such extension of the Egyptian borders was not only of political significance; it also had strong economic implications, for it rendered easier the development and monitoring of economic activities throughout Egypt. As Quirke [ibid., p. 2] has put it "Although invisible, the order of economic relations and patterns of transport and communication are transformed at a profound level by the Nubian policy of Senusret III. The policy may be considered both a product of the trend towards greater precision and a major factor for change."

This decisive break was accompanied by major administrative changes. Although some of these changes may have their genesis in the early Twelfth's Dynasty, they took more definitive forms during the reign of Senusret III. Many tasks became defined in more concrete terms, as reflected in new administrative titles and expressions for permanent official positions. Previous titles with fairly broad mandates became far more specific, and some completely new title designations were invented. Indeed, James [1985, p. 51] has argued that "during the Twelfth Dynasty a complete reorganization of provincial administration was undertaken by King Sesostris [Senusret] III. As a result, the old system of hereditary nomarchs was destroyed and replaced by a bureaucratic machinery, the operators of which owed their allegiance to the king in his residence". Even though Quirke [ibid., p. 3] is probably correct in stating that "The innovations may not amount to new methods of operation so much as represent a more exact embodiment of existing practice", the critical point here is the formalization of such practices into specific, carefully defined titles. What looms large here is the visible hand of the administration reproducing and reaffirming itself through the further writing and propagation of administrative titles.

The scope of the current paper does not permit a full analysis of the formalisation of refined, more specific administrative titles in late Middle Kingdom [see Quike, 1990]. Suffice it to list some examples of these titles: Interior Overseer of the Inner Palace; Scribe of the Outer Palace; Scribe of the Fields; Treasurer; Deputy Treasurer; Trusted Sealer; and Servant of the Treasury Steward. The use of these, and other titles, was an addition to titles inherited from the early Middle Kingdom and the Old Kingdom, such as Vizier; Deputy Vizier; and Mayor. However, while such delineation of narrower definitions of tasks and titles promoted a much clearer distinction, specialization, and clarification of lines of responsibility and accountability, one major limitation is the potential increase in administrative rigidity. As Quirke [1990, pp. 80-81] has observed, to minimize this limitation, the senior administrators of the late Middle Kingdom also made use of non-specific titles. We will witness some of this administrative genius in relation to different types of titles when the summary accounts of Papyrus Boulaq 18 are examined later. Below, however, I intend to explore the roles of the palace and the temple in the redistributive economy of the Middle Kingdom. At this point, it will suffice to say that this 'administrative revolution' has been interpreted by James [1985, pp. 136; see also Ezzamel, 1994] as the main cause underlying

the massive expansion in the number of scribes during the Middle Kingdom:

> The strong, centralized, regime of the Twelfth Dynasty generated the settled circumstances in which fine work was produced, including handsome sculpture, relief-work, and hieroglyphic inscriptions. The same circumstances produced a development of bureaucracy accompanied by a great increase in written documents. Greater scribal activities meant more scribes; the training of more scribes required more scribal schools, and an attention to scribal practices which had not been needed in earlier times.

The Redistributive Roles of State Institutions: The palace developed a number of organizations, including the granary as an important part of the treasury, to help administer the redistributive economy. Granaries were built throughout Egypt, and, as in the case of the town of Kahun, each of the granaries in the eight large houses had a substantial capacity. Thus, it has been estimated that the eight granaries would have stored grain sufficient to support a population ranging between 5,000 and 9,000 (using maximum and minimum rations respectively) for a whole year [Kemp, 1986, p. 133]. It is likely that other individual granaries from the same period were much larger. For example, the granary of the military fort at Askut was estimated to have occupied 22% of the total area of the fort, with a capacity of over 1,632 cubic meters which is sufficient to provide annual rations for a minimum of 3,264 and a maximum of 5,628 people [ibid., pp. 131-133].

Apart from grain, the treasury was concerned with metals, cattle, and other agricultural products such as flax. In addition to the treasury, the labor bureau, the waret, the butler, the state workhouse (or the registering house), the Vizier, and the scribes all played important roles in the functioning of the redistributive system. This would have included organizing the supply side (the inflow of goods) and coordinating the demand side (the outflow of goods). The overall redistributive system was finely tuned to take into account special needs or shortages so that the contribution from each source was revised occasionally, and buffer stocks from state granaries were released to meet shortages in specific locations.

The temples of ancient Egypt drew on regular food offerings many of which derived from productive resources owned by them. These offerings ranged from durable wealth, such as

precious metals, to permanent sources of revenue such as cultivatable land. The temples also had their own labor force, many of them renting land at a rate of 30% of the crop. Other offerings included access to mineral resources, animal herds, fishing rights, vegetable beds, vineyards, and beehives. Significantly, Kemp [1989, p. 193] has observed: "The temples offered secure storage and administration and, perhaps even more important, a receipt in the form of texts and scenes displayed in the temple which recorded the gift as a great deed of pious generosity".

In this paper, the temple is treated as a branch of the state [see Kemp, 1989]; indeed, a symbiotic relationship ensued between the two. As Janssen [1979, p. 509] has remarked, the depiction of the Pharaoh in every temple in the land as the real high priest "was not only an expression of a dogmatic theory, but also of the actual economic reality. The temples together with all their property were at the disposal of the Pharaoh". The status of the temples was rooted in the overall ideology of the state; within the economic context they served as state institutions, and were subject to frequent state intervention particularly in terms of their economic endowments. Yet another demonstration of the economic integration between the temples and the state is the bureaucracy that developed within each of these domains. The system of administration was simply a collection of royal decrees which were updated and revised to cope with emerging complaints which were handled through a cycle of decision-petition of complaint-redress [Kemp, 1989]. Further, in many cases temple overseers were laymen attached to other state services, and the necropolis workmen (a state body) were frequently given food provisions by the temples. Some scholars have even suggested that the temples were repositories for the revenues from the empire [Redford, 1976], and that "major temples were the reserve banks of the time" [Kemp, 1989, p. 195], an analogy that has to be treated with caution.

Being a branch of state administration meant that the temples paid no taxes. Similarly, the often observed large temple holdings of landed property should be viewed in terms of the temple role as an organ of the state. Temple revenues were typically spent on three main items: building and restoration projects; upkeep of the temple priests; and offerings for daily rituals, monthly feasts, and annual festivals. A tradition of 'Reversion of offerings' [Kemp, 1989, p. 193] was followed according to which offerings presented to the gods were initially taken before statues of lesser cults, and subsequently used to pay for temple overheads; such as payments in kind to priests and as

wages to workmen. The large temples also had their own merchant ships for the purposes of both domestic and international trade. Traders exchanged surplus produce, such as grain and linen, for other commodities needed by the temples, such as papyrus rolls.

In summary, the temples produced a surplus of income over and above the overheads required for their own maintenance. Because of the volatility of the Nile levels and other exogenous forces affecting the crop, substantial reserves of buffer stocks were stored in very large warehouses within the temple complex in order to manage peaks and troughs and to smooth out supply and demand.[3] In times of political stability, such buffer stocks were used not only to ensure the basic economic subsistence of the Pharaoh's subjects, but were also consumed throughout the country in excessive abundance to underpin the perception of a grandiose monarchy. From an administrative perspective, these buffer stocks served to stabilize the economy over time. This analysis, however, is suggestive of a faultless state apparatus and does not explicitly allow for possibilities of friction or system failure, an issue that is taken up briefly later.

ACCOUNTING AND REDISTRIBUTION: INFLOW OF COMMODITIES

Because ancient Egypt had a grain-economy, concern with monitoring the inflow of grain and other storable goods was paramount. The redistribution of commodities comprised several steps: (i) measurement of commodities at source; (ii) delivery to central granaries and stock control in stores; (iii) conversion of inputs (e.g. grain) into output (e.g. bread); and (iv) redistribution according to predetermined rations. Broadly speaking, steps (i) to (iii) were concerned with the inflow and processing of commodities, whereas step (iv) related to the outflow of commodities from the granaries (in the case of grain) or the state workhouse (in the case of other commodities) to various sectors of the community. Unfortunately, much of the abundant administrative records of the Middle Kingdom have not survived; hence in the following discussion I will only devote attention to those items for which there is satisfactory evidence. It is also worth noting that each of the aforementioned steps

[3] For example, the Ramesseum granaries, if filled to capacity, could support a population of up to 20,000 for a whole year [Kemp, 1989].

was underpinned by specific accounting and monitoring practices which were inscribed in writing, mostly on ostraka (shreds of pottery) and at times on papyri, and very occasionally celebrated ceremonially on the walls of tombs and temples. The accounting practices deployed in these steps provide strong evidence of the extent to, and the manner by which, accounting was implicated in the redistributive economy of ancient Egypt. This section focuses on the inflow of commodities. The next section discusses the outflow of commodities.

Measurement at source: Control of the flow of crops in ancient Egypt was rooted in the good management of the land. Specific officials were charged with responsibility for controlling and maintaining the river-banks and the canals, and overseeing the orderly division of land among peasants [James, 1985]. These responsibilities were formalized and articulated further in the 'Duties of the Vizier' [van den Boorn, 1988]. We can safely assume that, as the chief minister, the Vizier had to maintain tight control over the land by dispatching mayors, district governors, and scribes to arrange the cultivation of the land during the summer, fix district boundaries, look into cases relating to estate boundaries, and examine water supplies on the first day of every (ten-day) week. The Vizier was also ultimately responsible for exacting the dues of the temples [see Smither, 1941]. Officials were appointed to monitor work on the land throughout the season, and, as was the case in the Old Kingdom [Kanawati, 1980; Strudwick, 1985], the Vizier kept himself informed through regular reports that covered every state of affairs under his control. Among those helping the Vizier maintain control over the land were the scribes who played a prominent role.

Thankfully, some material from the Middle Kingdom on the role of the scribe in these activities has survived in a rather short, but extremely informative document [Smither, 1941; see Figure 1]. The document is a tax-assessor's journal dating back to the end of the Twelfth/beginning of the Thirteenth Dynasty. Although the document does not contain any tax calculations, it shows the scribal activities leading to the assessment of tax. Before tax was levied on the harvested crop, the land was surveyed and the standing crop was measured. In performing this task, the scribe assessing the tax burden typically sought to demonstrate to all concerned his fulfillment of the spirit of *Maat* by ensuring that his assessment was fair. Such a quality was frequently celebrated in the autobiographies of the Middle Kingdom. For example, the scribe Dhwty-nakt-ank stated in his

FIGURE 1

Tax Assessment

1. Receiving . . . . . .
The clerk of land Senebteyfey

" " " " Seneb
The envoy of the steward . . . . . Hōr [i]

5 The stretcher of the cord Satp-ehu

The holder of the cords Ibi
Year 2, SECOND MONTH OF INUNDATION, DAY 15
" " " DAY 16
" " " DAY 17 } (12) Spent in measuring (?)
10 " " " DAY 18 } with the clerks of land of the
" " " DAY 19 } Southern District.

Year 2, SECOND MONTH OF INUNDATION, DAY 20.
SPENT assessing for him (?) the dues in the Office of Land of the Northern District, [and]

15 REGISTERING IN THE O[FFICE OF] THE TREASURER OF THE KING AND OVERSEER OF LAND OF THE NORTHERN DISTRICT REDYNYPTAH.

LIST OF THE NAMES OF THE CLERKS OF LAND WHO ARRIVED FOR THE REGISTRATION ON THIS REGISTERING DAY.

THE CLERK OF THE *Tema* AND CUSTODIAN OF THE REGULATIONS, PAENTYNEY
The clerk of land Senebteyfey
" " " Seneb

20 [The envoy] of the steward . . . . . Hōri
The holder of the cord Ibi
The stretcher of the cords Satp-ehu
Year 2, SECOND MONTH OF INUNDATION, DAY 21 } (26) Spent [assessing for him
" " " " " DAY 22 } (?)] the dues in the Office of
" " " " " DAY 23 } Land . . . . . .

Source: Smither, 1941 pp. 74-75.

autobiography: "I have done rightness in my conduct, when I probed the heart and assessed a payer by [his] wealth, doing what is praiseworthy for every person, known and unknown without distinction" [Lichtheim, 1992, p. 28]. Although this should not be taken to mean that justice and fairness were always observed in practice, these moral and social expectations are likely to have acted as a strong disincentive for scribes to exploit, falsify and deceive when assessing tax burdens.

The tax scribe was accompanied by other officials; the clerk of land, the envoy of the steward, the stretcher of the cord, and

the holder of the cords. The clerk of land was deemed the 'custodian of the regulations' relating to land registry. He ensured that land boundaries were observed. The envoy of the steward took *'internal'* measures of the land and the crop on behalf of the steward. The stretcher of the cord and the holder of the cords took measures of the standing crop. Hence, all these officials, while not explicitly called scribes, performed scribal-like duties pertaining to the assessment of taxable crop. One may presume that these officials sought to calculate how much tax to assess, given the uncertainties concerning the Nile inundation, as seems to have been the practice in Roman Egypt [Brunt, 1981], thereby pointing to the possibility that accounting was used to underpin government planning in the Middle Kingdom. These officials may have also worked to some previously determined crop ratio as a function of size and quality of cultivated land to derive advance estimates of taxable crop. Similar practices have been observed in the New Kingdom [see Ezzamel, 2002a].

While lacking concrete supportive evidence, these meticulous procedures suggest that measures of the standing crop may have been compared against the assessed harvest later on in order to ensure accurate assessment of taxable crop. Somewhat less accurate, but fairly pragmatic, markers (for example, the number of canals, lakes, wells, and trees of an estate, [Kemp, 1983, p. 82]) were used to estimate the size of expected crop. These activities were carefully documented and reported to higher offices as a means of feedback on scribal activities 'in the field'. In examining the tax-assessor's journal shown in Figure 1, Smither [1941, p. 76] noted that "[The scribe] made brief entries of how he spent his business hours and the names of those who worked with him. It is likely enough that officials who traveled on Government business were required to make a return to the central office of how they spent their time". Indeed, there is concrete evidence to indicate that written performance reports were submitted by subordinates to superiors on completion of tasks, as in the case of phyles working on state or temple projects [Ezzamel, 2002e].

Tax Levying and Collection: Once measurement of the harvest was completed, recorded and checked against estimates based on standing crop, tax liability was calculated by the scribe. Another scribe checked the amount of tax proposed against the assessment-lists of the harvest, and then the harvest tax was collected. The scribe whose responsibility was to levy tax on grain was known as 'the scribe of counting grain' [James, 1985,

p. 127]. He noted down on a papyrus or an ostraka a full record of the grain measured so that a definite tax liability could be determined. Measuring vessels, made from wood and bound with leather, of specific capacities were used for this purpose. In the case of grain, these measures reflected some multiple of the *hekat* measure (about 4.5 litres). There are some examples of tax, or dues, levied which come from the reign of Senusret I during the Twelfth Dynasty, a little earlier than the discontinuity that occurred during the reign of Senusret III (Papyrus Reisner II, Section E, [Wente, 1990, p. 43]):

> Year 17, second month of the first season, day 8
> It is the city prefect, vizier, and overseer of the six great lawcourts, Iniotefoker, who commands the stewards of the palace administration who are in the Thinite nome:
> You must get yourselves readied and outfit(?) yourselves in accordance with all that I have ordered you, and let there be sent downstream to the Residence 150(?) *hekat*-measures of wheat, and double(?) *hekat*-measure of malted barley, and 10,000 *ter*-loaves from each one of you, since I shall reckon them at the residence. To furnish this wheat in the form of new wheat is something to be attained(?). You shall act so that it is readied. And supply a slave-girl of the labor establishment who is able-bodied [. . .] of each one of you with(?) him.
> Directed by the dog-keeper Montuhotep's son Montuhotep and Imiotef's son Sonbef of(?) the crew of Siagerteb(?).

This administrative order does not specify who the recipients of the message are, but no doubt they were known to those carrying the message. More importantly, these recipients were charged with the responsibility of each providing precise measures of new wheat (150 *hekat*-measures), malted barley (one double *hekat*-measure), 10,000 loaves of *ter*-bread and an able-bodied slave girl. It is not shown how these tax figures were calculated, and it may be presumed that they were based upon previous calculations. But it is clear from the above that the maintenance of the Residence (which was part of the palace complex) required these provisions and levied them in the form of dues on the Pharaoh's subjects. Identification of objects or commodities to be delivered (new wheat, malt barley, *ter*-bread, etc.) was rendered more precise through accounting enumeration in the form of specific quantities measured through the application of the accounting calculus. This calculus invoked

both precise measures (*hekat*, double *hekat*; ter-loaves) and counting to signify tax liability more clearly.

FIGURE 2

Responsibility for Tax Collection

KAHUN, XVI.1.

[Pl. XXI., 11. 21-33.]

21.	Summary of these		Southern corn, hekat
		A	
22.	The *nâzir*, Sa Sebek	moored	892½
23.	The *nâzir*, Pepa nekhen	the sahu (?)	537½
24.	The *nâzir*, Sat(?) kheper	neter	520
25.	The *mer khut*, Ambu	Iusenb	239½
26.	The *mer u* Nebsekhtu		440
27.	The *sahu*, Nenkhemsen		368
28.	The *uab her sa*, Urneb's son, Senbetfi		1020
29.	Total		401[6½]
30.	Amount of annual taxation (?) of what was given for the fraternity (?) which was in the territory of		5000 (+)
31.	[Paid (?)] from amongst this account		4000 (+)
32.	[Remainder that is to be] given		. . . . .
33.	. . . . .		. . . . .

Source: Griffith, 1898, p.54.

There is further evidence on final tax assessment and collection from the Kahun papyri [Griffith, 1898] which offers us a glimpse of practices in the Middle Kingdom. Despite the damage to the papyri it is still possible to make some sense of the entries. Papyrus Kahun XVI, 1 (ibid., p. 54), dating from the late Twelfth Dynasty, contains a summary of the number of *hekat* of Southern corn that had to be collected and paid by several overseers (*nâzir*), making a total of 4017½ *hekat* (see Figure 2). Moreover, the entries on lines 30-31 show other amounts of taxation paid from the total outstanding. In this tax document, accountability can be traced directly to every individual overseer or *nazir*, as each has recorded against his name the precise tax liability. Moreover, one type of money of account, that of the *hekat*, was used to quantify tax liability.

Another interesting example relates to the taxation of game. Game keepers had to pay a fixed amount of dues on the stock of

animals and birds they owned or those committed to their care. In those years when their account fell short, they paid less tax with the arrears carried forward to future periods when their stock was higher. Part of a tax account, Kahun LV.4, late Twelfth Dynasty [Griffith, 1898, p. 18] is shown below.

FIGURE 3

Taxation of Fowl

(43) * (TITLE) *Account of the produce* [*of fowls* (?)]
(44) List of the produce of 100 [*Set*]-duck.
(45) Paid to him from among this list,

	(Value of each in *Set*-duck)	(Number of each)	
(46) *Re*-goose	8	[3]	(24)
(47) *Terp*-goose	4	[3]	(12)
(48) *Zenzen*-crane	2	[3]	(6)
(49) *Set*-duck (sheldrake?)	1	[3]	(3)
		[12]	(45)

(50) Be subtracted one number; (51) remainder 11. Make thou the excess of 100 (52) over 45: the result thereof is 55. Make thou (53) a repetition of the 11 to find 55: (54) the result thereof is 5 times.

* The numbers in ( ) to the left of the document, as are all the numbers from (50) to (54) at the end of the account designate the number of each line in the original text.

Source: Griffith, 1898, p. 18.

The practice of valuing game stock required the scribes to first inventory and then value the stock of each type of game. As Griffith [1989, p. 18] noted: "The contributions were made not all in one payment, but at intervals during the year, and the scribes had continually to draw up, mentally or in writing, "balance sheets" of the state of the account." Figure (3) above shows the amount of tax levied on certain types of geese, cranes and ducks. Unlike the previous account of the taxation of corn, where the product is homogeneous, the scribe was faced here with heterogeneous products. These different types of birds are reduced to one common denominator by using the Set-duck as a 'money of account' in order to place a value on each type of bird that is meaningfully comparable across all types. The aggregate amount to account for is stated in line (44) as 100 *Set*-duck. The

number of birds inventoried in each category (second column) is multiplied by the relevant value indicator for that category in *Set*-duck (first column) to arrive at the total value of tax (third column; added by Griffith in his translation to make the account clearer). Against the total due of 100 *Set*-duck, only 45 were inventoried, leaving a remainder of 55 *Set*-ducks (line 52). For a reason which remains unclear, the scribe of the account appears to employ yet another denominator, that of 11 to convert the remainder of 55 *Set*-ducks into five times that number of 11 (line 54).

Delivery to Stores and Stock Control: As we have seen above, tax levied was collected in kind and was subsequently delivered to the appropriate state organ. For example, in the case of grain the crop was transported from the threshing floor to the granaries by boat. Accounting control reached far into the innermost parts of ancient Egyptian establishments. Scribal activities were anticipated in the architectural design of granaries, those impressive and administratively crucial structures that functioned as the main arteries of the redistributive system, with rooms designated as their offices. Moreover, considerable accounting expertise was mobilized to: (i) estimate the rations required for a population of varying social order (discussed in more detail below); and (ii) monitor the delivery of grain to, and the distribution of grain from, these granaries. Based on model granaries found in tombs, such as the Meketra models [see Kemp, 1986, 1989] as well as excavated granaries belonging to the Middle Kingdom, it is safe to conclude that each granary had at least eight chambers located in the inner and outer parts of the building. The inner part was used to store grain and the outer part was reserved for the scribes who recorded grain delivered and issued, and who maintained regular stock control.

The Meketra granary models also emphasize the importance of scribal personnel, if not necessarily how their duties were discharged, by showing for each granary model a force of ten staff. These were a doorkeeper, four seated scribes with their document boxes, an overseer and his assistant, and three laborers for measuring grain using the *hekat* measure prior to filling sacks. Concrete evidence from the Uronarti granary (and also from the Mirgissa granary) testify to the extensive use of accounting and administrative monitoring, as over 2100 impressions of "seals of the granary of the fortress of Khesef-iuntiu" and "seals of the treasury of the fortress of Khesef-iuntiu" were found in that granary. These seals were used as a method of

enclosing the grain sacks and also for sealing the granary doors [Kemp, 1986, p. 125]. By controlling ration distribution through these granaries, the central administration could exercise direct control over a most significant part of the population. Stock control in the granaries was thus planned in a manner that followed the physical inflow, storage and ultimate distribution of grain.

The preceding discussion could be taken to suggest that the system of accounting for taxation in the Middle Kingdom functioned smoothly and effectively. While in a general way this may have been the case, it would be surprising if system failure did not occur, at least occasionally. In a centralized tax system, one may expect that tax subjects have incentives to engage in actions that would reduce their tax burden, if not evade it altogether. Further, tax officials may collude to appropriate some of the tax collected for their own advantage. The material analyzed in the paper thus far does not allow any conclusions to be drawn about such possible system failure. However, evidence from other eras in ancient Egyptian history points to precisely these possibilities. For example, Ezzamel [2002a] discusses cases of significant defalcations of temple revenues that went on for nine years during the New Kingdom, which involved the collusion of senior priests and scribes. Further, there is also evidence of complaints against scribes levying higher tax burdens on subjects, and subjects using grain measures of differing capacities to minimize the amount of taxable crop (ibid).

Conversion of Inputs into Outputs: In order to monitor the conversion of inputs into outputs, the scribes developed fairly elaborate input-output matrices which involved two types of accounting calculus, both expressed in physical measurements: (i) measures of physical equivalence, and (ii) measures reflecting lack of quality. The first type of measure established unit equivalence between different types of goods and outputs, as for example between barley and emmer, or between different types of birds (see Figure 3), or between bread loaves of different sizes. By using these equivalent units as common denominators, it was possible to establish value equivalence across different products and for items of differing qualities. The best known example of this is the *psw* which reflected the number of loaves of bread or jugs of beer expected to be made from a given quantity of grain after allowing for 'natural loss' in baking/brewing [see Ezzamel, 1997]. Again, this measure made possible the aggregation of products of differing levels of quality.

ACCOUNTING FOR THE OUTFLOW OF COMMODITIES

The most simple model of redistribution would involve, first the accumulation of commodities centrally and, secondly their subsequent redistribution to various sectors of society. The redistributive system developed in ancient Egypt was somewhat different from this, in the sense that only part of the harvest (in the form of tax or rent) was collected by the central administration. The precise tax or rent system used had direct ramifications for the various sectors of Egyptian society. Further, when the harvest was adversely affected by exogenous factors, such as Nile inundation or drought, adjustments were made by the central administration through tax reduction/exemption and/or distribution of commodities from the state granaries. This section focuses specifically on situations involving an outflow of commodities from the central administration to the subjects of the state. The pattern of such activities could be quite complex, and, as I argue below, accounting played a major role in making these activities possible. Redistributive activities of the kind described here were based on carefully determined rations and ratios that were deemed appropriate for state employees and direct redistribution to the Palace dependants (such as members of the Royal family, their immediate staff, etc.).

The Summary Accounts: One of the most remarkable documents to survive from the late Middle Kingdom is Papyrus Bulaq 18 [Spalinger, 1985a, 1986; Quirke, 1990], which dates to the early part of Dynasty Thirteen. The Papyrus contains daily summary accounts of a Royal visit to Thebes on the occasion of initiating or completing monuments in connection with the cult of Montu at Medamud [see Quirke, 1990, p. 22]. The Pharaoh was accompanied by his family and immediate dependants, the Vizier, high officials and courtiers of various standing who belonged to the four main administrative functions of the Middle kingdom: the Vizierate, the Treasury, the Priesthood, and the Military. This hierarchy of the social rankings of these officials was reflected in the rations delivered.

Before examining these daily summary accounts in detail, it is instructive to trace the physical flow of commodities recorded in them. In a sense, the commodities which were collected and stored by the administrators of the central granaries and stores assumed another cycle of inflows and outflows of resources in this latter stage of redistribution (see Figure 4). Inflow and out-

FIGURE 4

The Redistributive Pattern of P. Bulaq 18

Adapted from Spallinger, 1986, p 246.

flow of resources took one of two distinct forms [Spalinger, 1986]. First, an inflow of impost from the Waret of the Head of the South, the Labor Bureau, and the Butler, which was channeled through the Workhouse of the Vizier. This was subsequently distributed (outflow) through the Interior Overseer of the Inner Palace, either as supplies or bonuses. Secondly, an inflow of revenue (income) from the Waret of the Head of the South, the Labor Bureau, and the Treasury, channeled through to the Workhouse. This was then distributed via the Scribe of the Outer Palace, and via the Workhouse to the Palace's immediate dependants and ordinary dependants.

Thus, this intricate web of administrative arrangements partitioned the Palace's domain into the Inner Palace (where the Pharaoh and his family and immediate dependants resided) and the Outer Palace (from where the officials, including the Vizier, operated). This partitioning continued to be mobilized in the various economic activities involving the Palace. Orders from the Palace for supplies were issued from the Inner Palace through either the Interior Overseer of the Inner Palace or the Scribe of the Outer Palace to the Scribe of the Accounts operating from the Outer Palace. This manner of coordinating and monitoring requisitions and provision of supplies therefore embodied the spatial zoning and schematic division of the Palace into functionally separate quarters, i.e. the Royal residence in the Inner Palace and the administrative machinery in the Outer Palace [Quirke, 1990].

In total, papyrus Bulaq 18 covers a period of 13 days stretching from day 25 of inundation month two to day four of inundation month three, in addition to days 16-18 of the latter month, in year three of Sobekhotep II (early Thirteenth Dynasty). The entries in the summary accounts are chronologically recorded and classified under four headings [see also Quirke, 1990, p. 23]:

(i) *Statements of account*. These cover provisions, special deliveries, remainder, balance and surplus.

(ii) *Orders of provision*. These detail amounts of provision earmarked for specific individuals along with their name list.

(iii) *Expenditure of valuable commodities*. This contains a list of offerings.

(iv) *Official reports and documents*. These contain circulars specifying items received in the presence of witnesses.

The daily summary accounts are very similar in most respects, hence the following discussion concentrates on only two daily accounts, taken from Spalinger's [1985a] translation, which capture the most important features of the whole document (see Figures 5 and 6).

FIGURE 5

Daily Summary Account

Day 29 — S 28

ACCOUNT REVENUE	Variegated bread *ᶜkw*	Beer *des*	*hrt*	Dates *hpt*	Dates *hnw*	Vegetables Bundles
Total revenue	1680	135	2	1	52	200
Remainder day 28	200	—	—	—	—	—
Temple of Amun	100	10	—	—	—	—
TOTAL	1980	145	2	1	52	200
DEBIT						
Palace	625	45	2	1	52	200
Workhouse amount to *pr mnᶜt*	630	61	—	—	—	0
Workhouse amount to ordinary clients	525	38	—	—	—	0
TOTAL	1780	144	2	1	—	200
REMAINDER	200	1	0	0	0	200

Source: Spalinger, 1985, p.185.

Each of the accounts was recorded in a tabular format made of two consecutive parts; revenues (credits? I prefer the term 'receipts') and disbursements (debits?).[4] The revenues part shows the balance from the previous day, total revenue due to the Pharaoh and revenue from the Temple of Amun. The disbursements part records goods delivered in the main to the Palace, the Palace's immediate dependants, and ordinary clients (people), in addition to a variety of others such as musicians, personnel in the Carpenter's Workshop and the Scribe of the

[4] The ancient Egyptian word for 'revenues' has a variety of additional meanings, including 'rations', 'provisions', and 'foods'. Later on in the daily summary accounts the same word was used in these latter senses. See Spalinger [1986, pp. 228-230].

Harim. The numbers of people involved vary from day to day, presumably because some were away on duty [Quirke, 1990]. At the end of each day the Scribe of the Accounts calculated the total of each of the revenues part and the deliveries part, and found the remainder (balance) for that day for each type of commodity.

Figure 5 shows the account of day 29, month two. The revenues part of the account documents for each of six types of commodity amounts delivered for the Pharaoh and the daily dues from the Temple of Amun. The remainder (balance) carried forward from the previous day is recorded as that "[w]hich was brought to him [the Pharaoh] as the remainder of that day" [Spalinger, 1986, p. 210]. The other part of the account records the distribution of each of these six commodities to the Palace, the Palace's dependants, and the ordinary clients. Each daily account is therefore akin to a master ledger summarizing detailed ledger accounts for each of the individual commodities.

Some Preliminary Observations: The following three observations emerge from an examination of these summary accounts. First, the aggregate daily requirements of each of the three main consumption centers; the Palace, the Palace's dependants, and ordinary clients, almost exactly match the revenues accruing to the Pharaoh plus the dues from the Temple of Amun, as in the case of variegated bread (1780 loaves, Figure 5). These figures appear to be standard provisions throughout all the daily accounts, except in the case of days 25 and 26 where provisions for the Palace were smaller by 50 loaves. Similar arguments apply to beer, edible dates, and vegetables, where standard provisions were observed daily. The consumption patterns underlying these standard provisions reflected not only the number of individuals in each category, but also the social status of each individual (see below).

Secondly, in the case of variegated bread the scribe kept a recurring daily balance of 200 loaves (with minor variations in only two days). This could have represented a safety-net earmarked for emergencies that may result in unavoidable shortages in revenues or unexpected increases in demand. This does not appear to be the pattern in the case of other commodities; even though the vegetable bundles column shows a remainder of 200 bundles, the remainder in all other daily accounts for vegetables as well as for other commodities was approximately zero. For these commodities the redistributive system operated on the basis of a near perfect matching of demand with supply

thereby resulting in zero balances, presumably because they were not critical for human subsistence. In contrast, the commodities which exhibited a running balance may have been critical for the survival of those who depended on the redistribution. Clearly, bread would have been regarded as more essential than beer, dates and vegetables. Further, compared to beer, meat and vegetables, bread could keep better and for longer periods.

Thirdly, like all other daily accounts in Papyrus Bulaq 18, the account shown in Figure 5 contains entries relating to the goods received and the disbursements made over a particular time interval, namely one day. Egyptologists have somewhat incorrectly called these accounts 'income statements'. For example, Spalinger [1986, p. 229] claims:

> Here, we are dealing with monetary quantities (in this case in kind, of course) over an interval of time, specially inflows and outflows. . . . Such accounts state the amount of an item (gold, grain, etc.) that an institution possesses at a point in time and the claim of various parties on those items. Badly put, the day summary charts of P. Bulaq 18 are final income statements, day by day.

In fact, these daily accounts resemble more an appropriation account than an income account. For although it is possible that some of the provisions given to the Palace officials and other functionaries could be classified as wages, most of the entries in each account reflect redistribution of goods that were collected and administered centrally. Expenditures and profits as such do not appear to have a place among these entries. In this relatively straightforward case of redistribution, the accounting techniques used to record and monitor the transactions were similarly simple but effective. By having a separate column for each type of commodity, carefully recording daily receipts and distributions, and by comparing these two items for each column it would have been possible for the scribe/administrator to gain a fairly good idea of the daily remainders of each commodity at a glance. Moreover, combining the power of inscription with technical accounting expertise made it possible for the scribe to trace the inflow and outflow of commodities, thereby minimizing the potential for embezzlement and emphasizing the accountability and responsibility of all those involved, including the scribes themselves. Inscribed accounting entries were therefore a means by which the scribes could show their

own competence in discharging their responsibilities, and senior officials could demonstrate to the Vizier and the Pharaoh their worth in monitoring the affairs of the Palace.

FIGURE 6

Daily Summary Account

Day 1 — S 41

ACCOUNT REVENUE	Variegated bread *ᶜkw*	Bread- *inw*	Beer *des*	*hrt*	Dates *hpt*	Dates *hnw*	Vega- tables sacks	Vega- tables bundles
Total revenue	1680	—	135	2	1	52	—	200
Remainder day 30	200	—	2	—	—	—	—	—
Temple of Amun	100	—	10	—	—	—	—	—
Due today	——	938	90	7	—	—	7	—
TOTAL	1980	938	237	9	1	52	7	200
DEBIT								
Palace	625	—	45 15	2	1	52	—	100
Workhouse amount to *pr mnᶜt*	630	—	61	—	—	—	—	50
Workhouse amount to ordinary clients	525	—	38	—	—	—	—	50
Delivered as *š3bw*- food to officials and people of *pr mnᶜt*	—	310	35	5	—	—	7	—
Delivered as *fk3w* to officials and citizens	—	290	22	—	—	—	—	—
TOTAL	1780	600	216	7	1	52	7	200
REMAINDER	200	338	21	2	0	0	0	0

Source: Spalinger, 1985, p.187.

More Complex Patterns of Redistribution: Examination of the more complex cases of redistributive patterns in the daily summary accounts yields further evidence of the centrality and potency of accounting practices in regulating these patterns. The account of day one, third month of inundation (Figure 6) is a good example. In addition to the 'standard' entries observed in the account of day 29, second month of inundation (Figure 5), the account of day one (Figure 6) reveals a more intricate pattern of redistribution. This can be traced to levels of distribution. While the total of the debit side for Variegated bread, dates

(hnw) and vegetable bundles is the same as in most of the other daily accounts, there are two main differences:

(i) An additional consumption of bread-*inw* in the order of 600 loaves (310 + 290), and
(ii) An increase in the consumption of beer in the order of 72 *des* jugs (15 + 35 + 22).

In order to deal with these non-standard requests (needs), presumably caused by the special needs of the Palace (i.e. the additional 15 *des* jugs of beer), or by the need to make additional provisions for officials, the Scribe of the Accounts introduced:

(i) A second new column for bread-*inw* (which Spalinger [1986, p. 209] translates as 'impost' in preference to 'tax' or 'tribute'); and, more significantly,
(ii) A new entry called 'due today' (or more precisely: "that which is brought to him as levied-due on this day"; see Spalinger [1986]) which is used to record the additional revenues, or receipts raised to meet the increase in demand. This 'due today' entry only appears in those daily accounts where the redistributive pattern is non-standard. It is a temporary device employed by the scribe to deal with an unusual situation. These additional revenues are not necessarily only matched to the increased demand of that particular day; typically they allowed for increased demand for subsequent days, hence the balances carried forward for bread-*inw* and beer.

It is noteworthy that the 'due today' entry was reserved for those special demands that were *significant* in magnitude. Relatively small discrepancies between inflows and outflows were accommodated by making minor adjustments in the redistribution patterns, by reducing the allocations to the groups entered on the debit side, except for the Palace. For example, in the account of day 28, second month of inundation (not shown here), a special need arose for an additional 40 loaves of bread and five jugs of beer. Instead of making up for these small extra needs through the 'due today' entry, the bread provisions for the Palace dependants were reduced by 30 loaves, and the ordinary clients suffered a reduction of ten loaves of bread and five jugs of beer. The 'due today' entry was also activated whenever one of the main sources of revenue failed to deliver its expected contribution. This was the case in the account of day 26, second

month of inundation (not shown here), when ten additional jugs of beer were raised through the *'due today'* entry to make up for the failure of the Temple of Amun to deliver its share.

To summarize: (i) the Scribe of the Accounts used the simpler account format (Figure 5) as long as inflows and outflows were of the standard amounts (i.e. about the same as expected); (ii) whenever the difference between inflows and outflows was significant the 'due today' entry was used to balance them; and (iii) remainders (balances carried forward) of commodities, with the exception of Variegated bread, were kept to a minimum (normally zero); presumably to reduce the cost of storage and keep the food supply fresh. Whenever the receipts were noticeably greater than the standard needs, with little evidence of imminent increase in demand, balances were run down by making larger allocations than standard to the Palace. In this sense, the Palace and its dependants operated as a clearing house, always keeping demand tuned to supply. Notice, however, the asymmetry reflected in the Palace being the recipient of surplus, but never having to make up for deficits which were borne by other groups.

In addition to offering a means of coordinating and monitoring the redistributive patterns, the daily summary accounts may have played critical social roles. Thus, the detailed documentation supporting the accounts shows clearly the sources of supply of each commodity, which come under the entry *'total revenue'* (or better, total receipts), and the precise expected and actual contributions from each source. Bread, beer and vegetables were typically divided between (i) the Waret of the Head of the South, (ii) the Labor Bureau, and (iii) the Treasury (vegetables and Variegated bread, but not bread-*inw*). In contrast, dates and other commodities were provided, almost exclusively, by the Waret of the Head of the South [Spalinger, 1985a, p. 213]. Further, the calculations on the debit side of the daily summary accounts reveal yet another intricate pattern of supply: (a) in the case of vegetables the Palace received its supplies from the Waret of the Head of the South, whereas the Labor Bureau and the Treasury supplied the Palace dependants and the ordinary clients; and (b) no division of labor was apparent, however, in the case of beer and bread. The evidence also suggests that the State Workhouse, which operated apparently as a lending bank storing food items, held separate accounts for each of the above three Departments of the State: the Waret of the Head of the South, the Treasury, and the Labour Bureau [Spalinger, 1985a, p. 208]. Although the State Workhouse in

general was a productive center in its own right, in the case of Papyrus Bulaq 18 it appears to have operated mainly as a transfer point, as an entrance to the Palace, and a conduit for the flow of commodities from the Waret of the Head of the South, the Labor Bureau and the Treasury to the Palace.

To a significant extent then the daily summary accounts, enshrined in their underlying calculus, performed several important roles. First, they established, reaffirmed, or reproduced a particular order of priority, so that on the debit side, for example, the Palace entry came first, followed by the Palace dependants, and then by ordinary clients. This order was strictly observed throughout the accounts. Through the prioritization of claims in this precise manner, the accounting practices reproduced and legitimized the social hierarchy of the Middle Kingdom. Secondly, the accounts reaffirmed the social strata and the very fabric of Egyptian society by linking sources of revenues (receipts) and provisions to specific institutions and class categories which reflected a large measure of dependency on the State and its administrative apparatus. This dependency can be taken to be the earthly manifestation of the spirit of *Maat*, not only in terms of securing social justice, but also maintaining overall order and equilibrium. Thirdly, the day summary accounts reinforced such dependency relationships through the determination of precise rations of provisions in a manner that emphasized the social and political status of the recipients.

SOME REDISTRIBUTIVE PATTERNS INVOLVING THE TEMPLE

This section examines evidence relating to distribution patterns of economic transactions involving temple personnel. As in the preceding section, the emerging redistributive patterns are fairly complex, but they are also quite different in nature and are coordinated by means of different accounting practices, a testimony to the creative skills of the scribes of the Middle Kingdom. The transactions analyzed here come from tomb No. 1 at Assiut, and belong to Hepzefi who was the nomarch of Assiut during the early part of the reign of Dynasty XII (1990 B.C. onwards).

The Transactions: The transactions are contained in ten contracts made by Hepzefi [Breasted, 1906/1988, Vol. I, pp. 258-271; Spalinger, 1985b]. Contracts I – VI were written in Hepzefi's capacity as the High Priest of the Wepwawet Temple,

and VII – X when he was High Priest of the Anupis Temple. These contracts also reveal different practices in the case of office-held property (for example grain) as compared with personal property (in this case land and temple days). As nomarch, Hepzefi inherited land, services (such as temple offerings), and duties distinct from those which he acquired as High Priest. Also, as High Priest of the Wepwawet Temple, he performed specific duties for which he received payments in kind. Further, as a private person, Hepzefi inherited land and cattle from his parents. As High Priest, he was not allowed any revenues from the temple estates, and his most significant roles in the ten contracts were those of nomarch and citizen [Spalinger, 1985b]. Some of the resources represented in transactions accrued to Hepzefi while he was alive by virtue of being High Priest, nomarch and private citizen, while other transactions were performed by the *ka* priest in the name of Hepzefi after his death, as a statue. However, all ten contracts came into force only after the death of Hepzefi. The transactions deal with the role of the *ka* priest in serving the mortuary cult of Hepzefi. In exchange for the tomb services and duties performed by the *ka* priest, and his successor, the tomb owner Hepzefi paid in return land and cattle. Below, I examine four contracts (III; IV; VIII; and IX) that relate to the Temple of Anubis, as these capture the main redistributive patterns of the complete set of contracts.

Contracts III and IV are economically connected; they both deal with the 18th day of the first month (the day of the *Wag* festival). According to contract III the ten members of the official body of the Wepwawet Temple give certain goods to Hepzefi's statue (i.e. to his *ka* priest), with the chief priest contributing twice as much as each of the remaining staff as shown in Figure 7 [Breasted, 1906/1988, pp. 262-263].

This revenue was given to Hepzefi's statue in return for him giving the priests revenues (bread, beer and meat) in the form of 22 days of service in the Wepwawet Temple which he had inherited from his father (private inheritance); each day being specified as 1/360 of a year. This allocation of the 22 day revenues to the chief priest (superior prophet) and his staff was in exactly the same proportions as their own contributions; twice as much for the chief priest (four days) as the proportion given to each member of the remaining nine staff (two days each). A price equivalent can now be placed on each of the 22 temple-days that Hepzefi inherited: one jar of beer + 100 flat loaves of bread + 2½ white loaves of bread.

FIGURE 7

Hepzefi's Contracts

III. Third Contract

Title

549. Contract which the count, the superior prophet, Hepzefi, triumphant, made, with the official body of the temple, to-wit:

What Hepzefi Receives

550. There shall be given to him bread and beer in the first month of the first season, on the eighteenth day, the day of the Wag-feast. List of that which shall be given:

Register of Names	(Khy-) Jars of Beer	Flat Loaves	White Loaves
Superior prophet	4	400	10
Announcer	2	200	5
Master of secret things	2	200	5
Keeper of the wardrobe	2	200	5
Overseer of the storehouse	2	200	5
Keeper of the wide hall	2	200	5
Overseer of the house of the Ka	2	200	5
Scribe of the temple	2	200	5
Scribe of the altar	2	200	5
Ritual priest	2	200	5

What He Pays

551. He hath given to them for it, 22 temple-days, from his property of his paternal estate, but not from the property of the count's estate: 4 days to the superior prophet, and 2 days to each one among them.

Definition of "Temple-Day"

552. Lo, he hath said to them: "Behold, as for a temple-day, it is 1/360 of a year. When ye therefore divide everything that comes into this temple, consisting of bread, of beer and of meat for each day, that which makes 1/360 of the bread, and of everything, which comes into this temple, is the unit in these temple-days which I have given to you. Behold, it is my property of my paternal estate, but it is not the property of the count's estate; for I am a priest's ($w^{c}b$) son like each one of you. Behold, these days shall belong to every future official staff of the temple, since they deliver to me this bread and beer, which they give to me".

Conclusion

553. Lo, they were satisfied with it.

Source: Breasted, 1906/1988, pp. 262-263.

Contract IV (see Figure 8) [Breasted, 1906/1988, pp. 263-265] specifies that the temple priests (TP) each deposit one loaf of white bread for Hepzefi's statue on the day of the *Wag* festival, and perform additional services for his cult. The contract also states that Hepzefi gives the TP a sack of fuel (one *khar*) for a bull or an *uhet* of fuel for a goat, which the TP usually give to

FIGURE 8

Hepzefi's Contracts

IV. Fourth Contract

Title

554. Contract which the count, the superior prophet, Hepzefi, triumphant, made with the lay priests of Upwawet, lord of Siut, to wit:

What Hepzefi Receives

555. There shall be given to him:
(a) A white loaf per each individual among them, for this statue, which is in the temple, in the first month of the first season, on the eighteenth day, the day of the Wag feast.
(b) And they shall go forth, following his mortuary priest, at his glorification, when the fire is kindled for him, as they do when they glorify their own noble ones, on the day of kindling the fire in the temple. Now, this white bread shall be under the charge of my mortuary priest.

What He Pays

556. He hath given to them for it:
(a) A khar (*ḫ^{c}r*) of fuel for every bull, and an uhet (*wh't*) of fuel for every goat, which they give into the storehouse of the count, when each bull and each goat is offered to the temple, as ancient (dues) which they give into the storehouse of the count. Lo, he hath remitted it to them, not collecting it from them.
(b) And hath given 22 jars (*kby*) of beer and 2,200 flat loaves which the official body of the temple give to him in the first month of the first season, on the eighteeth day, as compensation, for their giving white bread per each individual among them, from that which is due to them from the temple, and (as compensation for) his glorification.

Futher Specification

557. Lo, he spake to them, saying: "If this fuel be reckoned against your by a future count; behold, this bread and beer shall not be diminished, which the official body of the temple deliver to me, which I have given to you. Behold, I have secured it by contract from them."

Conclusion

558. Lo, they were satisfied with it.

Source: Breasted, 1906/1988, pp. 263-265.

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the Workhouse of the nomarch, for which he receives payment from them. This effectively simplifies the transaction to one in which the TP provide white bread and service to Hepzefi's statue for which the latter appears to pay nothing in return. The remainder of the contract states that the temple staff are to hand over to the TP the total amount of beer and the flat bread that they were to give to Hepzefi's statue on the day of the *Wag* festival. This transaction excludes the 55 loaves of white bread

(contract III) which presumably were used at the discretion of the *ka* priest. Taken together then the two contracts reduce to the following: Hepzefi gives an inheritance of 22 days' revenues in the temple to the temple staff in return for which they owe him a specified quantity of beer and bread which they give to the TP, with the transaction being monitored by Hepzefi's mortuary *ka* priest.

FIGURE 9

Hepzefi's Contracts

VIII. Eighth Contract

Title

576. Contract which the count, the superior prophet, Hepzefi, triumphant, made, with the lay priests of the temple of Anubis; to-wit:

What Hepzefi Receives

577. There shall be given to him:

(a) A white loaf per each individual among them, for his statue, in the first month of the first season, on the seventeenth day, the night of the Wag-feast.

(b) And that they shall go forth, following his mortuary priest, and kindle for him (the count), the fire at his glorification, until they reach lower steps of his tomb, just as they glorify their noble ones, on the day of kindling the fire.

(c) And that the priest belonging in each month shall give [-] of bread (*p'k*) and a jar of beer for his statue, which is on the lower steps of his tomb, when he comes forth from offering in the temple every day.

What He Pays

578. He hath given to them for it; grain from the first of the harvest of every field of the count's estate, as every citizen of Siut does from the first of his harvest. Now, behold, he begins with having his every peasant give it from the first of his field into the temple of Anubis.

Injunction to Future Nomarchs

579. Lo, the count, Hepzefi, said "Behold, ye know, that, as for every official (*sr*) and every citizen, who gives the first of his harvest into the temple, it is not agreeable to him, that there should be lack therein. Therefore shall no future count diminish to future priests that which is secured by contract of another count."

Individual Payment and Remuneration

580. This grain shall belong to the lay priests, per each individual priest, who shall give to me this white bread. He shall not divide it to his colleagues, because they give this white bread, each by himself.

Conclusion

581. Lo, they were satisfied therewith.

Source: Breasted, 1906/1988, pp. 267-269.

Contract VIII (see Figure 9) [Breasted, 1906/1988, pp. 267-269] focuses on Hepzefi's nomarchal role. It states that each of the Temple Priests provides one loaf of white bread and service duties to Hepzefi's statue in return for: "grain from the first of the harvest of every field of the count's estate".[5] Given that the nomarchal estate belonged to the office of the nomarch, this is a cost free transaction for Hepzefi since it is the living nomarch who pays the temple. Effectively, this amounts to a tax which Hepzefi levied during his tenure as Priest of the Anubis Temple, a practice which he urges his successor to continue honoring.

In contrast to the above contract, Contract IX in Figure 10 [Breasted, 1906/1988, pp. 269-270] involves Hepzefi as a private citizen [see also Spalinger, 1985b, p. 16]. Working on the assumption that one *aroura* of land = 100 *h>t* of land [ibid., p. 16], the contract specifies that Hepzefi's statue gives:

Overseer of the Necropolis	4 *arouras* of land
His Assistants (9 x 2 *arouras*)	18 *arouras* of land
Total	22 *arouras* of land

In addition, each man receives the foot (not the whole leg) of every bull that would be slaughtered in the highland. In return, they give to the cult of Hepzefi:

	Ds-jars of beer	flat loaves	white bread
Overseer	2	100	10
Highland Chief	1	50	5
Eight Mountaineers	8	400	40
Total	11	550	55

The land offered by Hepfezi was part of his paternal inheritance, rather than nomarchal land. Spalinger [1985b] speculates that there is a missing entry in this contract which would have effected a redistribution of the beer and bread among the temple staff, with the chief priest receiving double the share of each of the remaining staff, as in previous contracts. It is also worth noting that, unlike in contract III where payments were made in days of the Wepwawat Temple revenues, the payments in contract IX were made from private land, indicating the possibility that Hepfezi had no inheritance of temple days at Anubis.

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[5] Spalinger [1985b, p. 15] translates this line as "What he gave to them on account of it – 1 hk3t [*hekat*] from the first fruits of the harvest of every field of the nomarchal estate."

FIGURE 10

Hepzefi's Contracts

IX. Ninth Contract

Title

582. Contract which the count, the superior prophet, Hepzefi triumphant, made, with the overseer of the necropolis, and with the mountaineers, to-wit:

What Hepzefi Receives

583. There shall be given:
(a) That they go to the house of Anubis, on the fifth of the 5 intercalary days, (being) New Year's night, and on New Year's Day, to receive 2 [wicks], which the great priest (*wʿb*) of Anubis gives to the count, Hepzefi.
(b) And that they go, at his glorification, until they reach his tomb.
(c) And that they give this one [wick] to his mortuary priest, after they glorify him, just as they glorify their noble ones.

What He Pays

584. He hath given to them for it
(a) 2,200 (*h't-*) measures of land in the [-] from his property of the paternal estate, but not of the count's estate:

Register of Names	(*H't-*) Measures
Overseer of the Necroplis	400
Chief of the Highland	200
Eight mountaineers	1,600

(b) Besides giving to them the foot of the leg of every bull, that shall be slaughtered upon this highland, in every temple.

What Hepzefi Further Receives

585. They have given to him;
The Overseer of the Necropolis, 2 (*ds-*) jars of beer; 100 flat loaves; 10 white loaves.
The Chief of the Highland, 1(*ds-*) jar of beer; 50 flat loaves; 5 white loaves.
Eight mountaineers, 8 (*ds-*) jars of beer; 400 flat loaves; 40 white loaves.
For his statue, (which is) in charge of his mortuary priest, in the first month of the first season, on the first day, (being) New Year's Day, when they glorify him.

Future Validity of Contract

586.Lo, he said to them: "Behold, these (*h'-t*) measures of land, which I have given to [you] shall belong to every overseer of the necropolis, to every chief of the highland, and to every mountaineer who shall come (hereafter), because they shall deliver to me this bread and beer."

Additional Stiplulation

587. And ye shall be behind [my] statue which is in my garden, following it when _____, at every feast of the beginning of a season, which is celebrated in this temple."

Conclusion

588. Lo, they were satisfied therewith.

Source: Breasted, 1906/1988, pp. 269-270.

Accounting for the Dead: Overall, these transactions are of a very different nature to those examined in the previous section. Redistributive transactions they surely were, with the *ka* priest being the key figure, playing the same central role as that played by the state in the previous section. Here, the inflow and outflow of goods are mediated through the *ka* priest. In a sense, he was expected to act as the sole agent for Hepzefi, making transactions and monitoring their execution on his behalf. However, these transactions are akin to the execution of a will in modern times, for the redistributive pattern is established once and for all when each contract is written. Subsequent nomarchs and high priests may have caused some interruption in the redistributive patterns by reneging on some of the contractual terms, particularly those that may have adversely affected their own revenues. But in the main, they would have been considerably constrained by past practices and traditions underpinned by *Maat*, and by the power of inscribed accounting entries reflected in these contracts. We are therefore in the presence of accounting practices that underpinned the contractual terms of the dead, finalized during their life times. Through the deployment of accounting expertise, each contract specified clearly the debits and credits, both in terms of stipulating the amounts and delineating exchange parties. Once inscribed, these accounting numbers acquired a power of their own; for they served not only as testimony of past practices in their own right, but they also endowed these practices with apparent rationality, legitimacy and authority.

Another significant difference between these contracts and the transactions discussed in the previous section is their voluntary nature (they were not enforceable by law). In a classic redistributive economy, the monarch or the state is ultimately responsible for the administration of the economy and the distribution of provisions to all sectors of the population (this, of course, says nothing about whether or not these provisions were determined fairly from a social welfare perspective). With this centrality of the monarch or the state comes the power to direct, control, administer, and dominate; all are bureaucratic manifestations in which accounting is heavily implicated. And although the *ka* priest may have been empowered to control and monitor the transactions on behalf of Hepzefi, the scope of the control apparatus does not appear to be nearly as extensive as that observed at the level of the state. In the transactions contained in the contracts examined in this section, the role of accounting may have been intended to focus primarily upon

providing an authoritative inscription of a pattern of redistribution that had to be observed once the person who bequeathed the will had died. Compliance with such contracts was compelled more by social norms than by the power of the law, and by the incentives built into the contracts to motivate temple staff and priesthood to promote the cult of the dead person for perpetuity. In this sense, accounting practices enshrined in the contracts literally bound individuals (including the dead) across time in an interlocking web of dependency relations.

The diversity of accounting measures contained in these contracts is also of significance. Here we encounter beer, two types of bread loaves, barley, meat, land, and even temple-days, with each being construed as an economic good with precisely denominated values assigned to them via this early accounting. The other interesting point is the apparent importance of the multiplier of 11. For just as we observed in the case of the tax liability measured in *Set*-duck (Figure 3), the figure 11 appears to be a common denominator in these contracts. It is quite likely that this is due to an organization of work practices into teams of nine subordinates and one overseer (who receives twice as much payments as each subordinate), thereby giving the equivalent of 11 persons of equal shares [see Mueller, 1975; Roth, 1991; Ezzamel, 2002e].

CONCLUSIONS AND IMPLICATIONS

The main aim of this paper has been to examine the role of accounting practices in two specific, but predominantly, redistributive patterns from the Middle Kingdom in ancient Egypt. The first example involved provisioning for members of the palace and their dependants while on a royal journey. The second was concerned with several contracts written by a man during his life to ensure the flow of specific provisions to promote his own cult in the temple after his death. In order to contextualize appropriately these accounting practices, the paper began with a brief discussion of the Middle Kingdom where there were two clear historical and social discontinuities which had important implications for accounting practices.

First, the Middle Kingdom was preceded by the chaotic First Intermediate Period that had a profound impact upon the social and political fabric of life in ancient Egypt. Literary sources offer unique insights into the traumas experienced by the ordinary Egyptian during the First Intermediate Period, which resulted in significant revisions in the relationship

between ruler and ruled once the Middle Kingdom began. Socially, this change was manifest in greater emphasis upon social justice as reflected in the concept of *Maat*, whereby the Pharaoh was expected to observe and uphold justice in the land even more so than during the Old Kingdom. Administratively, this change was reflected in the emergence of relatively more decentralized governments, compared to the highly centralized administration of both the Old and New Kingdoms. Through inscribed accounts and the visibility that this created, superiors could demonstrate most clearly to their subordinates that justice was being observed. The determination and inscription of precise rations for individuals of varying rank or those undertaking different tasks was a manifestation of doing *Maat*. Once these rations were determined and then applied consistently, it would have been easy to demonstrate through this consistency that *Maat* was being observed. These inscribed accounts also provided the means for subordinates to demonstrate to their superiors and peers, their integrity, responsibility, efficiency, and trust-worthiness, the very qualities frequently celebrated in tomb reliefs and autobiographies.

The second major discontinuity occurred from the Twelfth Dynasty onwards, and in particular during the reign of Sesostris III, with the advent of military expansions in the South (Nubia). These military campaigns provided the conditions of possibility for a massive expansion of state bureaucracy, a significant increase in administrative titles, and greater refinement in the nature of tasks, all of which were formalized through inscriptions. This was accompanied by greater emphasis on bookkeeping and accounting. The scribes attended to the increased power of the central authority by providing more detailed recording of activities that made it possible for state administrators to trace out and monitor the flow of resources into the state coffers and out again in the form of redistribution. The summary daily accounts of Papyrus Bulaq 18 examined in this paper provide one example of this urge to record economic transactions in much greater detail and over shorter intervals compared to the typical accounting practices employed during the Old Kingdom.

An intricate web of accounting practices was developed and used to trace the levying and collection of taxes in kind, the storage of these goods in state granaries, the monitoring of granary inventories, and the subsequent redistribution of goods to the various recipients in accordance with the pre-determined rations. In each of these stages, the intervention of accounting was all too evident. To provide guidelines against which actual

crops could be assessed, estimates of the crop were made using a variety of indicators (such as the size of the land, the canals, lakes, wells, and trees). The actual tax levy was based upon the crops produced, but one suspects that measures of the actual crops were contrasted against those estimated, as well as the possibility that tax estimates underpinned the state's planning system. When the crop was of the same type, tax liability was quantified in terms of so many capacity measures (say *khar*) of that crop. When taxable produce was of different types, a money of account was used as a common denominator, such as the *Set*-duck in the case of the Kahun papyri. The tax yield was stored in state storehouses where the scribes ensured their careful recording both in terms of incoming stocks and stocks issued to various denominated users. All these activities were reported upon regularly to high officials, ending with the office of the Vizier, who in turn reported to the Pharaoh. What is evident here is that a carefully articulated set of accounting and control practices were developed to underpin Egypt's redistributive economy.

The various accounting innovations discussed earlier in relation to Papyrus Bulaq 18 demonstrate the high skills of the scribes and testify to the sophisticated nature of their technical expertise. This expertise made possible the daily matching of consumption patterns against revenues (receipts) for each main commodity; the use of the 'due today' entry to balance inflows and outflows when different; the running of recurring daily balances of bread loaves; and the keeping of near zero balances for commodities that needed to be kept fresh (vegetables) and which were not critical for survival. Moreover, the human chain of the redistributive system through which commodities and objects exchanged hands, that is suppliers, receivers, distributors, and ultimate consumers, became intricately linked as a set of complex and interdependent relationships coordinated in the main via accounting entries. In sum, the scribal technical expertise made it possible for a carefully articulated redistributive system to function reasonably smoothly.

Further, these accounting practices reveal the significant asymmetry between the palace and ordinary people, whereby shortages in supply were never shared equally between the Royal family and the commoners, but rather accounting practices ensured that the burden was always borne by ordinary people. The precise order in which different categories of recipients were recorded also reemphasized the structure of society. In this strict order the Royal family came first, followed by the

Palace dependencies, and then by ordinary clients. By prioritizing claims in this manner, accounting practices served to legitimize and reinforce the social order for a number of reasons. First, accounting was the prerogative practice of the elite numerate and literate scribes who wielded significant power in ancient Egyptian society, and hence accounting became endowed with the legitimacy of professional expertise [Ezzamel, 1994]. Secondly, through the accounting practice of enumerating quantities and prioritizing entries, relations expressed through these entries acquired a more precise articulation that had the aura of precision and objectivity. Thirdly, accounting practices were associated with the hierarchical structure of ancient Egyptian society and, as the accounts show, they underpinned this structure in explicit terms. Fourthly, however perverse it may appear to us today, accounting practices formed an important part of *Maat* (justice/order). For *Maat* did not simply imply observing equity and social justice between all. Crucially, it also implied preserving the status quo as any disturbance to that order was construed as an undesirable state of affairs that threatened the security of Egypt, and by implication the prosperity of the Egyptian people [Lichtheim, 1992].

Accounting practices also played a crucial role in underpinning the writing and execution of private wills. In the case examined in this paper, ten contracts were specified through accounting inscriptions, and their precise execution was monitored through the intervention of accounting. This example provides yet another demonstration of the centrality of accounting practices to the ancient Egyptians in life and death. Moreover, it testifies to the high levels of scribal skills and the adaptability and malleability of accounting techniques in underpinning the forging and execution of private transactions. Accounting practices were mobilized to assure Hepzefi, while alive and also in death, that his soul would be provided for and that his cult would be promoted. For him, the satisfactory promotion of his cult required giving, but this giving was not random or ad hoc, rather it was carefully calculated, a measure for measure; or even an overcompensation to ensure compliance with the terms of the contracts for generations to come. Only through accounting and social norms could he be ensured that the *measured* giving will be observed. He does not only provide a mere enumeration of objects to be given but, more importantly, each item is quantified in precise terms.

The technical expertise of the scribes is paraded in these contracts. For not only do we encounter a mere enumeration

and quantification of different objects, but there is also an internal consistency that operates within the system of accounting in use. The senior priest is always differentiated from his subordinates by having rations twice as much as that of each subordinate. A clear statement is made in the contracts as to the amounts to be paid by each named person and also their recompense is stipulated clearly. As in the case of any sound accounting practice, so these contracts show clearly who has to pay what, and how are they to be (over)compensated, for what they pay. In modern terminology, the debits and credits are stated unambiguously. Moreover, we do not only encounter here simple exchange of conventional economic goods, but we also observe the use of temple days, inherited by Hepzefi, as payment precisely defined in terms of their temporal dimension (each being 1/360 of a year) and valued in terms of their economic equivalence. Again, a measure for measure is established, whereby each temple-day is set to equal a precise economic value.

Taken together, these varied roles played by accounting in two separate spheres of the economy, one relating to the state and the other to the private domain, emphasize the centrality and power of accounting practices during the Middle Kingdom era of ancient Egyptian history. The accounting practices examined in this paper do not reveal some crude, and by modern standards 'simplistic', calculative technology. We have encountered an accounting that developed as integral to the social, economic, administrative and political contexts of the Middle Kingdom. The accounting practices were inextricably linked to the institutions in which they operated, the Palace, its dependants, the priesthood and the cult of the dead. That the nature of the entries, their frequency, and the units of measurement used may have varied across the palace accounts and the contracts of the temple suggests that the scribes did not simply and unreflexively apply some static and uniform system of accounting to all settings. Rather, the evidence confirms the increasing recognition that accounting practices both mediate and are mediated by the wider and unique social, political and economic contexts in which they operate. Such ancient accounting practices should therefore be analyzed and understood on their own terms, contrary to the suggestions of some researchers [e.g. Stevelinck, 1985] who either dismiss their relevance or, at best, view them as an impoverished, simplistic, and crude precursor to modern forms of accounting.

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