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Source: *The Accounting Historians Journal*, Spring 1984, Vol. 11, No. 1 (Spring 1984), pp. 83-101

Published by: The Academy of Accounting Historians

Stable URL: <https://www.jstor.org/stable/40697796>

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## **THE SIGNIFICANCE OF ANCIENT MESOPOTAMIA IN ACCOUNTING HISTORY**

*Abstract:* The article draws attention to the vast archive of accounting records from ancient Mesopotamia available to historians, and the advances in Assyriology which have taken place since the revival of interest in the origins of recorded history. Understanding of the materials has been advanced, in part, by specialists from other fields, such as mathematics and astronomy, yet accounting historians do not seem to have been attracted to the problems of interpreting the elegantly simple records and the societal context within which they were made and used.

To exemplify the challenges facing the accounting historian, the author considers evidence on the Dreham archive, the temple as a financial institution, and the use of loans, interest and banking. Finally, the author suggests that the records of Ancient Mesopotamia offer a rich field of research in accounting history.

### *Ancient Mesopotamia and Modern Iraq*

There is some confusion in the terms applied to the civilisations of ancient Mesopotamia. The name, which is Greek, means the land between two rivers, the Tigris and Euphrates—which rise in the mountains of Turkey and flow south to the Gulf where they meet at the Shatt-el-Arab near Basra. The Euphrates takes a longer course, and almost joins the Mediterranean near Jerablus, but it then takes a vast curve inland. At Baghdad the two rivers nearly meet; only twenty miles separate them.

*Babylonia* covered the southern half of modern Iraq to the Gulf of Basra, and was centred on the ancient city of Babylon, a city ferociously denounced in Jeremiah 50 to 52 because Nebuchadnezzar took the Jews to captivity there. Babylonia was divided into *Akkad* in the north and *Sumer* in the south. Akkadian, Assyrian, and Babylonian are Semitic languages akin to Hebrew and Arabic. Sumerian has so far resisted all attempts to relate it to any language living or dead.<sup>1</sup> Famous Sumerian cities were Ur, Uruk, Nippur, and Kish.

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The author is grateful to Professor D. J. Wiseman of the School of Oriental and African Studies, Professor R. H. Parker of the University of Exeter, and Mr. David A. R. Forrester of the University of Strathclyde for their helpful comments. The author makes the usual confession of responsibility for such errors as remain.

The northern half of modern Iraq is the real Mesopotamia, although that term is often applied to the whole of Iraq. Its ancient name was *Assyria* and it is there that one may see the ruins of Nineveh, Ashur, Nimrud, and Khorsabad.

### *Cities and the Rivers*

The twin rivers of Mesopotamia are often compared in importance to the Nile, although they play a very different role. Rainfall in Iraq averages an unreliable 10 inches per year. The rivers are the main sources of water. The Nile floods the plains in spring and deposits alluvial silt which fertilizes the soil each year before the planting. Its annual flows are stabilised by the huge lakes in East Africa.

The Tigris and Euphrates rise in remote mountains, have no lakes to regulate their flows and are less predictable. In the north they flow through a limestone plateau where their courses have changed little over centuries. To the south, however, they meander over a vast alluvial plain and, from time to time, change course. The rivers flood in April to June which is too late for the spring crop and too early for the summer. Agriculture, therefore, has depended for thousands of years on effective irrigation and, if no artificial drains are installed, the irrigated land draws up salt from the water table and can rapidly become sterile, necessitating a move to fresh land. Many of the major centres were continually rebuilt on the ruins of the preceding generations.

This process, carried on for thousands of years, determines the picture of Iraq today outside the great city of Baghdad. There, the landscape is dotted with about 10,000 mounds or "tells," few of which have been excavated. These few have yielded up a great treasure of historical records. Curiously enough, the nomadic Bedouins know each tell by a name that is usually related to a known historical place.

Not that the picture is unchanging. The Iraqi Government is engaged in a large programme of reconstruction and the traveller is entranced by the restored walls of Nineveh, the buildings of Nimrud, and the Grecian-style buildings of "Arab" cities of the north, Hatra and Samarra.

In the south, the traveller may walk along the brick built processional way of Babylon, approached through the reconstructed triumphal archway, the Ishtar gate, decorated with bulls and dragons in brightly coloured glazed bricks and leading to Marduk's ziggurat, the famous Tower of Babel.

### *The Development of Assyriology*

Western European interest in ancient Mesopotamia, its peoples and its culture sprang in the first place from Biblical studies and the rediscovery of the monuments of ancient Egypt. These led to a search in Mesopotamia for evidence of the long-lost civilizations of Babylon, Ur of Chaldees, Assyria, and Nineveh, all of which are mentioned in the Bible. In 1842, Botta discovered Khorsabad, and two years later Layard excavated at Nimrud. The emphasis then was on discovering and removing antiquities with little regard to the surroundings in which they were found.

The first three quarters of the nineteenth century have been called the "heroic" period of the new science of Assyriology. During this period, various systems of writing using cuneiform signs were deciphered and a group of texts known as "the royal inscriptions" were translated. Most of what we know of Mesopotamian history came from these records. At the same time, objects of silver, gold, copper, impressive statues, reliefs, and grandiose architecture were excavated and dispersed to private collections and museums throughout the world. Included in these objects were clay tablets found throughout the Near East and Egypt, many of which are accounting records.

The story of the Rossetta stone is well known. Just as exciting was Rawlinson's copying, at great peril, the inscription in Old Persian, Babylonian, and Elamite which Darius the Great had engraved on a cliff face in Behistan in Western Iran. From this, Rawlinson, Hincks and Oppert opened the door to an understanding of the Akkadian and Sumerian languages. Akkadian is so well understood today that it is taught in a number of universities; Sumerian is almost completely understood.<sup>2</sup>

The establishment of British and German exploration groups in the second half of the nineteenth century was accompanied by a more professional archaeological approach to excavation with a growing emphasis on stratigraphy and environmental evidence.<sup>3</sup> In the twentieth century, excavations have been conducted by French, Italian, and American groups, all of whom have a distinguished and continuing participation in exploration, discovery, and interpretation of the materials. There is, also, a strong group of Iraqi scholars, and the Iraqi Government now sponsors and controls the processes of exploration and restoration. During a visit in 1977, I was informed that there were five main explorations in progress, one of which I was able to observe at work in Babylon.

In the past one-hundred-and-sixty years, Assyriologists, aided by a few from other disciplines, have been at work translating and in-

terpreting the vast evidence on the kings, merchants, scholars, and ordinary people of ancient Mesopotamia,<sup>4</sup> their defeats and victories, their achievements and preoccupations and, especially, their economic life. In sheer volume, the records are unrivalled, and they also extend over a much longer period—about 3,000 years—than is generally appreciated. The chronology of the main rulers of Mesopotamia from 2400 B.C. to 700 A.D. is now much clearer than it was, and is accurate within  $\pm 64$  years for dates before 1500 and  $\pm 1/2$  years for dates after 900 B.C.<sup>5</sup> (with the exception of the Parthian Dynasty).

It is now established that the Old Testament reports fairly accurately on the period after 800 B.C. and sheds some light on the previous three centuries.<sup>6</sup>

Another measure of the progress made in Assyriology may be gauged from Boyd's reference<sup>7</sup> to the Laws of Hammurabi of Babylon discovered at Susa. Hammurabi appears in Genesis 14 as Amraphel King of Shinar and was a contemporary of Abraham. Boyd quotes the dates of Hammurabi's rule as 2285 to 2242 B.C. but Brinkman's chronology dates him from 1792-1750 B.C. Hammurabi is sometimes referred to as if he were the only great codifier of the laws; in fact, this was a common activity which is second only to the main purpose of recording data for administrative purposes.

There are a number of Sumerian, Akkadian, and Hittite collections of laws apart from Hammurabi's. Similar collections of laws are incorporated into the Old Testament, but so far there is no evidence of Egyptian parallels on papyrus. The purpose of these statements was both to formalise traditional practices and to bring the law into line with changed social, economic, and political conditions.

### *The Extent of the Mesopotamian Records*

It is important to realise the long time period which the written ancient Mesopotamian records cover, from 2500 B.C. to the first century B.C., and the sheer immensity of the number of clay tablets which have already been found. There are probably several hundred thousands in museums and collections.

Many of these record daily activities in the form of records and letters, and most deal with the administration of the great bureaucracy based on the temple that skillfully and methodically administered affairs in southern Babylonia from Ur to Sippar. They are also found throughout the Middle East, wherever the cuneiform writing system and the Akkadian language were in use. Oppenheim estimates that published material, plus the items held by major mu-

seums, cover 40-50,000 tablets in Akkadian dealing with legal and administrative matters and another 120,000 to 150,000 in Sumerian.

One of the earliest finds, at *Warka* was a library of more than 3,000 clay tablets. There have been many other finds at *Kish*, *Uqair*, *Ur*, *Tell-es-Salabikh*, etc. A recent find at *Tell Mardikh* in Syria yielded more than 16,000 cuneiform tablets which show among other things, records of taxes, payments and rations to workers. There was evidence of a flourishing trade in textiles.<sup>8</sup> One extensive set of records was found at *Dreham* and I discuss some of the problems which have arisen in its translation and interpretation later in this article.

Nor is that the end! Speiser says<sup>9</sup> that the total volume is literally incalculable since much that has been dug up so far is yet to be published and new texts are coming to light all the time. He gives us an example, a private home in *Nuzi* which yielded 1,000 legal documents—almost three times as many as have survived from all Egypt prior to the Persian era. Thus, we may know a community from the middle of the second millennium B.C. better than we know most European capitals at the time of Columbus.

Despite this, the records by no means give a complete picture of the long history of Mesopotamia, and new discoveries constantly give rise to revisions and reconsideration of the historical facts.

One further example, which also illustrates the possible scope for other specialists to contribute to the knowledge of the Ancient Near East is the work of Professor Neugebauer, a historian of mathematics.

Neugebauer's investigation of the mathematical and scientific tablets has shown that mathematics was fully developed in the Old Babylonian period and that mathematical astronomy probably originated in the Persian period. While the origins are still unclear, mathematics had reached, by the nineteenth century B.C. a full command of sexagesimal techniques based on place value notation, although without a zero, but including higher exponents and their inverses and a good deal of insight into algebraic and plane geometric relations in which Thales's theorem about the right angle in a semicircle and, in particular, the "Pythagorean Theorem" for the right angled triangle take a common place.<sup>10</sup> There was full understanding of a  $a^2 + b^2 = c^2$  when  $a$ ,  $b$  and  $c$  are integers.

Professor Neugebauer says "Since 1929, when W. Struwe and I succeeded in bringing sense also into non-trivial mathematical cuneiform texts, our available sources have expanded to constitute probably the largest body of scientific original documents from a pre-Hellenic civilisation."<sup>11</sup>

*The Purposes of the Ancient Mesopotamian Records*

The ancient Near East used writing for three main purposes:

1. *Recording data for future use.* In order of importance, five purposes may be recognised under this heading—which is, perhaps, of greatest interest to accountants.

- a) Recording for administrative purposes
- b) The recording of legal traditions
- c) The formulation of sacred tradition
- d) The annals
- e) Scholarly purposes

2. *Communication of information.* The civilisations of the ancient Near East used letters, the rulers issued edicts, and public announcements of political and legal importance were made. Again, many thousands of letters are preserved on clay tablets; edicts and announcements were often carved on stone stelae or, in Babylon, on Kudurra stones which marked the boundaries of land and stated the ownership.

3. *Ceremonial use.* In Egypt, there is a considerable volume of mortuary texts in this category; this is almost unknown in Babylonia and Assyria. There was, however, a tradition still observed today of hiding in the mortar or in the wall of buildings some kind of object—a prism, a nail or a brick—inscribed with a dedication from the king to the gods. Some royal inscriptions were on rock faces or stelae.

All of these uses of writing are of interest to the accounting historian since they often cast light on the socio-economic framework within which the recording of data was practiced.

An extract from the Laws of Ur-Nammu illustrates the communication of information, the recording of law and the ceremonial use.

The announcement states the importance of equity and truth, refers to the standardisation of weights and measures and the equality of individuals in the eyes of the law and the protection of poor against rich:

After AN and Enlil had turned over the Kingship of UR to Nanna, at that time did Ur-Nammu, son born of the Goddess Ninsun for his beloved mother, who bore him, in accordance with (Nanna's) principles of equity and truth . . . establish equity in the land, and he banished malediction, violence and strife. . . . He fashioned the bronze sila measure, he standardised the stone weight of a shekel of silver

in relation to one mina. The orphan was not delivered up to the rich man; the widow was not delivered up to the mighty man; the man of one shekel was not delivered up to the man of one mina.<sup>12</sup>

### *The Content of the Ancient Mesopotamian Records*

As previously mentioned, the tablets were created over a long period between roughly 2500 B.C. to 50 B.C. and they thus provide a unique collection of material on the history and annals of ancient Mesopotamian civilisation.

Considerable evolution of the form of the records and the organisation of the record-keeping occurred over this long period of time. The evolution of the cuneiform script from pictograms may also be observed.

Early tablets from Ur, Djemdat-Nasr, and Uruk use a pictographic script whereas the administrative archive from the Third Dynasty of Ur, mainly from Drehem and Djokha is well written, in cuneiform, dated, and indexed on the rims. The tablets were stored in baskets in which size, shape, and contents are carefully correlated; each tablet has standard information on the transaction recorded. There is evidence that methods of presentation changed over time, as Oppenheim notes: "Changes occur, of course, such as a preference for a ledger-like arrangement with entries organised in columns with appropriate headings. . . ."<sup>13</sup>

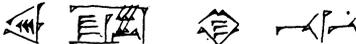
Tablets found in the academic institution at Tell Harmal now in (modern) Baghdad contain legal, literary, geographical, astronomical, musical, and mathematical texts of which the latter two show geometrical-algebraic theorems similar to those of Euclid and Pythagoras. They are obviously the records of a talented and well-organised society.

We have room to consider only a few aspects of this topic, relevant to accounting in this article.

Inspection of some of the bookkeeping tablets held by the National Museum in Baghdad shows a list of workers (1M5 8820), a list of wages paid (1M5 10628), a contract for sale of land (1M5 14182), and an account (1M5 10629) from the early Dynasty III period. Another is an account of a basket of tablets, giving the headlines (titles) of the tablets in the basket (1M5 1159) from the Neo-Sumerian period in Ur.

Similar items are on show at the British Museum and at other major museums such as Chicago.

Thomson<sup>14</sup> produced the following simple hypothetical example to illustrate the form, syntax, and phraseology of a business tablet from the Ur III Dynasty

<u>CUNEIFORM TEXT</u>	<u>TRANSLITERATION</u>	<u>MEANING</u>
	0003 UDU	Three sheep
	KI A-HU-NI TA	Seller : A-hu-ni
	UR-NIGIN3-GAR	Buyer : Ur-nigin-gar
	I3-DIB2	officially received
	ITU A2-KI-TI	in the month of A-ki-ti
	MU (AMAR-SIN-1)	in the year of Amar-Sin-1

This illustrates the systematic record, of key data, which is typical of the clay tablets found at Dreham.

As Thomson points out, however, of the tablets at Dreham, "While these tablets inform us of many things such as names, dates, types of transactions and itemised commodities, there is much that they do not tell us."<sup>15</sup> For instance, the tablets do not record where the animals came from, why they were shipped, or where they were being shipped. Often they do not show what prices were charged (in contrast to Sumerian merchant texts, which *do* give comparative prices) nor do they state whether transactions were private or not. Mahoney<sup>16</sup> notes that the Sumerians were very careful to indicate numbers and kinds of animals but they left out many details of the care, feeding, and transportation of these animals.

While this is a valid comment, it might equally be observed that the records are elegantly simplified data comparable to the modern computer data file. It may be inferred that the system in which they played a part *could* have been of great sophistication.

This economy of data recording may be seen in the identification of copies which were sometimes labelled as such in the dating. For instance, the date U<sub>4</sub> 24 ba-zal

and U<sub>4</sub> 24 ba-ra-zal

are identical except that the sign ra means "to strike," in other words, the duplicate.

Similar methods seem to have been used to distinguish inter-departmental from other transfers of animals.

The records of transactions are terse but detailed. The Sumerians had 17 different adjectives to describe the type of sheep or goats: whether grain fed or bran-fed; quality on a scale of 1 to 3; the buyer and the seller; whether deliveries were for the royal family; or offerings for a particular city. In later years, the authority for transactions entered into were recorded as were the totals on each tablet.

A further example of the underlying sophistication is that while the transliteration of seller is "he who gives," the transliteration of buyer is "he who sets the price," which certainly accords with ideas about perfect markets.<sup>17</sup> The innovations of the Mesopotamians were remarkable.

Babylonia laid the basis for astronomy and made systematic observations of the heavenly bodies. The Babylonians, probably in the Persian period, invented the use of place value notation, an idea which was later incorporated in the Hindu (Arabic) decimal notation which we use today.

Much of the content of legal records is relevant to accounting. It is clear that we share with the Mesopotamians some of our most basic concepts such as the idea of absolute truths which do not vary with time and person; that interpretation of law cannot be left to lay persons; the idea that judges should look at established precedents; the paramount authority of the written document which should be handled reverently; that contracts be executed in writing and signed by all the parties and that there should be witnesses.

The basic premises of cuneiform law were that law is an aspect of the cosmic order and the ruler is only a temporary trustee, answerable to powers above him. For instance "I Hammurabi am a righteous ruler, one to whom the Sun-God has granted the universal truths." The subjects of the King are protected against autocratic abuse of power and the individual has inalienable "natural rights."<sup>18</sup>

*The Archive of Dreham*

The work done on the archive at Dreham illustrates some of the fascinating insights into Ancient Mesopotamia which the administrative records contain and also some of the problems of interpreting these.

The archive covers a period from 2040 - 2027 B.C., at the end of the Third Dynasty of Ur from 2112 to 2004 B.C. Mahoney adopts the view that Dreham was a depot receiving and transferring supplies, mostly animals, to the temples and other establishments which flourished under this dynasty. She notes that, although the texts have long been available, they have not proven of interest to many historians because of their routine nature. The texts came into existence as the result of a thorough administrative reorganisation which took place under the command of Sulgi and which consolidated and expanded administrative measures inaugurated by his father, Ur-Nammu.<sup>19</sup>

Two approaches to the Dreham records, those of Mahoney and Thomson, provide an interesting contrast, and are sharply at variance in key respects.

Mahoney analysed all the texts of a single official NA - lu<sub>5</sub>, whose career probably extended over 21 years.<sup>20</sup> During this time NA - lu<sub>5</sub> took various animals in charge, mostly sheep, goats and pigs, and then paid them out for various purposes—monthly festivals, offerings to the gods, supplies to the kitchen and poultry yard (probably for the use of officials therein), and dead animals to the officials and special warehouse. Mahoney arranged the tablets in chronological order, to form what she calls “a ledger” showing the income and expenditure in terms of animals.

The records are incomplete and receipts often exceed payments and vice versa. No balanced accounts have been found for NA - lu<sub>5</sub>, nor is there a record that he totalled up at the end of a month or a year.

Mahoney explains this by suggesting that this official received animals only from a superior official whose job it was to record the complete transaction from receipt to disbursement. NA - lu<sub>5</sub> had three superiors for whom he worked at various times and their records of receipts usually indicate the person from whom the animals were received. Thus, NA - lu<sub>5</sub> appears to be a stock clerk or storekeeper and his superior the accountant or bookkeeper. Animals stated as coming from NA - lu<sub>5</sub> appear in summaries and one summary tablet CKS514 has five columns of animals for five officials, one of whom is NA - lu<sub>5</sub>. There is no indication that NA - lu<sub>5</sub>

was a scribe, although there is always a possibility that his records are purely paper transactions.

In the last year of the reign of Sulgi, the administrative formula for paying out animals changed from a noun meaning "expenditure" to a passive verb meaning "was expended," although there is no indication in the texts as to why this was so. There are also two distinct ways in which the date may be recorded on a tablet. Various explanations have been advanced as to why this should be so. One suggestion is that the methods indicate the division of the day into two parts, like a.m. and p.m., but Mahoney suggests that each method relates to the type of transaction recorded, i.e., whether a transaction has or has not been completed at Dreham and, consequently, whether a further record of receipt or disbursement needs to be made. If this were so, the supervising officers could separate the two types for summarising purposes and control.

Mahoney compares the analysis of the Dreham records to trying to compile the history of the University of Minnesota from a pile of used IBM cards, many of which have been lost and others damaged. The comparison is apt, as there has been some controversy about the actual organisational arrangements in ancient Mesopotamia even though it is known that there were two main systems, based on the palace and the temple. Most records relate to the temple, which declined in relative power over the centuries.

Thomson, by contrast, expresses some scepticism about the organisational and operational deductions which are generally, if tentatively, accepted. "To fabricate a vast hierarchical organisational structure for the Dreham depot on the basis of a few tablets is to force an unnatural form on the market place. To be sure, some men on the tablets have titles such as tablet-writer (DUBSAR), governor (ENSI), messenger (GIRIM), archivist (GA-DUB-BA), priest (SHU-DUG) or overseer (NU-BANDA) . . .,"<sup>21</sup> he goes on to argue that we cannot be sure, at this stage, of the precise meaning of these designations or indeed, of the nature of the operations carried out at Dreham. Thomson made an analysis of about 1,000 of the Dreham tablets using a computer program. He recorded the transliterated data from each tablet into a data file and then analysed them to see if this threw light on the agricultural and commercial activities at Dreham. His results showed that there were different levels of activity as between traders, and he then concentrated on four who were very active over long periods. His hypothesis was that if these traders were part of an imperial bureaucracy, the natural operation of the division of the work between them would lead to specialisation over a period of time. He found no evidence for this. On the

contrary he argues that “. . . these dull business tablets are evidence of a dynamic free market remarkably similar to its counterpart today 4,000 years later. . . . The sizes of the shipments correspond exactly to the size of shipments being sent to Omaha between 1940 and 1960 when Nebraska was supported by a small farmer economy”!<sup>22</sup>

Rather than a bureaucratic stock-holding centre, Thomson concludes that Dreham was a market for animals and that NA - lu<sub>6</sub>, by analogy, was a salesman taking in animals for sale in open market. This might well explain why his records do not give a complete account of receipts and disbursements. Thus, the nature of the Mesopotamian Temple as an institution is by no means fully known, despite the abundance of records.

The fact that these documents are concerned exclusively with the lower personnel of the sanctuaries, the workers and craftsmen who received wages and rations and with the accounting for material for the manufacture of specific objects makes them of particular interest to the accounting historian, who might well be able to throw more light on the accounting systems used by the Mesopotamians and, therefore, on the institution of the temple. It would be advisable, however, to eschew approaches which look simply for evidence of “double entry” in a form resembling that of later civilisations. The tablets form a bank of data in a highly standardised form. What is of interest, is how the Mesopotamians retrieved that data and used it for various accounting purposes such as stewardship, control, and decision making. It seems inconceivable that a system of accounting records could be in use over thousands of years if it were not justified by and, indeed, essential to some wider societal purpose.

### *The Temple as a Financial Institution*

From the evidence we have, it is clear that there was a strong financial tradition in the role of the temple. Here one might note that Christ's expulsion of the money lenders from the temple was thus directed against a Middle Eastern tradition established for several thousand years.

The temple was organised as a redistributive system dealing with incoming rents and gifts and outgoing rations and wages. Income was derived from investments, land donated by kings and also from occasional dedications of the spoils of war, precious objects and prisoners of war.

Incoming tax payments, religious dues, and various other gifts

destined for the temple or for the palace were received in many forms such as animals, grains, and metals, especially silver which was melted down into ingots. Eventually, all forms of payment were assessed by an expert assayer in terms of equivalent ingots. The modern Arabic word JIHBIDH has been traced back to cuneiform records and means both financier *and* assayer. The silver received was placed in a wickerwork cash box, and the smiths received a special beer allowance for the hot work of melting it down. This system was still used later by Solomon. As it happens, most records refer to the temples, although there is evidence that a similar system was used by the palace.

The temple also received payments intended for the king.

Some of the earliest records show a distinction between “exchangeable” and “non-exchangeable goods.” Exchangeable goods could be transferred without formality and included gold, silver, other metals; commodities such as oil, yeast, beer, wool, leather, papyrus, and weapons. Thus, the idea of a standard for exchange, if not a single monetary currency, was established.<sup>23</sup> Indeed, exchange rates for exchangeable goods were posted for both current and future times.

#### *Loans, Interest Rates and Banking*

Other business documents such as loans and promissory notes were used. These referred to the *future* values of the commodities exchange rates, for instance, “(to be paid) according to the rate of exchange (valid) in the month X.”<sup>24</sup> These rates would be applied to receipts of commodities other than silver, and periodical lists were published from time to time. In one example, the creditors took the precaution of stating that they would establish the current rates themselves: “If he does not pay the silver [of the loan] he will give barley [instead] according to the excerpt-tablet [with quotations] which A and B [representatives of the creditors?] will themselves excerpt in Babylon.”<sup>25</sup>

There are a large number of Old Babylonian records which deal with temple loans in which the temple appears as the creditor. Harris states that “the very fact that so many temples are found in the role as creditor is reason enough to assume that temples must have had the resources to act as banks.”<sup>26</sup>

The records of the loans are sometimes very complicated. Harris quotes an example in which a debtor, Ili-ippalsam, borrowed 5 shekels of silver from the Nanna temple and its agent Sin-ismeanni. In turn, Ili-ibnanni borrowed 1 shekel from Ili-ippalsam but Ili-

ibnanni has to return the loan to the original creditors; the gods Nanna and Sin-ismeanni. Gods and goddesses often appear as creditors and especially Samas, the god of justice, whose temple, more than any other, served as a bank.<sup>27</sup>

In another example, a principal and his agent granted a business loan to the agent and another partner. Thus, two entities, in both of which one person participated, are clearly distinguished and the same person recorded as part creditor, part debtor.

Loans were often made to individuals to tide them over until harvest time, but they were also made for business purposes, including partnerships.

One example, quoted by Harris, may be an early example of stewardship "X shekels of silver belonging to Samas are at the disposal of PN, whatever [business] plan he sets afoot and [whatever] it will yield belongs to Samas."<sup>28</sup> This loan is unusual, in that it is not witnessed.

In general, the temples seem to have been run on business lines. Their interest rates were the same as those charged by private persons although there were exceptions. In certain periods private persons charged thirty-three and one-third percent on loans of barley while the temple charged only twenty percent. There is also evidence that the temple made loans at low or no interest in order to bring down market rates which were onerous to debtors. In addition, arrangements could be made for paying interest in special ways such as offerings of food. One debtor is known to have pawned his wife to the temple in lieu of interest! Another, a son, borrowed in order to redeem his father's debt and was later forced to sell himself to the temple because he was unable to repay the loan.

### *The Importance of Mesopotamia in Accounting History*

The first great civilisations of man emerged almost simultaneously in ancient Mesopotamia and Egypt. Because the Mesopotamians maintained their records in the extremely durable form of clay tablets, there is in existence a vast volume of data extending over some 3,000 years, the vast bulk of which has still not been published, which constitutes an unrivalled storehouse of material relevant to the earliest period of accounting history. Yet accounting historians, with a few notable exceptions such as Orville Keister, have paid little attention to this material and the growing knowledge of Assyriologists about the civilisation which created it. It is argued that accountants could contribute to this knowledge by analysing and

interpreting the records and more clearly delineating the institutional system which created and used them.

Writing in 1905, Edward Boyd drew attention to the way in which the nineteenth century added enormously to our knowledge of ancient nations and how at the beginning of that century, history may almost have been said to have begun with the Greeks and Romans. At the end of that century, and the beginning of ours, we were able to look back on civilised communities existing more than 5,000 years before Christ.<sup>29</sup> Boyd neatly makes the point that, history being always in the making, what is “modern” today is . . . . . tomorrow’s history.

Simply because the Mesopotamian clay tablets do not resemble the ledgers and journals of the Venetian system, as published by Paciolo and developed in the twelfth to twentieth centuries A.D., does not mean that they should be dismissed or ignored as curiosities.

History is always changing in the sense that our knowledge of the past is always being added to, and also in the sense that new “modern” times lead to new appraisals of what is and what is not significant in history.

For instance, Boyd, in discussing the Mesopotamian clay tablets says, “Much information as to business methods is derived from these ancient tablets but we have not succeeded in finding evidence that any of them can, strictly speaking, be described as accounts; and Dr. Budge of the British Museum in courteous response to an enquiry, informs us that he knows of none.”<sup>30</sup>

Dr. Budge was an outstanding Assyriologist. His comments may fairly be taken as representing the views of the scholars at the beginning of the twentieth century. Boyd quotes Dr. Budge as saying “There is no reason for thinking that they (the Babylonians and Assyrians) managed their money affairs as we do. There are many contract tablets known and hundreds of records of commercial transactions but I know of none which could be considered as accounts in the modern sense of the word.”<sup>31</sup> We discussed earlier the immense progress made in Assyriology since the beginning of the twentieth century, and there is no means of knowing what Dr. Budge’s response to the same question might be in 1983, or, indeed, whether Boyd would—or should—ask the same question. And if he, or a modern successor did: would he mean by “modern” accounting in 1983 what he meant in 1905?

Explaining why things happened the way they did is a constant concern of historians but the explanations are modified both by

what we know about the past and by what we choose to regard as significant for the present.

There may indeed, be a fallacy in an approach to historical exegesis based solely on a search for one particular phenomenon, especially if it is a particular way of accomplishing certain social ends, such as double entry bookkeeping. Indeed, more modern computer based accounting systems with their data files and information retrieval and reporting systems may be more analogous to the system used by the ancient Mesopotamians.

The evidence from Assyriology adduced in this paper shows that the ancient Mesopotamians were sophisticated in mathematical knowledge and skilled in organisation. Their societies were highly civilised and very commercially minded. They devoted great effort and considerable skills to the creation and maintenance of accounting records.

Littleton<sup>32</sup> suggested that there were *seven* preconditions for the development of bookkeeping, the art of writing; arithmetic; private property; money; credit; commerce; and capital. Chatfield points out that each of these prerequisites to bookkeeping development was present in some form in the ancient world, several thousand years before Paciolo. Yet Chatfield assures us that "even the most advanced of those civilisations failed to produce a double entry system or anything like it."<sup>33</sup>

Another accounting historian, Orville Keister, described the way in which clay tablets were used by Mesopotamian scribes in creating accounting, commercial and legal records. He tells us in some detail the methods used in making tablets, the way in which the stylus was used, how cuneiform script developed, how seals were used and how the scribal profession developed. He concludes with the thought that the Mesopotamian scribe was the predecessor of the accountant of today, but "How different yet how similar in function, were his tools."<sup>34</sup>

This brings us to more questions about history. Are people getting cleverer? Does today's bookkeeper stand on the shoulders of yesterday's scribe because of some natural line of progress in evolution? Do things always get better or are they sometimes up and sometimes down?

We have all heard of the Dark Ages in Europe which followed the collapse of the Roman Empire. Roman accounting collapsed, too, although there is evidence that the essential methods of accounting were maintained and preserved by the Roman bishopric<sup>35</sup> through to the Renaissance.

The Mesopotamians also experienced a Dark Age which began about 1600 B.C. with the conquest of Babylon by the Hittites and lasted for about 300 years. Whatever happened to accounting then? There are many centuries of accounting history before even the historical events described in the Bible began (about 800 B.C.) which have received scant attention from accounting historians. R. H. Parker's bibliography<sup>36</sup> contains 10 articles for the 3,000 years or so of human history embraced within his "ancient" period and 317 related to the history of the last few hundred years—hardly a balanced picture.

Yet when Keister tells us that the Mesopotamian clay tablets were so well prepared that thousands are still flawless today, after lying in a temple or palace ruins for four thousand years, are we not moved to wonder about their evolution, and the development of the system within which they were used? Did it, too, rise and then fall with the advent of the Dark Ages? Did it rise again, as in Rome? What, if anything, was continued on in other systems when the cuneiform script was abandoned shortly before the birth of Christ? Has anything of it not survived to the present day?

For the accounting historian, ancient Mesopotamia offers a rich field for research; yet as far back as 1963, Keister observed that "students of accounting history have been somewhat engrossed with post-Paciolian developments and have almost completely neglected this period of accounting history."<sup>37</sup>

## FOOTNOTES

<sup>1</sup>Sollberger, p. 8.

<sup>2</sup>Roux, p. 46.

<sup>3</sup>Lloyd, p. 192.

<sup>4</sup>Wiseman.

<sup>5</sup>Brinkman, p. 335.

<sup>6</sup>Oppenheim, p. 72.

<sup>7</sup>Boyd, in Brown, p. 17.

<sup>8</sup>Matthiae, pp. 179-182.

<sup>9</sup>Speiser, p. 536.

<sup>10</sup>Neugebauer, p. 529.

<sup>11</sup>Neugebauer, p. 528.

<sup>12</sup>Pritchard, pp. 87-89.

<sup>13</sup>Oppenheim, p. 276.

<sup>14</sup>Thomson, p. 105.

<sup>15</sup>Thomson, p. 59.

<sup>16</sup>Mahoney, p. 88.

<sup>17</sup>Contenau, pp. 79-80.

<sup>18</sup>Speiser, p. 537.

<sup>19</sup>Roux, p. 161.

<sup>20</sup>Certain signs in Cuneiform have the same sound but a different meaning. These differences are indicated by the subscript, e.g., lu<sub>5</sub> or lu<sub>4</sub>. See Thomson, p. 102. However, subscripts <sub>1</sub> and <sub>2</sub> indicate acute and grave accents respectively.

<sup>21</sup>Thomson, p. 80.

<sup>22</sup>Thomson, p. 78.

<sup>23</sup>Morgan, p. 11.

<sup>24</sup>Oppenheim, "A Fiscal Practice," p. 118.

<sup>25</sup>Oppenheim, "A Fiscal Practice," p. 119.

<sup>26</sup>Harris, p. 26.

<sup>27</sup>The only difficulty with this statement is that no temple of Samas has yet been found at Nippur, although Samas appears as the creditor in temple loans from that city.

<sup>28</sup>Harris, p. 131.

<sup>29</sup>Boyd, in Brown, p. 16.

<sup>30</sup>Boyd, in Brown, p. 19.

<sup>31</sup>Boyd, in Brown, p. 19.

<sup>32</sup>Littleton, p. 12.

<sup>33</sup>Chatfield, p. 15.

<sup>34</sup>Keister, "The Mechanics," p. 20.

<sup>35</sup>Chatfield, p. 15.

<sup>36</sup>Parker, pp. 75-126.

<sup>37</sup>Keister, "Commercial Record-keeping," p. 371.

#### BIBLIOGRAPHY

- Brinkman, J. A. "Mesopotamian Chronology of the Historical Period." Appendix in Oppenheim, A. Leo. *Ancient Mesopotamia*. Chicago: University of Chicago Press, 1977, pp. 335-348.
- Boyd, Edward. "Ancient Systems of Accounting" in Brown, Richard. *History of Accounting and Accountants*. Edinburgh: T. C. & E. C. Jack, 1905.
- Chatfield, Michael. *A History of Accounting Thought*. Hinsdale, Ill.: The Dryden Press, 1974.
- Contenau, Georges. *Everyday Life in Babylon and Assyria*. London: Edward Arnold, 1954.
- Harris, Rivkah. "Old Babylonian Temple Loans." *Journal of Cuneiform Studies*. Vol. 14 (1960), pp. 126-137.
- Johnson, Paul. *A History of Christianity*. Harmondsworth, England: Penguin Books, 1976.
- Keister, Orville. "Commercial Record-keeping in Ancient Mesopotamia." *Accounting Review*, Vol. 38 (1963), pp. 371-376.
- \_\_\_\_\_. "The Mechanics of Mesopotamian Record-keeping." *National Association of Accountants Bulletin*. (February, 1965).
- Littleton, A. C. *Accounting Evolution to 1900*. New York: American Institute Publishing Co., 1933; reprinted by Russell and Russell, 1966.
- Lloyd, Seton. *The Archaeology of Mesopotamia*. London: Thames and Hudson, 1978.
- Mahoney, M. H. *A Study in Sumerian Administrative History of the Third UR Dynasty*. Unpublished doctoral dissertation, University of Minnesota, 1965.
- Matthiae, Paolo. *Ebla: An Empire Rediscovered*, (translated by Christopher Holme). London: Hodder and Stoughton, 1977.
- Morgan, E. V. *A History of Money*. Harmondsworth, England: Penguin Books, 1965.

- Neugebauer, O. "The Survival of Babylonian Methods in the Exact Sciences of Antiquity and Middle Ages." *Proceedings of the American Philosophical Society*, Vol. 107, No. 6 (December, 1963), pp. 528-535.
- Oppenheim, A. Leo. "A Fiscal Practice of the Ancient Near East." *Journal of Near Eastern Studies*. Pt. 6 (1947), pp. 116-120.
- \_\_\_\_\_. *Ancient Mesopotamia*. Chicago: University of Chicago Press, Revised Edition, 1977.
- Parker, R. H. *Management Accounting: an Historical Perspective*. London: Mac-Millan and Co., 1969.
- Pritchard, J. B., ed. *Ancient Near East Texts Relating to the Bible, 3rd Edn.* Princeton: Princeton University Press, 1969.
- Roux, Georges. *Ancient Iraq*. London: George Allen and Unwin, 1964.
- Sollberger, Ernest. *The Babylonian Legend of the Flood*. London: The British Museum, Third Edition, 1971.
- Speiser, E. A. "Cuneiform Law and the History of Civilization." *American Philosophical Society Proceedings*, Vol. 107, No. 6 (December 20, 1963), pp. 536-541.
- Thomson, Gary A. *Aspects of Economic Behavior in the UR III Dynasty*. Unpublished doctoral dissertation, University of Nebraska-Lincoln, 1972.
- Wiseman, D. J. *The Expansion of Assyrian Studies*. London: School of Oriental and African Studies, University of London, 1962.