Mesopotamia's invisible exports in the third millennium B.C.

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Professor Lamberg-Karlovsky in a recent article (Lamberg-Karlovsky 1972) has stressed the importance of trade as a crucial factor in the process of urbanization in the Middle East. In Mesopotamia it was not only that, it was an essential ingredient without which civilization could not have been attained.

It is not necessary to enumerate in detail the most important imports, for they comprise all the basic raw materials for metal-working, stone-working, wood-working, and a thousand luxury goods such as precious stones, oils, essences, ivory, slaves and exotic animals. It is frustrating when trying to piece together a slightly more detailed account of this trade to find that evidence for exports from Mesopotamia at this early period is negligible; yet exports there undoubtedly were, for the imported goods were too numerous and in too constant supply to be the trophies of war or of foraging expeditions alone, though both these sources of supply (and especially the latter) remained of considerable importance. The political system was too rudimentary to admit of these foreign goods being tribute from vassal states. As a monetary system was still unknown, and if we accept the existence of a trading network, the goods must have been exchanged by a barter system for other goods. Although coinage was unknown, an elaborate system of equivalents existed within Mesopotamia using copper and possibly grain as the standard for valuation in accounting and often as the medium of exchange. By the Agade period silver seems to have replaced copper, possibly because for the first time copper was so freely available that the bottom fell out of the market (Limet 1972).

Various explanations have been offered for this dearth of evidence on exports. An important factor is that, until recently, comparatively little work had been done in the areas with which Mesopotamia is presumed to have traded, so that little or no evidence is available for artefacts of Mesopotamian origin in foreign contexts. This state of affairs certainly offers a partial explanation, but the most attractive theory suggests that almost all the exported goods were of a perishable nature. A study of the textual evidence tends to support this contention, which by its nature is almost unprovable on archaeological grounds alone.

It has been known for some time that cloth and garments of wool played an important part in the export trade and that cereals were also exported in quantity. It is now possible to fill out the picture a little, although the archaeological evidence is still meagre in the extreme. By an unfortunate coincidence not only were the exports themselves perishable, but they left little trace in their country of origin either, because the equipment needed for processing them prior to export was also perishable and insubstantial. It must also be
said that until recently few attempts were made to recover such unspectacular evidence. The archaeologists then are forced to rely largely on the linguists in this matter, although once the texts have pointed the way the archaeologist can add corroborative detail.

A list compiled by M. Lambert (Lambert 1953) shows that textiles and grain, fish, beasts, oils, fats, wood, copper, tin, lead and silver were all regularly exported from Lagash in the third millennium; this list indicates that south Mesopotamia was an important middleman in the trade of the ancient world as well as a primary producer. Cedar in particular is mentioned as being re-exported to Dilmun, while the metals cannot have been produced within Mesopotamia and must be imported goods in transit. It has been suggested that the cedar came not from Lebanon, but from the east or south-east. (Gurney 1954).

The trade documented by the texts subdivides into two categories: that with other cities within Mesopotamia and that with foreign countries. The existence of a thriving inter-city trade in the south is often neglected, but it seems possible that many cities had their own specialist products for which they were notable; for instance Tello seems to have had a thriving fish trade and a line in perfumed ointments, while Sippar is mentioned as specializing in paint (Lambert 1953; Leemans 1960: 68). A similar situation seems to have existed in Iran at about the same time or perhaps a little earlier, and encouraged the development of a sophisticated trade mechanism (Lamberg-Karlovsky 1972). Most of the evidence on inter-city trade is contained in the texts from Tello which mention trade with Adab, Der, Nippur, Umma and Uruk. W. W. Hallo’s article on the so-called Nippur amphictyony (Hallo 1960) makes assessment of the documents relating to this city a little more complicated. It would seem, however, that the texts quoted by Lambert are dealing with a genuine trade rather than with rations supplied by Tello when her turn came round to provision the sacred city. The first text deals with fish exported to Nippur by Tello and it is explicitly stated that these are goods for exchange.

Particular interest attaches to the mention of fish in these texts, for fish is one of the few natural resources in which Mesopotamia is rich. Full use was made of this asset in the third millennium. Fish were dried or salted, or perhaps smoked, as well as eaten fresh; the roes were preserved separately and eaten as a delicacy; fish oil was produced and utilized in many ways, amongst others for curing hides (Salonen 1970; Forbes 1957: 20). J. B. Curtis and W. W. Hallo in an article on commerce in the Ur III period quote the prices of various different types of fish, smoked fish being the dearest at 0·3 grains of silver a quart, while dried fish was so cheap that it was sold in batches of tens or sixties at 0·1–0·2 grains of silver (Curtis and Hallo 1959). The importance of fish to the economy of Mesopotamia is not often explicitly stated, but Dr Schneider in her valuable book on the organization of the Sumerian city state (Schneider 1920) has estimated that fifty different kinds of fish were salted and dried as well as eaten fresh at Tello. Fishermen are well attested as temple servants both from Tello and from Fara, and fish remained a staple food until the time of Hammurabi, when mention of it more or less disappears from the texts. Oppenheim attributes the decline in the economic importance of fish in the second half of the reign of Hammurabi to an influx of new peoples with different eating habits. However, Herodotus writes that there were three tribes in Babylonia who ate nothing but fish (Oppenheim 1967; Herodotus, Book I, line 200–1).

A certain amount of archaeological evidence can now be adduced to underline the
importance of fish as a staple source of protein and as an article of trade at least until the
time of Hammurabi. The existence of a fish/water god from the earliest periods in south
Mesopotamia is reasonably well attested, and the evidence for fish offerings at Eridu is
convincing (Van Buren 1948). However, Mrs Van Buren's evidence for fish offerings
from Tello and Uruk should perhaps be reinterpreted. There is no evidence for any
structures within the room or court 196 sq. OD. XVI at Uruk (Van Buren 1941: 72–3),
which was found littered with complete fish skeletons, the floor being discoloured yellow
by the fish detritus. In the absence of 'opferstatten' it is now preferable to see this room
or court as part of a complex where fish were prepared for storage by salting or drying,
rather than as a place for fish sacrifice. In the process of salting fish all the natural juices
are drained out, which would explain the widespread discoloration. Nor do these pro-
cesses need any special equipment which we could expect to retrieve in the archaeological
record. Forbes quotes a description of the salting of fish in modern Egypt (Forbes 1955)
where, after splitting and washing, the fish is rubbed with coarse salt and stacked into
piles with alternate layers of fish and salt. These piles are covered with mats and left for
a few days before being turned over to assist the drainage of fluids and the penetration of
the salt into the tissues. Salonen has shown that at Tello the temples had their own fish
houses in which fish could be stored, and apparently also open barn-type structures
where the fish could be hung to dry (Salonen 1970). The presence of a small fish curing
industry within the temple precinct is entirely in line with the finds of pottery kilns and
a metal-working area also within the Eanna boundaries at Uruk (U.V.B. 1960: 9–10).
Salonen also states that fish oil was obtained. If a simple bag press was used, once again
the archaeological evidence would be minimal. Probably all three processes went on
simultaneously; all fish were split and cleaned and then either dried or salted, the livers
being pressed for oil and the roes treated and stored separately as Sumerian caviar.

It seems possible that another aspect of the fish industry is illustrated at Tello. Here,
close to the Tell de Maison des Fruits, lies the Région des Bassins, a confusing area in
which the excavators seem to have failed to identify the stratigraphical levels and prob-
ably some of the structures as well. The result is a jumble of stairs, platforms, drains and
tanks. The two largest tanks, A and A1, lie parallel to each other and linked at one end
(Cros 1910: 100). A is of impressive size, being approximately 10·5 m. long × 2·5 m.
wide; A1 is smaller, approximately 5·5 m. × 2·40 m. The floors of both tanks slope quite
steeply towards the south so that the depth varies considerably from one end to the other.
None of the numerous drains in the area leads into the tanks now, although it is entirely
possible that such was originally the case. These tanks may be no more than cisterns,
though in that case one might perhaps expect them to be countersunk to minimize
evaporation. Cros has plausibly suggested that they were fish-tanks and we may now go a
little further and suggest that they may be the remains of one of the 'fish houses' men-
tioned by Salonen. The area round the tanks yielded many fish skeletons, often complete
and stacked as if for salting (Cros 1910). There are no conclusive textual references to
such fishponds in temple grounds, although Landsberger is inclined to interpret the
poem known as 'The Home of the Fish' as an invitation by the goddess Nuzi to the
various kinds of fish to come and live in her temple pond where they will be safe (Lands-
berger 1960: 80). This interpretation is not universally accepted and M. Civil has argued
strongly against it (Civil 1961).
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The adjacent Tell de Maison des Fruits has also yielded compressed heaps of fish at three different levels, and also the remains of cuttlefish (Cros 1910: 80). A few fragmentary walls were traced in the vicinity and Cros made the suggestion in his report that these were the remains of a barn or magazine. A broken plaque, showing a naked man carrying fish in each hand hanging from a ring, was also found on this tell quite close to the stairs leading to the Région des Bassins. There is in fact evidence for considerable 'fish orientated activity', too much to be accounted for by fish offerings. It may even be that the interpretation of King and others of the Maison des Fruits itself as a great insulated store-house is not far removed from the truth (King 1916: 92). It is not intended to suggest that fish offerings did not continue into the early historic period, but it is hard to accept them on the scale implied by the archaeological evidence quoted above.

Fish may well have been sacrificed on the 'opferstatten' with the other burnt offerings. The emphasis on fishing at Tello leads one to inquire whether the town was in a specially favourable ecological position with regard to fishing. The lists of fishermen are divided into sea and freshwater fishermen, and each group is further subdivided according to the method employed (harpoons, nets, weirs etc.), and the exact location of the fishing ground (Salonen 1970: 32). This raises the question of the exact relationship of the head of the Persian Gulf to the ancient city states. Perhaps the mention of sea-fishing in the Tello texts can best be explained by assuming that these tablets deal with the economic affairs of the whole Lagash city state which stretched considerably further south than Tello/Girsu itself. It now seems almost certain that the site known for so long as Lagash/Tello is more likely to be ancient Girsu, and that al Hibba may well be Lagash (Falkenstein 1966: 17). This would put the town further south and that much nearer the head of the Persian Gulf. It seems that access may have been possible by water all the way from Tello and al Hibba to the coast; the network of canals and lagoons in the area is not yet fully understood and may possibly have connected up with a Lagashite port, Gu-ab-ba, mentioned in the Gudea texts (Falkenstein 1966: 28). This port did not lie on the open coast, but sea-going boats docked there and it seems at one time to have been a rival of Ur as the major maritime port.

Finally, it is interesting to note that Tello and al Hibba lie on the western edge of swamps which from Sassanian times were renowned for their fish, both fresh and salt (Le Strange 1905: 41, 82). All these factors suggest that the city state of Lagash was particularly well situated to exploit the fish resources, both riverine and maritime, and that a thriving fish trade developed. Although we have no direct evidence for a foreign trade in fish, it seems possible that a land-locked area such as central Iran would have welcomed salt fish as an addition to the diet in exchange for their stones and minerals.

Moving on to another commodity, leather, we find that most of the texts dealing with this material date to the Isin-Larsa period (Crawford 1954) and indicate that a large number of articles including chariot bodies, door parts, and musical instruments, as well as the more obvious footwear and containers, were being manufactured. In spite of the silence of the texts on this point, it is reasonable to suggest that this well-attested industry supplied goods for export as well as for home consumption. Hides with the fleece on are specifically mentioned as trading goods even though manufactured leather goods are not.

Archaeological, as opposed to textual, evidence for the importance of textiles and
leather to the economy is tenuous. Once again the preparation of skins and the working of leather are tasks which can be performed with almost no equipment beyond containers and a knife, given a plentiful supply of water and the appropriate simple chemicals. It is this necessity for soaking and rinsing the hides which led P. Delougaz to identify the Northern Palace at Tell Asmar as a factory for the working of leather, with a possible metal-working section as well (Delougaz, Hill and Lloyd 1967: 197). The Northern Palace is remarkable not only for its drains and ‘toilet arrangements’, but also for the number of large vats in which hides could have been soaked. The small finds have not yet been published in detail, but the available catalogue does not indicate the presence of any artefacts related to tanning, such as the concave knife used for de-hairing and ‘scudding’ the skins. A much later example of such a knife may be one from the Loftus hoard (Moorey 1971).

Another possible indication of a leather industry is found once more at Tello. In the area of the Région des Bassins notable for its tanks and drains, discussed above, a number of metal points were found sticking vertically in the ground. Hides when wet can be pegged out on the ground to facilitate the process of scraping the skin clean. Forbes describes such a process in use in Zululand (Forbes 1957: 10) and such activities could be the explanation of an otherwise puzzling find at Tello. Unfortunately physical conditions in the area, and indeed in Iraq as a whole, are not conducive to the preservation of the leather itself.

Moving on to two other commodities, the archaeologist is again unable to supplement the information given by the texts on either the wool trade or the cereal market. Once again we are dealing with highly perishable goods whose processing leaves little or no trace in the archaeological record. Spindle whorls are of course known from very early times and their widespread distribution indicates that, to some extent at any rate, the spinning and weaving of wool remained a cottage industry throughout the third millennium. There are, however, some pointers towards larger scale manufacture as well. For instance, a charming plaque from Mari, from the Dagan temple, shows the priestesses busy at their spinning; one holds a full spindle, while two seated figures appear to be drawing out the threads; the kneeling figure may possibly have been part of a group round a horizontal loom (Parrot 1962). The texts indicate that spinning and weaving were carried out on a large scale within the temple complex, and the presence of the presumed leather-working factory at Tell Asmar makes it almost certain that similar institutions for different crafts existed both at Tell Asmar and in other towns of similar status. There does not seem to have been a trade in garments or wool within Mesopotamia for obvious reasons; one text refers to garments being sent to the princess of Adab by Baragnamtarra of Lagash but, as only one of each type of listed garment is being sent, it seems more likely that these were intended as gifts between two heads of state. The clothes were accompanied by a pot of perfumed ointment, also very probably a personal gift (Lambert 1953: 59). Judging from the texts dealing with foreign trade, however, garments played an important part in the export trade, being reasonably light and portable. They must have been expensive quality goods, as most of the surrounding areas must have been rearing sheep and goats of their own for everyday wool (Lambert 1953: 63).

Grain, for which in classical times Mesopotamia was to be famous (Herodotus,
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Book I, line 193), was already an important export commodity, and once again the trade is external. We have no archaeological evidence to support the texts for the third millennium. The Lagash texts mention 270 gur of barley for Elam, 60 gur for Dilmun, plus various different grades of flour which it is expressly stated were gifts. The epic poem 'Enmerkar and the Lord of Aratta' tells how the ruler of Uruk piled up grain in the courtyard of the lord of Aratta in exchange for carnelian and lapis lazuli. The location of Aratta is unknown, but it was probably on the lapis route from Badakshan, in modern Iran. The problem of transport for a bulky commodity like grain must have been considerable; boats were presumably used wherever possible, and donkeys seem to have been the carriers on land. The reported find of fossilized camel dung in a third millennium context at Shahr-i-Sokhta is interesting in this context (Tosi 1972). The texts refer specifically to grain being put into sacks and loaded on to 'crate-carrying' donkeys (Kramer 1952: line 330). The presence of the domesticated camel a thousand years earlier than previously accepted (Maxwell-Hyslop and Zeuner 1955) could make a considerable difference to our picture of overland trade and communications in general in the third millennium, specially when dealing with areas on possible land routes. One such area is Arabia, where recent finds of Jemdet Nasr pottery in cairn burials in 'Trucial Oman have given fresh impetus to the theory that Sumerian copper may have come from the deposits at Jebel Ma'adan, which have a nickel impurity like much of the Early Dynastic copper at Ur; it must however be pointed out that the average nickel content at Ur is 3% while the present-day copper from Jebel Ma'aden shows only 0.19% nickel. Steatite is also reported from the same region (During Caspers 1971: 21).

The archaeologist can unfortunately do little to amplify discussion of the role of the other goods listed as being exported from Tello. Perfumed fats and ointments were probably used as cosmetics and for medicinal purposes, but we do not even know what sort of containers they were packed in (possibly in small stone vases like the steatite pots from Pu-abi's tomb at Ur). It has been pointed out that the somewhat similar compartmented pots from Baluchistan and India were almost certainly used for cosmetics (Durrani 1964). Slaves, another commodity on the list, leave no trace archaeologically. From the texts we know that the most commercially desirable slaves were those from the north, possibly captured in the course of skirmishes or of raids mounted specially for this purpose; native slaves are also attested, sometimes captured in the course of inter-city wars or often the children or wives of defaulting debtors, or else the debtor himself, who could be seized as surety or sold into slavery to pay his obligations. In later times it was illegal to sell a native-born slave to a foreign country (Mendelsohn 1949). Mendelsohn has said that he does not consider that slaves played an important part in the manufacturing industries, and so are unlikely to have had much impact indirectly on trade either.

An interesting problem is raised by the organization of trade; in Early Dynastic times it is not always possible to differentiate between religious and secular authority. The palace/temple had a central role in trading matters and undoubtedly organized and financed a great deal of commerce. However, it is almost impossible on present evidence to know whether private enterprise also undertook trading ventures. There are a few pointers which indicate that some private trading may have gone on, and this would be in line with the increasing evidence for private ownership of land, property and therefore of capital (Diakonoff 1959). In one or two instances merchants, not specifically stated to be
palace or temple merchants, receive exchange goods from the temple. In two instances these goods are fish of different kinds and the name of the depositor of the fish is also given (Lambert 1953: 117). Here it looks as if the temple may have been acting as banker to two private individuals. Presumably, on completion of his trading venture, the merchant deposited his goods with the temple, which credited him with any profit over and above the cost of the original articles and credited that cost to the account of the depositor of the original goods. On the other hand the merchant may only have deposited enough of his goods with the temple to cover his initial outlay, and may have kept the rest of his profits as working capital. Probably a tax or levy of some sort was payable to the temple. Goods are also issued to the palace’s own merchants specifically labelled as goods for exchange, as distinct from rations. It is not clear whether these palace merchants kept a percentage of the goods they brought home or whether they were otherwise remunerated by the palace. There are several texts recording the depositing of goods with the palace by the merchants, presumably as the result of a successful expedition; because no mention is made of payment, the goods deposited were probably set off against the exchange goods provided by the palace in the first instance (Lambert 1953).

In the present state of the evidence from the third millennium, which is both biased and incomplete, we can only say that the bulk of the trade seems to be in the hands of the palace/temple, but that the existence of private enterprise trading would fit well into what we know of social and economic life at this time.

If we attempt to sum up the evidence presented in the previous pages, a few facts and a good many more hypotheses emerge. The trade can be divided into internal inter-city trade and external foreign trade. The difference lies in the fact that all the cities within south Mesopotamia lacked the same raw materials. When trading with each other, they were forced therefore to either develop manufacturing specialities or to act as middlemen in the dispersal of imported articles. On the other hand, foreign countries like Dilmun were lacking in commodities, such as barley, of which south Mesopotamia had a superfluity.

Both these aspects of trade had features in common; both seem to have been financed by the palace/temple acting as banker both for the state and probably for private individuals as well. The trade seems to have been carried out by specialists of varying degrees of importance or wealth. Some are referred to as ‘great merchant’, some merely as ‘merchants’. Transport was by boat whenever feasible, and by donkey overland. There is no reference to any sort of relay system for changing donkeys en route, but this is a possibility. Coinage was unknown, and elaborate tables of equivalent values were worked out in terms of copper in the early part of the period, switching gradually to silver by the Agade period. It would be interesting to know how these tables were arrived at and whether they were valid between different cities.

The Lagash texts give us direct information on the movement of fish products, ointments, fats and paint from one city to another (these being goods manufactured or processed in the seller city), and of the redistribution of goods such as tin, copper, silver and precious woods, notably cedar. It has always been assumed that the cedar was brought from Lebanon and probably floated down the Euphrates but, as mentioned earlier, it now seems possible that this timber in fact came from Elam. It is not clear whether it was acquired by genuine trade or, as seems more likely, by foraging expedi-
tions and in some cases by *force majeure*. At a slightly later date Gudea records on his so-called ‘A’ cylinder that he brought various special woods from the Cedar mountain, ‘Im dem kein mensch eindringt’; this must surely indicate a foraging venture. If no man had penetrated these regions before there would be no one with whom to do business (Falkenstein 1953). Dilmun copper was probably redistributed by the maritime ports and their political centres like Ur and Lagash, while tin appears in later times at any rate, to have come from the north to towns like Sippar and Eshnunna and to have travelled to the southern cities via Kish. There was a certain movement of livestock, usually in quite small quantities, from one city to another within the country, possibly with a view to improving the local stock or perhaps for special ritual purposes. The numbers involved are not large enough for the beasts to have had any real impact on the economy.

The evidence for foreign trade is unfortunately rather unbalanced and deals exclusively with trade to the east and south; curiously enough there is hardly any direct evidence for westwards trade, though it would be hard to believe that no such contacts existed. The main items exported were textiles, fleeces and grain. Perfumed ointments and fats are also listed as well as cedarwood, silver and tin. It has been suggested in this paper that fish might also have been a useful article of trade, particularly when trading with land-locked areas such as central Iran, but this must remain speculation for the time being.

Several texts deal with foreigners in Mesopotamia, usually acting as messengers and traders. In fact the two callings may have been more closely connected than this translation of the terms suggests. As yet there is no evidence for colonies of foreign merchants living in Mesopotamia, in a situation analogous to that of the Assyrian colony at Kultepe (Leemans 1960: 139). Finds of foreign goods can be attributed to trade rather than to foreign settlement, but the presence of Indian and Bahreini seals at Ur and other sites makes it quite possible that there were small numbers of foreign traders based permanently in these ports. We can no longer assume, as older scholars tended to do, that in any dealings with the outside world Mesopotamia was very much the civilized centre of the universe dealing with peoples not far removed from barbarism. The new discoveries in Iran and Afghanistan and the present uncertainty about the dates of the Indus civilization must lead us to the conclusion that Mesopotamia could more accurately be described as ‘primus inter pares’.

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**Abstract**

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**Mesopotamia’s invisible exports in the third millennium B.C.**

This article tries to clarify the problem of Mesopotamia’s exports, which by an historically unfortunate accident seem to have been of a perishable nature. In addition to the better known exports of grain and cloth it is suggested that leather, fish, perfumed fats and oils, and possibly slaves, all played a part. It is also pointed out that there was a considerable inter-city trade within Mesopotamia. An attempt is made to find archaeological traces of the processing of trade goods in Mesopotamia prior to export.