

# THE ORIGINS OF MONEY\*

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This paper is a reprint of a lecture given in London in November 1970 but only published in 1976. The lecture form has been retained, but references to later literature have been inserted and the revision has greatly profited from the comments of my friend George Dalton of Northwestern University, who was kind enough to read it when he was visiting Cambridge in 1974. Its main argument is briefly summarized in my *Numismatics* (London: Oxford University Press, 1975), pp. 5-8.

The lapse of nearly six years between the delivery of this lecture and its publication must, I fear, be blamed on a temperamental reluctance to commit to print what is at best only a very partial solution of a major historical problem. One of its consequences is that some of the original

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references have become out-of-date. They have therefore been revised, which explains why books and articles dated between 1970 and 1976 come to be cited in the footnotes to a lecture delivered in November 1970. The text itself has undergone only minor changes. I have retained the form of a lecture, but sections originally omitted in order to keep it within the limits of an hour have been restored, and I have rewritten two paragraphs on ingot currencies in the Near and Middle East to take account of Dr Bivar's publication of the Hacksilber found at Nush-i Jān and various articles of Mrs M. S. Balmuth.

## THE ORIGINS OF MONEY<sup>1</sup>

Most numismatists, at some time or other, have put to them the question, "How did money begin?" The chances are that they counter it by a distinction, "It depends upon what you mean by money." They do this not out of a Joadian desire to gain time, whether to collect their thoughts or to formulate their reply more elegantly, but because of the ambiguity involved. For many people 'money' means 'coin,' and what one is really being asked is "How did coinage begin?" "How did money begin?" is a quite different question, and one that cannot be answered so easily, or in the same way. (See footnote 1.)

Although the origins of money, in the broad sense, form the theme of this lecture, it may be as well to begin by clearing those of coinage out of the way.

### I

Coins may be defined with sufficient accuracy as pieces of metal stamped, usually on both sides, with devices which relate them to the monetary units named in verbal or written transactions, so that they represent these for all legal purposes. Such coins first came to be used in western Asia Minor some time before the reign of the Lydian king Croesus (561–546 B.C.), though how long before is a matter of dispute. The most recent numismatic scholarship tends to place their introduction—their invention, one can fairly say—in the third quarter of the seventh century B.C., though some historians, with greater faith in the written sources, would place it half a century or more earlier.<sup>2</sup> The first coins were of electrum, a natural alloy of gold and silver, and bore a design on one face only. In the mid sixth century B.C. coins of gold and silver began to replace those of electrum, and it was not long before the advantage of designs on both faces, which would help to protect them from maltreatment, became ap-

parent. These coins were intended to represent the "money," probably metal by weight but perhaps in some cases iron spits or other forms of primitive money, prescribed in legal contracts. It is generally assumed that they were first struck in the Greek coastal cities of Ionia and that the practice was adopted only subsequently by the kings of Lydia. It may well have been the other way about, for the Artemision deposit of Ephesus included coins from both sources and the priority commonly accorded to the cities is based on the tacit but scarcely warrantable assumption that Greeks are always cleverer than other people.<sup>2</sup> From Asia Minor the use of coined money spread south-eastwards to Persia, and westwards to the Aegean islands and mainland Greece, from where it reached Magna Graecia and the Greek colonies in the western Mediterranean. Outside the Greek world it was after some delay taken up by the Semitic peoples, the Celts, the Romans, and the peoples of India, till it became part of the common heritage of Christian, Muslim and Hindu civilization and eventually world-wide in its scope.

Whether the Lydian or Ionian invention of coinage had recognizable predecessors in neighbouring lands has been much discussed in recent years. Silver by weight was a widely used form of currency in the Near and Middle East during the second and first millennia B.C.,<sup>4</sup> and it has been suggested that some of the cast or cut pieces of silver in a hoard of the seventh century B.C. which was found at Nûsh-i Jân in western Iran in 1967 were intended to correspond in weight to half-shekels, shekels, and other convenient units.<sup>5</sup> This is not altogether certain, and the fact that the ingots are unstamped in any case disqualifies them as coin, for it is the imposition of a recognizable mark that transforms a piece of metal into a specific unit of currency, guaranteed as such by an appropriate authority. Three lumps of silver, found at various times at Zinçirli (Shamal), on the border between Asia Minor and Syria, do not suffer from this defect, since they bear the name and patronymic of a local dynast named Barrekub, a vassal of Tiglath-Pileser (c. 730 B.C.).<sup>6</sup> It has been argued that this 'sealing' is analogous to the inscriptions sometimes accompanying the designs on early coins from Asia Minor,<sup>7</sup> but the high weight of the discs (c. 500 g) makes it unlikely that they can have had a monetary purpose, and the names are probably just marks of ownership.<sup>8</sup>

As for the literary evidence, it amounts to very little. In an inscription of Sennacherib (704-681 B.C.) the king, describing various ornaments in his palace at Nineveh, refers to the great bronze bulls which had been cast in clay moulds, "as in casting half-shekel pieces,"<sup>9</sup> and in the Ugaritic epics of *Aqht* and *Krt* human tears are described as resembling quarter-shekels or pieces-of-five (shekels), i.e., definite fractions or multiples of shekels, suggesting once again the existence of silver ingots correspond-

ing to definite values.<sup>10</sup> In neither case, however, is there any reason to believe that such ingots, even if made up for convenience to correspond very roughly to units in local weight systems, were marked in any way. Without positive archeological evidence, in short, the view that the Artemision coins developed out of a widespread practice of 'sealing' ingots of definite weight must be regarded, at least for the moment, as non-proven.

Why were the first coins in the Western tradition struck? Aristotle, in a famous passage in the *Politics*,<sup>11</sup> argued that coinage developed out of primitive money and this in turn out of the exchange of commodities between households still practised in his day by barbarian tribes. When goods began to be imported from abroad it was found that

natural necessities are not in every case readily portable; hence for the purpose of barter men made a mutual compact to give and accept some substance of such a sort as being in itself a useful commodity was easy to handle for general life, iron for instance, silver and other metals, at the first stage defined merely by size and weight, but finally also by impressing on it a stamp in order that this might relieve them of having to measure it; for the stamp was put on as the token of the amount.

He goes on to explain the unhappy consequences of this invention. While such things as shoes are made primarily for wearing and only secondarily for bartering, coin serves no other purpose than that of being exchanged for other objects and its existence makes possible the insensate accumulation of riches as an end in itself.

Aristotle's explanation, accepted without serious objection by many generations of thinkers, has recently come under serious and well-justified attack.<sup>12</sup> The earliest coins were of electrum, and their value was too high for everyday transactions. The commonest denomination, the 'third' of about 4.5 g, would have had a purchasing power of about ten sheep, and even the tiny 'ninety-sixth' would have been the equivalent of a third of a sheep. The earliest silver coins were likewise far too valuable to have been of use in the petty commerce of daily life. Aristotle emphasized the importance of foreign trade, and the view has been often expressed that the only early trade of consequence must have been that in such products as salt, metals, and furs which would not normally be found within the confines of the tribe. Almost the only trade mentioned in Homer is in slaves or other objects from abroad.<sup>13</sup>

The evidence, however, is against the earliest coins having been used to facilitate trade of such a kind, for the contents of hoards points overwhelmingly to their local circulation. Only coins of such silver-producing areas as Attica and the Thracian-Macedonian complex are found far from



their place of origin, and there is no reason to suppose that these were in the beginning exported as anything other than bullion. The alternative view is that since coins were issued by governments—the supposed issue of the earliest coins by merchants is unproven and unlikely<sup>14</sup>—it was administrative rather than economic needs they were intended to serve. Such needs would have included the payment of mercenaries<sup>15</sup>—stamped coins would be an obviously satisfactory way of dividing an ingot or a mass of scrap silver plate into uniform pieces of metal—and in some states, Siphnos certainly and Athens probably, the distribution of the produce of publicly owned mines among the citizens. Coins would have facilitated expenditure on public works and the payment of state salaries, to say nothing of tributes, taxes, fines, and harbour dues. Acceptance of coins by governments would be followed by their acceptance on the part of merchants, until the states felt able to demonetize older forms of primitive money and make coins alone legal tender. The iron spits would be stacked away in the Argive Heraeum, and the long reign of coined money in the West begin.

The Western tradition of coinage is not, however, the only one. Another, fully independent in its origins and supplying the needs of perhaps as many people over nearly as great a period of time, is that of China. Yet another took shape in northwestern India, but survived for a much briefer period.

The traditional Chinese cash consisted of small round coins having a square hole in the centre and four characters around. They differed from coins of the Western pattern in their appearance, in their being cast and not struck, and in the fact that being characteristically of bronze or brass their value was very low, so that even when strung together they would be of only limited use in commerce. It is difficult to say exactly when they began to supplement and eventually supplant the earlier bronze 'knife' and 'spade' money, but it was probably in the third century B.C.<sup>16</sup> Only gradually, under the Ch'in and Western Han dynasties, did they become the national money of China, and their restricted economic usefulness meant that they always had to be supplemented in various ways, by the large scale employment of such 'primitive' commodity moneys as grain, silk, and silver ingots, and from the ninth century A.D. onwards by periodical issues of paper money, a device which in the West dates only from the early modern period. It was not until the nineteenth century that the Chinese pattern of coinage finally broke down. From the late 1830s onwards silver dollars, conforming in their denomination to those of the former Spanish colonies which circulated widely in the Far East, were struck from time to time at rebel, military, or provincial mints, and in the 1890s a full series of denominations on the Western pattern and of several

metals was introduced by the Board of Revenue and the Imperial Mint. The minting of the traditional cash was discontinued after 1912, and they have long since disappeared from circulation.

What are termed the 'punch-marked' coins of early India had a much shorter life. They consist of small pieces of silver cut out from flat sheets and stamped with several—usually five—simple designs: geometrical, flower or wheel patterns, animals, and so forth.<sup>17</sup> The earliest firmly dateable specimens are ones found in hoards containing coins of the time of Alexander the Great, but a statistical analysis of the wear on those in a great hoard from Taxila suggests that they may go back to the end of the sixth or the start of the fifth century B.C.<sup>18</sup> They remained in circulation down to the first century A.D., since they have been found in hoards mixed with coins of the Kushan period, in one case including a denarius of Augustus. But during the Indo-Greek and Mauryan periods they were gradually ousted by coins in the Greek tradition, and their only contribution to the future was the preference for a square instead of a circular form occasionally found in later Indian coinage.

## II

The origins and spread of coinage are thus topics with which the historian can properly be expected to deal, for they can be studied in well-defined historical and chronological contexts. But money lies behind coinage. Each of the coinage systems just listed replaced at its creation some earlier form of 'primitive' money, and similar replacements have occurred time and time again as the use of coinage has spread. In every society there have been older forms of 'primitive' money to be discarded, older monetary systems to be either abandoned or adapted to the new medium. The history of coinage is relatively simple because one is dealing with a very limited group of phenomena whose evolution is in the main not difficult to trace. The history of money is much more complex, since many monetary systems, often completely independent of each other, have been devised in the course of human history. In studying the origins of coinage, the scholar has mainly to answer the questions 'where' and 'when.' In studying those of money he is more concerned with 'how' and 'why.'

He is also, at least in some measure, concerned with a different type of evidence. A study of the origins of coinage has to be based in part on positive statements in early written records, in part on surviving specimens of early coins. A study of the origins of money must rely heavily on inferences from early language, literature, and law, but will also take account of evidence regarding the use of 'primitive' money in modern

non-western societies. Such evidence, of course, has to be used with care. The nature and functioning of most 'primitive' currencies are known to us only through the reports of casual travellers, colonial administrators, or professional anthropologists, who will not always have realized what questions to ask, when they have been in a position to ask questions at all, or how best to interpret the answers they received. Nor do we usually know much about the histories of such currencies; we only know them as they exist today or existed very recently. To such a generalization there are some exceptions. We are fairly well-informed about the history of the cowrie and copper currencies of parts of Africa, since they were described by the Portuguese—in some cases by the Arabs also—and copper ingots, rings, and so forth have been found on archeological sites.<sup>19</sup> But in the main we have to rely on modern accounts, and since currencies may have been in existence for hundreds of years, their present functioning may not throw any light on how they originated or were first used. The peculiarities which many of them exhibit, and for which we are hard put to devise satisfactory economic explanations, may result not from their 'primitiveness' but from their elaboration or specialization in some particular direction. Some systems, while employing shells or other commodities frequently used as 'money,' may not necessarily be monetary at all. The elaboration of the *kula* ring, the ceremonial exchange of different varieties of shell by the Trobriand Islanders which inspired Huizinga to a passage of noble eloquence,<sup>20</sup> is essentially an activity of *homo ludens*, with a political and not an economic basis, and Rossel Island money, the explanation of which has sometimes been regarded as a crux by monetary historians, belongs to the same category.<sup>21</sup>

This does not of course mean that we cannot use the great store of information collected by anthropologists and ethnologists regarding primitive money. It is directly relevant when we are studying the monetary development of each particular society prior to its making contact with coin, usually in the form of being compelled to use it, in modern times. It is indirectly relevant when we are trying to work out the early development of money in the prehistory of what we are accustomed to regard as the great 'historic' civilizations. Its use in such a context does not imply the acceptance of any particular theory of social evolution, or the assumption that all societies conform to the same developmental pattern. It is rather a recognition of the very obvious fact that the same situations often produce the same results. We have to cast our net as wide as possible, remembering that while the comparative method has its dangers it can sometimes provide the unexpected bonus. It was a carving on a cross at Clonmacnoise that first provided the correct identification of a peculiar form of Bronze Age hunters' trap very widely diffused in northern and eastern Europe, and the trading arrangements of aboriginal flint-chippers

in nineteenth-century Australia have thrown light on those probably obtaining in the Scandinavian area in Neolithic times.<sup>22</sup> The evidence of modern 'primitive' currency must be used with caution, but it forms an essential element in any enquiry into the origins of money.

### III

It is here that we are faced with the problem of definition. "Everyone, except an economist, knows what 'money' means," an eminent scholar has written, "and even an economist can describe it in the course of a chapter or so."<sup>23</sup> Economists in fact tend to give it a wholly commercial explanation and define it in terms of its modern functions, as Jevons did in a classic work a century ago.<sup>24</sup> Accepting the Aristotelian view of its invention to remedy the inconveniences of barter, he observed that it did so by serving as a medium of exchange and a common measure of value. Further, if the material form of money was well chosen, it would serve as a standard and as a store of value as well. A modern scholar would phrase these considerations rather differently, extending the concept of money to cover anything widely accepted for goods or in discharge of other kinds of business obligations—what has been termed undifferentiated purchasing power—and possessing the property of being expressed in units,<sup>25</sup> but there is little fundamental difference between these ideas.

Such concepts are all very well for modern money, but how well do they characterize what one is accustomed to call 'primitive money,' a convenient term applied to all money that is not coin or, like modern paper money, a derivative of coin? The term is not a satisfactory one, since it covers the 'money' of the great empires of Antiquity as well as that of Bantu tribesmen and Trobriand Islanders, but it is too useful to discard.

It means very different things, however, in the two cases. The 'money' of the great empires was, like our own money, 'general purpose' money, despite its taking the form of uncoined metal, cloth, grain, or other similar types of commodity which we generally regard as characteristic of the moneys of primitive peoples. In the latter context, however, such commodities are normally limited in their functions, being acceptable for certain 'monetary' transactions but not for others, and how far such 'limited purpose' moneys can be regarded really as 'money' has occasioned much debate among anthropologists. Malinowski rejected the idea that the *vay-gu'a* (ceremonial blades, shell necklaces, and bracelets) of the Trobriand Islanders could be regarded as money, on the ground that while they were objects of value and circulated from hand to hand they did not fulfill many of the functions we expect of money, or did so very imperfectly.<sup>26</sup> Firth

took the same attitude in writing of the shell currencies of the Pacific Islands in general.<sup>27</sup> More recently there has been a strong reaction, on the part of Karl Polanyi and his followers, against such a view.<sup>28</sup> If the concepts of primitive religion or political organization cannot be properly analyzed in terms of those familiar to us in Western society, as most anthropologists would now hold, why should we expect otherwise where money is concerned? Each 'money' must be considered in the context of the society in which it exists, with "different uses of money institutionalized separately in different monetary objects to carry out reciprocal and redistributive transactions" (Dalton 1965).

If, with this in mind, we look again at Jevons's attributes, it becomes at once evident that some of them must be discarded. One, *pace* Sir John Hicks, who assigns to it a rather important role in the invention of money, is its functioning as a store of value.<sup>29</sup> Even allowing for the fact that economists do not attach identical meanings to the term—some treat it as implying the concentration of considerable value in a small space, others as referring to something which conserves its value over a long period of time—it is not a feature which characterizes all kinds of money or distinguishes money from other objects of value. Grain and stockfish have often served as money but are not good stores of value; diamonds are good stores of value but have never served as money. 'Standard of value' may also be discarded, at least in the sense that Jevons used the phrase, for money only becomes a standard when as a measure of value it remains stable over a period of time. We are left with 'medium of exchange' and 'measure of value,' and here I believe we have to make a decision. Do we require them both to be present? If not, will either of them do, or only one? Most anthropologists opt for money being essentially a medium of exchange, or rather, since they would not follow Hicks in regarding money as "the creation of the Mercantile Economy," as being the favored medium for unilateral non-commercial payments in pre-market economies. For my part, I would insist on the test of money being a measure of value. Unless the commodities used for exchange bear some fixed relation to a standard, we are still dealing with barter, or, where unilateral payments of a redistributive character are concerned, with payments in kind. The distinction seems to me a fundamental one, and I would like to develop and illustrate it with examples drawn from the early history of money.

In Homeric society the standard of value was the ox. When Diomedes and Glaucus exchanged precious gifts, the poet comments on Glaucus's folly in giving golden armor worth a hundred oxen for brazen armor worth no more than nine. In the wrestling match between Ulysses and Ajax at the funeral games of Patroclus, the winner's award was a great bronze tripod valued at 12 oxen, while the loser got a slave "skilled in many arts"

worth four oxen.<sup>30</sup> Here the ox is clearly the measure of value. But, as is frequently the case with societies using cattle as money, i.e., as a notional standard, cattle were not also currency. In actual payments they were replaced by gold—it is probable that the gold talent was originally the equivalent of an ox<sup>31</sup>—or in goods reckoned as having the same value. Thus Laertes, the father of Ulysses, gave "the value of 20 oxen" for Eurycleia, and Lycaon, son of Priam, was sold by Achilles for a price "equal to" 100 oxen.<sup>32</sup> Cattle are the standard of value but not the medium of exchange, and Homer, using such terms as *biotos*, *honos*, or *kteana*, does not disclose the precise identity of the goods used in such transactions. In less heroic ages such information is sometimes forthcoming. Pharaonic Egypt had no coinage, and used metal by weight as its standard of value. Actual payments, however, were made in goods. Two typical contracts will show how this might be done.<sup>33</sup> In the 15th year of Rameses II (c. 1275 B.C.) a merchant offered the Egyptian lady Erenofre a Syrian slave girl whose price, no doubt after bargaining, was fixed at 4 *deben* 1 *kite* (about 373 g) of silver. Erenofre made up a selection of clothes and blankets to the value of 2 *deben* 2 1/3 *kite*—the details are set out in the record—and then borrowed a miscellany of objects from her neighbors—bronze vessels, a pot of honey, ten shirts, ten *deben* of copper ingots—until the price was made up. The second contract deals with the purchase of an ox valued at 120 *deben* of copper, the payment being made up by two pots of fat (60 *deben*), five good shirts (25 *deben*), one dress (20 *deben*), and one hide (15 *deben*). In neither case was the metal in terms of which the values were computed used in the actual payments.

Such divergences between the money in which prices are reckoned and the commodities in which debts are discharged represent, it may be noted in passing, a fairly common phenomenon in history. They are found even in societies which use coined money, occurring either because coin is in short supply—this was frequently the case in early medieval Europe<sup>34</sup>—or unusually unstable in value, or because the sums involved are inconveniently large and the merchant or contractor prefers the payment to be made wholly or partly in goods which he hopes to resell at a profit. The ratios will vary according to the state of the market: payments are made *aut in cera aut in argento*, or in miscellaneous property *valentem solidos duos*, or in so many pounds' worth of pepper, or in other goods assessed in some similar fashion. In such cases we would, I think, agree that the goods in question are best not called money, but money substitutes. But where the ratio of such money-substitute commodities to whatever serves as the basis of valuation is fixed by law or custom—when 1 lb of the best tobacco becomes legally the equivalent of 3s., as in seventeenth century Virginia<sup>35</sup>—they must be regarded as having crossed the boundary between money-substitutes and money, and become the latter.



Money as a standard in fact lies behind money as a medium of exchange, and we must for the present turn aside from the fascinating variety of objects which have served as media of exchange, and concentrate on money as a measure of value. Our task is not essentially different from that of the student of other systems of measurement, though it is a much more complex one. Of the basic measures of length, area, volume, and weight, only those of length proved easy for our forebears to devise, since only for them did the human body, or simple human activities, like walking, running, and ploughing, provide satisfactory units. Units of value, like units of area, volume, and weight, could only be arrived at with great difficulty, in part because natural units are absent, in part because of the much greater diversity of commodities that had to be measured and the consequent difficulty of finding common standards in terms of which they could reasonably be compared.

It is here that a consideration of other measures may help the economic anthropologist who is constantly faced with the problem of 'limited purpose' moneys. In a world which regards it as axiomatic that systems of measurement shall be of a general character, it is reasonable to think in terms of scales of prices created by market mechanisms and applicable to most if not all commodities. A study of other standards of measurement shows their generalized character to have developed comparatively late in their history. They were devised—or at least there is good reason to suppose that they were devised—for comparing different quantities of the same object, or different quantities of closely related objects, and were only subsequently extended to cover different quantities of quite different objects. There are even today a few survivors of special measures only to be used in limited contexts: the fathom, for example, and the carat as a unit of fineness. The fathom is six feet and the carat a twenty-fourth part, so that there is no mathematical reason why we should not say that Nelson's Column is 25 fathoms high or sterling silver 22.2 carats fine, but neither conceptually nor linguistically can one do so. When we go back to the Middle Ages we find the number of 'special' measures vastly greater, and there is no doubt of this being a feature of all types of measurement in their pre-systematic days. The same must have been true of units for valuing commodities. It explains the many 'limited purpose' units of money one finds in primitive societies, for the direct devising of units allowing the comparison of the values of such diverse objects as oxen, querns, swords, and necklaces would have been almost impossible. In barter this problem does not arise, or only arises in a context in which it can be solved. The parties concerned in any transaction are comparing their individual and immediate needs, not values in the abstract, and can balance these out against the particular merits or defects of the goods involved.



In any case, the generalized application of monetary values to commodities could scarcely have come about before the appearance of market economies, and monetary valuations were already in existence in what Sir John Hicks<sup>36</sup> has felicitously christened "customary" and "command" premarket societies. In such societies they provided a scale for evaluating personal injuries in the institution which the Anglo-Saxons termed the wergeld, and it is in this institution that the origin of money as a standard of value must, I believe, be sought.

#### IV

The practice of wergeld, that of paying a compensation primarily for the killing of a man but the term by extension covering compensations for injuries to himself or his family and household, is most familiar to us in its Indo-European setting.<sup>37</sup> We meet it in its most developed and elaborate form in the *Leges Barbarorum*, the laws of the Germanic peoples who settled within or along the old frontiers of the Roman Empire in the fifth and sixth centuries A.D.,<sup>38</sup> and in the laws of related peoples: the Celtic codes of Ireland and Wales,<sup>39</sup> the Gulathing and Forstathing codes from Norway,<sup>40</sup> the *Russkaya Pravda* of the eleventh and twelfth centuries from Russia.<sup>41</sup>

The general object of these laws was simple, that of the provision of a tariff of compensations which in any circumstances their compilers liked to envisage would prevent resort to the bloodfeud and all the inconvenient social consequences that might flow therefrom. They vary enormously in the nature and classification of persons and of types of injury, in their evaluations of damages, and in the ways in which the latter are assessed. Compensation in the Welsh laws is reckoned primarily in cattle and in the Irish ones in cattle or bondmaids (*cumhal*), with considerable use of precious metal in both. In the Germanic codes it is mainly in precious metal: gold shillings and sceattas in the oldest laws of Kent, shillings or denarii in those of the Franks, ounces of silver (*ore*) in those of Norway. In the Russian codes it is in silver and furs, graduated from marten down to squirrel. Their detail is remarkable, not only in the personal injuries envisaged—specific compensations for the loss of an arm, a hand, a forefinger, a nail, for a blow on the head so that the brain is visible and the bone projects—but in the coverage some of them give to the possessions of the individual household. Title II of the Salic Law deals with the theft of pigs, Title III with cattle, Title IV with sheep, Title V with goats, Title VI with dogs, each time with an elaborate breakdown differentiating between animals of different ages or sex.<sup>42</sup> In such cases the compensations are usually additional to the value of the object in question, this being

presumably decided by the judgment of the court. The object of the laws is that of preventing retaliation by resort to force, and the principle behind the assessments is less the physical loss or injury suffered than the need to assuage the anger of the injured party and make good his loss in public reputation. It would cost one four times as much to deprive a Russian of his moustache or beard as to cut off one of his fingers.<sup>43</sup> Flexibility could be brought about by common consent—Snorri in the Saga of Burnt Njal could award a triple wergeld for the cowardly murder of Hauskuld<sup>44</sup>—or by adjustments of quality. Gellir and Egil may have to award the Banded Men 13 ounces of silver, but can limit it to "scrapings of shields and scraps of rings," metal of the most worthless kind, "such money as none but a wretch would take."<sup>45</sup>

The conditions under which these laws were put together would appear to satisfy, much better than any market mechanism, the prerequisites for the establishment of a monetary system. The tariffs for damages were established in public assemblies, and the common standards were based on objects of some value which a householder might be expected to possess or which he could obtain from his kinsfolk. Since what is laid down consists of evaluations of injuries, not evaluations of commodities, the conceptual difficulty of devising a common measure for appraising unrelated objects is avoided. The relatively high values of early monetary standards would be more satisfactorily explained by their being marks of wealth, since a man's reputation was largely determined by the size of his herds and his generosity in giving gold and silver ornaments to his retainers and friends.<sup>46</sup> Carl Menger, in an impressive article on the origins of money published many years ago, argued ingeniously that one would expect monetary standards to be based on the commodities most commonly and easily exchanged in the market, since these would have the maximum saleability.<sup>47</sup> The law codes suggest that while this may be true of money substitutes, it is not true, or at least is not necessarily true, of the commodities used as standards themselves.

That money as a standard of value may very likely have originated in the wergeld is of course no proof that it in fact did so. Are there other arguments to be urged in its favor? Here we can best begin with the German evidence, with which as a medievalist I am most familiar.

Our best approach to the problem is through the testimony of language, often the most revealing key to the structure of early societies. It has naturally not been neglected by writers on early money. Everyone is familiar with the connection of *pecunia* and *pecus*—this was known to the Romans themselves<sup>48</sup>—of *fee* and O.E. *feoh*, 'cow' (mod. Germ. *Vieh*), of the derivation of shilling and rouble (*rubl'*) from verbs meaning to cut (*skilja*, *rupit'*, i.e., pieces of precious metal),<sup>49</sup> of the relationship of talent, lira, and pound with the process of weighing metal. What we are

concerned with, however, are not particular units but the notion of money in general and how it was first used. Much of our own vocabulary is borrowed from Latin by way of French and is not relevant to Germanic antiquities, though one may note in passing that *pay* comes through Fr. *payer* from Lat. *pacare* 'to pacify,' 'to make peace with,' and that behind the idea of appeasing your creditor lies the more revealing *pācere*, to come to terms with the injured party.<sup>50</sup> *Si membrum rupsit, nī cum eo pacit, talio esto*, 'If a limb is injured, unless peace is made with him (i.e., with the injured party, by paying compensation), there shall be retaliation,' was the Roman doctrine, as set out in the Law of the Twelve Tables.<sup>51</sup>

Two German words, *Geld* and *Wert*, the latter our English *worth*, seem to carry the same implications. *Geld* has disappeared in its original sense in modern English, but its role in Anglo-Saxon, from the earliest codes to Domesday Book, is known to all. *Gildan* is the normal Old English word for 'to pay,' 'to render,' *gild* or *geld* for what is paid, and the sense is normally, though not exclusively, that of some unilateral payment: a compensation, a fine, a tribute, a toll, a manorial due.<sup>52</sup> This implication is underlined by its meaning in modern English, for it is our own word 'yield.'<sup>53</sup> The basic meaning is clear, but since in many languages the terminology of exchange is sometimes based on words denoting either 'to give' or 'to take,' thus confusing their original meanings, the semantic argument cannot be insisted upon.<sup>54</sup> *Worth* is much clearer. *Weorþ* is the normal word for 'price' in Old English, and *wairþ* with the same meaning appears as early as the sixth century in one of the two surviving Ostrogothic charters and earlier still in Ulfilas, who also uses *wairps* in our own sense of 'worthy.'<sup>55</sup> The etymology was a major puzzle to nineteenth-century philologists, who hovered between an improbable connexion with *werden* and an even more improbable one with an Indo-Germanic root \**wor-* meaning to regard or contemplate, the line of reasoning being that a thing of value was one worth looking at. In 1907 Bartholomae, who had just completed his monumental *Altiranisches Wörterbuch*, suggested a connexion with Old Persian *avaratā-*, an object of value,<sup>56</sup> and this has been received doctrine ever since.<sup>57</sup> The true etymology should be obvious: it is *wair*, a man, the word sharing a common root with *wergeld* and formed in exactly the same way as is the Latin *virtus* from *vir*. The Latin derivative, at least in the form in which we know it, implied such qualities as manhood, courage, excellence, the German one the notion of material price.<sup>58</sup> The common idea behind both is evidently the same, though *wairþ* may have included a more sinister element to which I will come in a moment.

If the concept of measuring value came into existence among the Germanic peoples in connection with the *wergeld* and the tariffing of

compensations, can one suggest any channel by which it might have passed to the valuing of commodities and its subsequent usefulness for trade? One obvious possibility is through the laws providing, in varying degrees, compensations for damage to the property of the household. Too much, however, should not be made of this, for the proportionality is not exact and in many cases the laws provide that the value of the object, which is not specified and evidently left to be settled by arbitration, shall be added to the specified compensation. Such laws must have been committed to writing at periods when buying and selling were already familiar, so that the amount of compensation cannot have determined the market price. More likely channels, I would suggest, are brideprice, or bridewealth as most anthropologists now prefer to call it, and commerce in slaves. Both involve human beings, with whom the notion of *wergeld* was strongly bound up. Both involve a loss to one's household, and though the marriage of one's daughter is somewhat different from the getting rid of a superfluous slave they both invite a compensation, partly honorific in the first case but likely to be directly based upon usefulness in the second. Both are events that would have frequently occurred, so that people could easily arrive at a general notion of how much brides and slaves should be worth.

How far bridewealth is an aspect of *wergeld* is a matter that has been much discussed by scholars, largely in the context of African societies. Radcliffe-Brown asserted uncompromisingly that it was. "The payment of cattle for a wife is functionally parallel to the payment of cattle for a man who has been intentionally or accidentally killed. In both cases the payment is an 'indemnity' or payment of compensation to a group (family or clan) that loses a member."<sup>59</sup> Others have disagreed strongly, holding that the amounts involved are too small to be compensations and pointing out that the terminology of marriage payments is often different from that of *wergelds*, as it is from that ordinary purchase or sale.<sup>60</sup> These arguments are not wholly convincing: one would expect the use of separate terms, since such differentiations are a common feature of early linguistic development—cf. the apparently limited use of *pernemi* for selling slaves which is cited below—and the sums involved would be affected by many considerations, such as the relative status of the families and the ages and personal qualities of the individuals directly concerned. In some cases the connection is certain. Among the Yurok Indians of Upper California a man's *wergeld* was determined by bridewealth, being identical with the figure his father paid for his mother, so that bastards found themselves in the unhappy situation of having no *wergeld* at all.<sup>61</sup> But one can freely admit that the way in which the institution was viewed, and the economic element in it, are likely to have varied greatly from one society to another, and that when the transaction took place in the context of gift-exchange

no precise notion of value, which is what we are concerned with here, is likely to emerge. Among the early Germans, however, at least by the date at which their laws came to be written down in Latin, the element of purchase is clear. The *Lex Saxonum* lays down that "he who wishes to take a wife shall pay her parents 300 shillings,"<sup>62</sup> a sum too large to be considered a merely symbolic payment, and it and other Germanic codes speak quite bluntly of *uxorem emere* and *pretium uxoris*.<sup>63</sup>

The other possible channel is slavery, both within the Germanic world and outside. Slaves of Germanic origin were greatly sought after in the Roman Empire,<sup>64</sup> and Roman slave dealers must have been familiar figures beyond the Rhine and Danube. Among the Germans themselves slavery was a long-standing institution, even if the immense extent of it, as revealed by the codes, may date in part from the period of the Great Migrations.<sup>65</sup> All the laws provide penalties for offenses concerning slaves, who are broken down into categories of status or function—bondmaids of the second class, grinding slaves, slave carpenters or blacksmiths—while Frisian slave dealers probably played the same role in early Anglo-Saxon society as do Phoenicians in that of the *Odyssey*.<sup>66</sup> Slavery was the only alternative to death for prisoners taken in war, and the ransoming of slaves as well as the trade in slaves would have accustomed men to the idea of price.

The evidence of language is once again revealing. The element *-monger* is little more than a survival in modern English—fishmonger, ironmonger, costermonger—but the root *mong-* or *mang-* once played an important part in the language: *mangian* in Old English means "to traffic, barter," *negotiator* and *mercator* are glossed as *mangere*.<sup>67</sup> It does not exist in modern German, and never entered polite literature in either Middle High German or Old High German,<sup>68</sup> but glosses, gild regulations, and city records show it once to have been in common use throughout the country, from the Rhineland to Silesia, usually in such compounds as *flaiscmanger*, *wollemengere*, *yserenmeynghere*. In Cologne it was not replaced by *Händler* till the sixteenth century. This social distinction in its use was no doubt a consequence of the ugly implications of its origin, for it is a loan-word from Late Latin *mango*, a dealer, and more particularly a slave dealer. There are thus, as I suggested earlier, sinister overtones in the three occurrences of the word *wairþ* in *Ulfilas*, one from St. Paul's First Epistle to the Corinthians (7.23), "Ye were bought with a price [*wairþa*]; be ye not therefore the servants of man," the others from St. Matthew's Gospel (27.6, 9), where the thirty pieces of silver are described as the 'counterprice' (*andawairþi*) of blood.<sup>69</sup>

Whether we can generalize from the Germanic, Celtic, and Russian evidence to the practices of earlier Indo-European societies, and to those



of others further afield, is more difficult to say. Most anthropologists nowadays would take exception to the traditional view of historians of law, that the introduction of the *wergeld* marked the first stage in legal evolution, the curbing of the self-help of the *lex talionis* and the establishment of more orderly methods of judicial procedure. The concept, they feel, is too rational; it takes insufficient account of the widespread apprehension of the pollution caused by blood-shedding; it smacks too much of an eighteenth- and nineteenth-century taste for finding a common pattern in the development of societies. (Dare one suggest that the old enemy is now reoccupying the field, under the fashionable disguise of 'models'?) There can be no denying, however, that the practice of *wergeld*, and the construction of related tariffs of penalties, is a very widespread one. It may run counter to human inclinations—"Those who cannot, sue; those who can, take vengeance," says a modern Greek proverb<sup>70</sup>—and the existence of such systems is often difficult to demonstrate in the case of past societies. It was only very exceptional circumstances that caused the European codes to be written down: the settlement of backward tribes as ruling groups amongst more civilized and literate communities, or at least in close contact with them. If the codes had not been committed to writing when they were, we would have remained completely ignorant of their existence, for when they were superseded they vanished leaving barely a trace behind. Even as it is, the Anglo-Saxon laws depend on less than half a dozen MSS, and the Frisian ones were fortunately published in the sixteenth century, for the only known manuscript of them has disappeared.

It is also true that in two important respects the Germanic and related codes are not likely to be closely paralleled elsewhere. One is their extraordinary wealth of detail. The compilers seem sometimes to be trying to provide for every contingency, of however improbable a nature. This may have been due to the stimulus of the Penitentials, which were more or less contemporary and which exhibit a similar luxuriance of imagination in thinking up unlikely offences against morals and the church discipline.<sup>71</sup> The other is their occasional frivolity, for some of their provisions, especially in the Celtic codes, must have been inserted more or less in fun. How else can one explain the intrusion of a plate of gold "as broad as his face and as thick as the nail of a ploughman who has been a ploughman for seven years" into the valuation of a Welsh chieftain,<sup>72</sup> or the *responsa* of Cormac MacArt and Cennfaeladh in the *Book of Aicill* providing compensations for bee-stings—Irish bees were apparently of unexampled ferocity—but allowing a deduction of the value of a bee from the compensation if the bee was killed by the injured party?<sup>73</sup> Clearly such provisions were not meant to be taken seriously.

Even allowing for these peculiarities, there seem good reasons for supposing that the institution of wergeld and its relationship to the notion of value repeat themselves elsewhere. An obvious example is that of ancient Greece. It is true that only traces of the original pattern can be perceived, for the legal system of classical Athens was far removed from that of the Heroic Age and the laws of other states have almost completely disappeared. But the evidence for an early existence of wergelds and tariffs is clear. Pecuniary compensations for manslaughter are an accepted practice in Homer. Ajax, when reproaching Achilles for refusing Agamemnon's peace offering where a mere girl is concerned, points out bluntly that men are prepared to accept compensation for the deaths of even their sons or brothers. "and so the man-slayer at a great price abideth in his own land."<sup>74</sup> A dispute over the acceptability of a wergeld was one of the many scenes depicted on the shield of Achilles, and a reference in the description to two talents of gold shows that at least some such payments were expressed in strictly monetary terms.<sup>75</sup> In later times, when murder usually entailed the death penalty and manslaughter involved banishment or a compensation agreed on by both parties, lesser offenses could be dealt with on a fixed scale. The laws of Gortyn in Crete, one of the few to have survived, include a section on rape with tariffs worthy of the Germanic codes—it extended from 100 staters compensation for the rape of a free woman down to one or two obols for a domestic slave who was not a virgin<sup>76</sup>—and a speech of Lysias, in early fourth-century Athens, refers to the fine for rape as being 'double damages,' i.e., twice the value of a person.<sup>77</sup>

Of the two institutions which I have suggested might have provided a transition to the valuation of chattels, that of bridewealth seems to have existed among the Greeks in only a very imprecise and fluid form, belonging to the world of gift-exchange rather than that of money.<sup>78</sup> Slavery, on the other hand, flourished even more conspicuously than it did among the Germans. Virtually the only buying and selling in Homer, apart from jewelry and similar foreign luxuries, is that of slaves,<sup>79</sup> and *pernemí*, the early word for selling, seems to be confined to the selling of captives from abroad, so that scholars have doubted if it had any wider sense at all.<sup>80</sup> Even the word *póleō*, which eventually supplanted it and had certainly a more general significance, was in early times mainly used in the sense of selling persons into slavery.<sup>81</sup> The terminology of exchange seems to have had the same overtones as we have found in German. *Timē*, the ordinary Greek word for price, has among its great variety of meanings that of compensation, satisfaction, penalty, and probably shares a common root with, and finds its explanation in, the word *timōreō*, to avenge. But the



affiliations of *timē*, Sanscrit and otherwise, are matters on which philologists are more than ordinarily unhelpful, and the question is one that must be left to scholars better versed in such matters than myself.<sup>82</sup>

One finds something similar in ancient Rome. It is true that *wergeld*, in the narrow sense of compensation for the death of a man, seems never to have existed in Roman law. *Virtus*, the Latin word cognate with *wairp*, had a merely metaphorical meaning, and murder was brought under the jurisdiction of the state by assimilation to parricide, where the *lex talionis* could not operate and the community had to step in to prevent scandal.<sup>83</sup> Nor was there any regular tariff for severe wounds: one had to make one's own bargain with the injured party.<sup>84</sup> But a standard compensation for broken bones existed, 300 *asses* in the case of a free man, 150 in that of a slave, while that for a simple blow was 25 *asses*.<sup>85</sup> The reckoning of fines in terms of cattle or sheep, preceding the use of metal by weight, is found as late as the *Lex Aternia (Tarpeia)* of 454 B.C.<sup>86</sup> Although our knowledge of Roman antiquities is too fragmentary to say positively that legal compensations were the basis of the notion of value, they at least do not contradict the idea.

That this pattern has been repeated in a number of other societies could be shown without too much difficulty. *Wergelds* of the most varying description are found in all but the smallest communities, whether payable in cattle or axe-blades, rings or pig-tusks, shell-ornaments or mats. Peace after an accidental killing in a brawl among the Yuroks of north-western California could be restored by a compensation of 15 strings of shells, with perhaps an obsidian blade, a headband of woodpecker scalps, or sometimes a daughter thrown in.<sup>87</sup> At Wagawaga in New Guinea, early in the present century, the bloodprice of a man was a pair of good shell arm-rings, a shell nose-stick, and one *samukapa* necklace, while on the neighboring island of Tubetube a broken arm demanded a necklace and three arm-rings, the loss of an eye rather less.<sup>88</sup> That *wergelds* were the basis of all monetary systems one would not wish to affirm, if only because they were often never systematized and were settled each time on an *ad hoc* basis. Many limited purpose moneys must have had quite different origins, social or economic, particularly when the communities involved consisted of no more than a few hundred people. The important thing about these, however, is that they did not develop into general purpose moneys, though they were sometimes geared into such systems later. But where societies have developed the notion of money as a general measure of value, it will, I believe, most often be found that a system of legal compensation for personal injuries, at once inviting mutual comparison and affecting every member of the community, lay behind them.

## V

There remains the question of the units employed.

Many classifications for primitive money<sup>80</sup> have been proposed. The simplest is that based on external characteristics—food, cattle, clothing, ornament, tool, and metal currencies—but while these may be convenient for classifying collections of such objects they are no more than that. Jevons suggested a rough and ready relationship to the economic interests of particular social groupings—skins and furs as the characteristic money of hunting societies, livestock as that of pastoral ones, grain and other foodstuffs as that of settled agricultural communities—but to such a generalization there are many exceptions, and it does not in any case carry us very far.<sup>81</sup> Some sociologists would make a distinction between raw materials (*Naturgeld*) and 'manufactured' articles (*Kulturgeld*), each of these categories being susceptible of further subdivision, while economists have suggested a classification into 'commodity money,' consisting of objects which have value as merchandise, either useful or ornamental (*Nutzgeld*, *Schmuckgeld*), and fiduciary or token money (*Zeichengeld*).<sup>82</sup> Dalton prefers a three-fold classification into primitive valuables (*kula* bracelets, cattle in East Africa), primitive money (commodities used in market exchange, such as salt or honey), and cash, i.e., money in the modern sense of the word.<sup>83</sup>

Such classifications are in varying degrees relevant and useful, but I am not sure how helpful they are in trying to arrive at a model of the evolution of early money. One would expect primitive 'valuables' to serve as the normal basis for money as a measure of value, but they sometimes do and sometimes do not. What appear to be 'commodity' currencies are often treated as if they were 'token' ones, and acceptability can be at the mercy of fashion. Brass cartridges used to circulate amongst Abyssinian tribes who possessed no guns and whose only weapons were spears and bows and arrows. Cattle are normally reckoned by heads, no account being taken of the age or infirmities of individual members of the herd. The usefulness of such objects as commodities is subordinate to the social distinction attached to their possession, and quantity is more important than quality.

Helen Codere, in a remarkable paper,<sup>84</sup> has proposed a model for the development of money. It starts with the concept of 'money-stuff' (M), the physical form of the money symbol, a pure medium of exchange employed without any reference to specific amounts. This is succeeded by types of money expressible in terms of numerical units without distinction of size or quality (N) and this in turn by money whose units are of uniform quality and can be rendered precisely proportional to each other

by making them different in amount (A). The final phase is that of money in which such proportional amounts are expressed in writing, as in the paper transactions of all kinds which exist in the modern world (W).

Although the detailed presentation of this MNAW system and the formulae in which it is embodied are somewhat daunting to one who is not a sociologist, I believe its general picture, apart from the role it attributes to the exchange attributes of the earliest money, to be correct. But I would attach even greater importance than she does to the role of number. Quality can only be estimated, and in comparing two objects one man's opinion may be as good as another's. Quantities are capable of exact comparison where the commodities in question can be either counted or measured. Counting is the simpler of the two. It is something of which virtually all human communities are capable, and can be applied indifferently to cattle, cowries, coconuts, beads, teeth, and indeed to a high proportion of the objects used as primitive money. Where large numbers are involved, however, counting is a slow and laborious process, and a short cut may be provided by measurement. So we find shells or beads made up into strings of definite length, and the development of cloth and mat currencies involving measurements of area. Grain can be measured by volume, or more easily by weight. It was indeed through the discovery that seeds of the same species of any plant are on the average very uniform in weight that the traditional basic units of weight—the barleycorn and the wheat-grain, the carat or carob bean, the Indian *rattl*—came into existence.

The original function of precise units of weight, as Professor Ridgeway long ago demonstrated, was for weighing precious metals, valuable substances eminently suitable for monetary purposes but not easily counted or measured. They could, it is true, be rendered countable by artifice, by being made into tools or crosses or rings, or be rendered measurable by being made into rods or bars. Such expedients were particularly suitable for the less valuable metals. The criterion of weight, however, could be applied more satisfactorily; it gave a better guarantee of equality or proportion than measurements of length or area. But in due course the process of weighing ingots turned out to be cumbersome and time consuming; it could be shortened by making the metal up into pieces of uniform weight suitable for counting. When these were stamped with an official mark, coinage had come into existence.

This last invention, however, was slow in coming. We have seen already how in Pharaonic Egypt copper was the standard measure of value, but that actual payments were usually made in other commodities. Elsewhere, and very widely in the Near and Middle East, metals and grain served both purposes. At Nippur, in the third millennium B.C., sums

were both reckoned and paid in silver and barley, or sometimes beans, the silver being reckoned by weight, in mines and shekels, the barley and beans by volume. Two asses will be sold for  $8\frac{1}{2}$  shekels of silver, a man hired to dig will be paid in so many *gur* of barley.<sup>94</sup> Property inventories include amounts of silver qualified by a term which is best interpreted as 'broken,' and hoards of silver ingots, bars, cut-up pieces of wire and plate, and small cakes of metal somewhat resembling the sycee silver of China but bearing no stamp, have been found in many localities: at Nūsh-i Jān, southeast of Hamadan in Persia, as we have seen already,<sup>95</sup> at Chamān-i Huzuri in the eastern suburb of Kabul,<sup>96</sup> at an uncertain locality in Iraq,<sup>97</sup> at Ras Shamra in Syria,<sup>98</sup> at no fewer than seven localities (Shechem, Megiddo, Beth-Shan, Gezir, Ugarit, and Engeddi) in Phoenicia and Palestine,<sup>99</sup> as well as at several sites in Egypt.<sup>100</sup> Bronze bars of no likely function other than monetary have also been recorded at Lachish, Byblos, Zincirli (Shamal), and Har Jerucham.<sup>101</sup> Probably many more have been found, but since those of the pre-Achaemenid and early Achaemenid periods could have contained no coins, they would present finders with no obvious features of interest and tend to be at once melted down. The later ones, however, do contain varying proportions of Greek coins, which in the course of the sixth century B.C. were coming to circulate more and more widely in the Persian dominions. In Italy, of course, Roman tradition made it very clear that the use of bronze ingots (*aes rude*) preceded the introduction of bronze coinage, and deposits of rough lumps of bronze have been found in many parts of the peninsula.<sup>102</sup>

Hoards of what archeologists and numismatists are accustomed to term *Hacksilber* were formerly thought to be the scrap metal of silversmiths, awaiting transformation into plate or jewelry, an idea confirmed by the fact that items in them sometimes bear fragmentary cuneiform inscriptions,<sup>103</sup> and one hoard, that from Ras Shamra, includes two half melted archaic Greek coins as well as 37 intact ones, besides lumps of silver which had been allowed to 'set' in the bottom of a crucible. But the hoards from Beth-Shan include foundation deposits—there were unstamped electrum dumps in the Artemision finds—and cannot have been intended for further use, so it is now generally accepted that most of them represent the 'money' of private persons or officials, intended for the payment of taxes or buying and selling at their owners' convenience. In the case of the Nūsh-i Jān hoard a number of the pieces of metal corresponded roughly in weight to half-shekels, full shekels, and some fractions and multiples, and far-reaching claims have been made on their behalf as 'revolutionizing' our picture of the origins of coinage.<sup>104</sup> Their conformity to the standard weights, however, is of the most rough and ready description—it is about the same degree of uniformity that one arrives at in cutting a cake into so many slices—and even if specific units were

intended, which I personally doubt, it would still have been necessary to weigh the pieces of silver before they could be used. They lack the essential quality of coin, that of being pieces of metal bearing marks conferring on them a legal status, and the credit for this final invention still belongs, so far as we know, to one or other of the peoples inhabiting western Asia Minor in the late seventh century B.C.

If one wishes for a model of the evolution of money, therefore, one should probably envisage a passage from countable objects, whether countable-usable (cattle, slaves, furs, fruit) or countable-ornamental (teeth, shells, beads), to measurable ones, these first involving the more obvious measurements of length or area (strings of shells, cakes of tea, or salt) and later the more advanced one of weight. Metals were first made up into such artificial units as iron spits and brass rings; later they came to pass by weight; and later still, when specific weights of them were made up into forms that allowed them to pass as coin, they reverted to the category of artificial units capable of being counted.

This survey ends, therefore, as it began, with the invention of coin. But behind the specific phenomenon of coin there is the more general phenomenon of money, and the origins of this are not to be sought in the market but in a much earlier stage in communal development, when worth and wergeld were interchangeable terms.

## FOOTNOTES

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1. Traditional views are best set out in Babelon (1897), a work which is a mine of information and can still be read with profit. Ridgeway (1892) is full of original ideas that I believe are fundamentally correct, but his statements, particularly when unsupported by precise references, must often be taken with a pinch of salt. Quiggin (1949; the reprint of 1963 brings the bibliography up to date) is the best guide to the variety of primitive money, and her short book *The Story of Money* (1956), though intended for young people, is masterly. The title of Laum (1924) *Heiliges Geld. Eine historische Untersuchung über den sakralen Ursprung des Geldes* explains the thesis of the book. Desmonde (1962) is an eccentric (but seriously documented) variant of the same theme.

2. The numismatic dating is based essentially on the coins found in the foundations of the Artemision at Ephesus, i.e., mainly on archeological and stylistic considerations. They were published and discussed by Head (1908). The historian's difficulty in accepting a late seventh-century date is that it involves abandoning the tradition that Pheidon of Argos replaced iron spits with silver coin, for Pheidon seems to have lived in the mid-seventh century and the earliest Aeginetan coins are much later (c. 550 or perhaps even c. 530 B.C.) than the earliest Ionian ones. For the 'numismatic' dating, see Robinson (1951) and (1956); and Brown (1950); recently endorsed by Kraay (1976), pp. 20-29. The earlier date is defended by Kagan (1960), and Hammond (1967), pp. 131-134, 661, whose views have been criticized in detail by Kiyonaga (1973). On early Aeginetan coinage and iron spit coinage of

the Peloponnese there is a good critical bibliography by H. Chantraine (1957). There is a good general bibliography by Schwabacher (1967).

3. See Cook (1958). That coinage was invented by the Lydians is asserted by our earliest authority Xenophanes of Ephesus (in Pollux, *Onomasticon*, ix.83; ed. E. Bethe, *Lexicographi graeci*, IX.2 [Leipzig, 1931], 171), and since he lived in Asia Minor in the late sixth or early fifth century B.C. he was in a position to know.

4. See above pp. 21-23 and footnotes 94-103.

5. Bivar (1971). This includes a good survey and assessment of earlier finds.

6. Andrae (1943), pp. 119-121, Pl.58. Two of them came to light in the regular excavations. The third was in 1943 in a private collection, and its provenance, while probable, is not formally attested. It came on the market in 1965, and is now in the British Museum.

7. This paragraph and the next rely heavily on four articles by Balmuth, (1967, 1971, 1973 and 1975). I am not, however, convinced by their arguments.

8. A supposed Elamite 'coin' found in the Chamān-i Hozuri (Kabul) hoard is in fact a 36 square of silver, probably cut from a tray or box-top, with part of an owner-inscription of a familiar type. See Hemming (1956).

9. Smith (1922).

10. Gordon (1949), pp. 96 (I Aqht 82), 68 (Kt 29); cited by Balmuth (1967), pp. 26-27.

11. *Politics*, I.1257 a-b (Loeb ed., p. 42). The whole context, covering 1256b-1258a (pp. 36-48) is important. I quote the Loeb translation. A more complex view of money (not coinage) as originating in the search for reciprocal justice is worked out in the *Nicomachean Ethics*, V.1133 a-b (Loeb ed., pp. 282-288). Its exact meaning has been much discussed. See Will (1954), and also Finley (1970).

12. Cook (1958); Kraay (1964). See also the excellent general study of Christ (1964).

13. Above, p. 18. The bibliographies to the papers of a seminar held at Santa Fé in 1973 now provide a useful guide to the extensive literature on the nature of early trade: *Ancient civilization and trade* (1975).

14. An early stater usually attributed to Ephesus bears the inscription Φαί(ε)δ(ε)λε εἰμὶ ὁρῖμα 'I am the mark of Phanes,' but Phanes was not necessarily a merchant; he may just as well have been a magistrate or a moneyer, or a ruler if the coin is not in fact Ephesian. For the immense literature on this coin see Babelon (1907), pp. 57-66, and an important note on a second specimen with the name of Phanes by Robinson (1958), pp. 586-587. A third specimen came on the market in 1973. There is a third-stater, with the name of Phanes only, in the British Museum.

15. This was certainly true later. Carthage introduced coinage in Sicily, for military payments, well before it did so in North Africa, and when coinage was tentatively introduced in Egypt under the Twenty-Ninth Dynasty, in the first decades of the fourth century B.C., this element was also involved. See Curtis (1957).

16. Wang Yü-Ch'uan (1951), pp. 201-202. This is the best work on the subject. On the general role of money in China there are valuable studies by Lien-sheng Yang (1952) and (1957). Also essential, for the early period, is Swann (1950), a translation, with elaborate commentary, of a treatise on Chinese economic history dating from the first century A.D.

17. The standard work is that by Allan (1936). His views are also set out in a brief paper (1938). A useful bibliographical guide to the punch-marked coins, now somewhat out of date but having the advantage of summarizing each item, will be found in Singhal (1950), pp. 1-12. The most recent accounts are by Gupta (1969), pp. 9-18; Mitchener (1973) with the comments of Hardaker (1975); and Dhavalikar (1975). The title of Codrington's paper (1964) is as misleading as its contents are disappointing, for it is no more than a confused discussion of early Indian metrology.

18. Kosambi (1941). This is only one of several articles of the late Dr Kosambi on the subject. Allan was not prepared to put the earliest coins earlier than the late fifth or early



fourth century B.C. (Allan [1936], p. lxxi). His belief that minting in India may have been suggested by acquaintance with Persian *sigloī* has some metrological support, but the character of the coins is purely Indian. See, however, Bivar (1954).

19. Bixson (1975). For the history of the cowrie see Polanyi (1968a) and Johnson (1970).

20. Huizinga (1970), p. 83. The basic account of the *kula* ring is that given by Malinowski in an article in *Man* of 1920, but is better known from the more extended treatment in his classic *Argonauts of the Western Pacific* (1922).

21. Virtually all our information comes from Armstrong (1924), and (1928), pp. 59–84. His 'monetary' interpretation is analysed and effectively demolished by Dalton (1965), esp. 52–59. Both articles are conveniently reprinted in Dalton (1967), pp. 246–281.

22. Clark (1952), pp. 51–55, 244 ff., the latter section now superseded by Clark (1965). See also Clark (1957), pp. 172–173 for some excellent observations on the application of information regarding present societies to past ones.

23. Quiggin (1949), p. 1.

24. W. S. Jevons (1875), pp. 13–18.

25. Robertson (1948), pp. 2–3.

26. Malinowski (1922), pp. 510–511.

27. Firth (1970).

28. See particularly Polanyi (1968b), Bohannan (1967) and Dalton (1965). There is a good chapter in Mair (1972), pp. 195 ff.

29. Hicks (1969), p. 64.

30. *Ibid.* vi.234–236; xxiii.700–705.

31. So Ridgeway (1887) and (1892), pp. 2–9. His reasoning on this point is acceptable, though some of the subsequent development is far-fetched and implausible.

32. *Ibid.* xxi.79; *Odyssey*, i.430–431.

33. I cite them from Černý (1954), p. 907. See also Curtis (1951); Peet (1932); and, on the term rendered 'piece,' Peet (1934).

34. For examples see Dopsch (1930), p. 136 ff., and the literature to which this rather confused study gave rise, notably two articles by Werveke (1931, 1932), and Bloch (1963). See also Cipolla (1956), pp. 3–10.

35. Quiggin (1949), p. 316.

36. Hicks (1969), pp. 2 ff. (rise of the market), 63–68 (origins of money). He has to some extent telescoped the invention of money and the invention of coinage, and in my view he exaggerates the 'store of value' element in early money. Nor, if my argument that money antedated the development of the market is correct, is it the case that the standard 'should be something that is regularly traded.'

37. See Diamond (1971), esp. pp. 62 ff., 260 ff., and for the Germanic material Schröder and Künssberg (1932), pp. 85–89, 1032, or Brunner (1906), pp. 119–133, 332–339. Literature on the *wergelds* tends to concentrate on their legal or sociological implications (kin-groups, etc.), and overlook the patterns of offences and penalties.

38. The older editions of the continental codes in the folio *Leges* series of the *Monumenta Germaniae Historica* are now largely superseded by later editions, mainly those produced by K. A. Eckhardt and others in the series *Germanenrechte*, N.F. (Weimar, 1953 ff.). For the earliest English codes the standard edition remains that of Liebermann (1903–1916), but there is a convenient one, with English translation by Attenborough (1922).

39. For early Irish laws the standard edition and translation remains that of Hancock, O'Mahony, and others (1865–1901), but besides being unreliable it is very difficult to use. A good general impression can be obtained from Cameron (1937), and there is an excellent brief survey of the literature by Binchy (1966). The Welsh laws were edited by Owen (1841).

40. Keyser and Munch (1846); English translation by Larson (1935).

41. Best edition by Zimin (1952); English translation by Vernadsky (1947).



42. *Lex Salica* (1953), p. 104 ff. Eckhardt assumes that the *solidi* (shillings), not the *denarii*, were the form of reckoning used in the original text. This would fit in best with what we know of both early Germanic money and monetary conditions in Gaul at the time of Clovis, when the law was committed to writing, but can scarcely be reconciled with the form of wording used.

43. Vernadsky (1947), p. 27, cc. 7, 8. Possibly the hair could be used for magical practices.

44. *Saga of Burnt Njal*, c. 123.

45. Morris and Magnússon (1891), pp. 113–114.

46. On the role of gift-giving in the 'economic' life of early Germanic society see Grierson (1959), pp. 137–139 and the excellent pages on treasure and the exchange of gifts, with particular stress on their social implications, in Grönbech (1932) ii, 5 ff., 54 ff., iii, 93–94. Since gold rings were one of the commonest and most highly prized forms of gift, the word for ring (*O.Ebeag*) became a very general synonym for wealth.

47. Menger (1892). He argues that a person possessing an intrinsically valuable but not very generally wanted commodity, knowing that he would lose on it if he had to find a purchaser at short notice, would try to convert it into a more generally wanted one, since this could be disposed of at any time on satisfactory terms. The same process, practiced and continued by all involved in market transactions, would logically lead to them all acquiring as much as possible of the most generally desirable commodity, since it would be this that would be most easily disposed of without loss. Such a commodity would in its very nature have to possess the features predicated of 'money'—uniformity, divisibility, durability, etc.—and would in fact be money itself. Such reasoning is contradicted by the facts, for much 'primitive' money does not conform to these conditions, but within the narrower context of metallic money, which Menger had chiefly in mind, it is largely correct.

48. Varro, *De lingua latina*, v.92 (Loeb ed., 1.88): 'pecuniosus a pecunia magna, pecunia a pecu: a pistoribus enim horum vocabulorum origo'; similarly Festus, Isidore, etc. The derivation of *pecunia* from *pecus* has been challenged by Benveniste (1969), who points out that it does not explain *peculium* or *peculiaris* and argues persuasively for a derivation in the reverse direction, the root *pecu-* being a general term for wealth and *pecu* or *pecus* having come to mean cattle because this was the chief form of wealth in primitive society. The derivation of *capital* (in the economic sense) from heads of cattle, which is sometimes alleged in modern works, is incorrect. This use of the word dates only from the seventeenth century, and is based on the derivative sense of the adjective 'capital' as meaning the chief element in anything.

49. The etymology of shilling has been much disputed. The fullest discussion is by E. Schröder (1918), who argues that it comes from *Schild* and meant a small shield, referring to the round shape of the Roman gold solidus. This conclusion is accepted by the standard German etymological and numismatic dictionaries; Kluge (1967), and Schrötter (1930), s.v. *Schilling* in both. It seems to me quite untenable on historical and numismatic grounds. A word so widely used must belong to an earlier phase of Germanic society, and the traditional etymology, implying pieces of metal cut from, e.g., gold arm-bands, is altogether acceptable. For rouble see Vasmer (1955), s.v. *rubl'*, and works there cited. To the philological arguments against the rival theory of a common Indo-European root shared with *rupee* (from Sanskrit *rupiya*, 'silver') can be added the very relevant numismatic fact that in the fourteenth century, when the word *rubl'* first occurs in the texts, the flans of Russian coins were cut from strips of wire hammered flat.

50. See Wartburg (1955), s.v. *pacare*, for the fullest discussion of the etymology of *payer*, though the possible relationship to *pacere* is not taken into account.

51. *Lex XII Tabularum*, viii.2 (Girard, 1923, p. 17). The phrase *membrum rupsit* covered bodily injuries more serious than a simple blow but not involving a broken bone; see p. 19 and note 84. The best discussion of the passage is that by Appleton (1926).

52. See Bosworth and Toller (1898), s.v. *gild*, *gildan*, etc. *Gild* is also the Gothic word for tribute, e.g. in the references to the tribute penny (Luke 20.22; Mark 12.14).

53. See OED, s.v. *yield*. The history of the word is very complicated, and the common meaning of 'to yield up,' 'to surrender,' is recent.

54. See Beuveniste (1966). A similar confusion often occurs where two parties having complementary roles are concerned. The ambiguity of Fr. *hôte* makes plain what our own *host* and *guest* conceal, that they are basically the same word.

55. See Feist (1939), s.v. *waip*, *waiphs*.

56. Bartholomae (1907). The various occurrences of the word in the Avesta are given in Bartholomae (1904), coll. 176-177.

57. Feist (1939); Kluge (1967) s.v. *Wert*; OED, s.v. *worth*.

58. See also *value*, which is from the same root as *valour* and comes by way of Fr. *valeur* from Lat. *valere*, related to Sanscrit *bala*, 'strength,' 'courage.' Here a metaphorical sense may be involved, the 'strength' of a person or thing being his or its 'worth'.

59. Radcliffe-Brown (1929).

60. See *Man* (1929), 29: 5-8, 131-122, 148, 179; (1930), 30: 74-76, 92; and (1931), 31: 36-39, for an exchange of observations on the subject between E. Torday, Radcliffe-Brown, Lord Raglan and others. Gray (1960) subsequently argued at length that it was not essentially different from the ordinary purchase of goods, his article producing a riposte by Gulliver (1961); see the well worked-out commentary by Dalton (1966). See also Finley (1955). Goody and Tambiah (1973), must now be consulted on the whole subject.

61. Hoebel (1964), p. 53.

62. *Lex Saxonum*, c. 40 (Schwerin [1918], pp. 27-28: 'Uxorem ducturus cec solidos det parentibus eius.')

63. *Lex Burgundionum*, xiv.3 (1936), p. 28: '... defunctae uxoris pretium'; *Lex Saxonum*, cc. 43 (p. 29: 'praecium emptionis eius'), 49 (p. 30: 'emat eam'), 65 (p. 33: uxorem emere'). These and similar expressions are discussed in Chénon (1926), p. 381.

64. See Brogan (1936), p. 219, for some references, though our evidence regarding slave-trading in antiquity, apart from specific cases of the disposal of huge numbers of captives after successful wars, is as a whole most unsatisfactory.

65. Thompson (1957). Much the same seems to be true of Africa; see Fage (1969). Fage (1974), pp. 17-18, gives a striking quotation from the memoirs and reflections of a retired African slaver, published at New York in 1854, relating the practice of slavery to the concept of value:

'The financial genius of Africa . . . has from time immemorial declared that a human creature—the true representative and embodiment of labour—is the most valuable article on earth. A man, therefore, becomes the standard of prices.'

66. *Odyssey*, xv.415-416, but dealing in luxury goods. Bede IV.22 (Colgrave and Mynors [1969], p. 404, mentions a Frisian slave-trader at London in the late seventh century (*Ecclesiastical History of the English People*, iv.22; ed. B. Colgrave and R. A. B. Mynors [Oxford, 1969], p. 404), and a Frisian appears as the typical seafarer in one of the best known poems in the Exeter Book (Krapp and Dobbie [1936], p. 160).

67. Bosworth and Toller (1898).

68. What follows is taken from the admirable study by Frings (1968), pp. 314-316.

69. Streitberg (1965), p. 257.

70. Wenger (1940), p. 11, note 12. Albanian practice, as described by Hasluck (1954, p. 239 ff.) strongly bears out this preference, and gives a startling picture of the ubiquity of the practice. See also Black-Michaud (1975) with an excellent bibliography, and many useful examples in Schapera (1955). African anthropologists, I believe wrongly, have intended to play down the role of the blood-feud in early society: e.g. Gluckman (1955); Wallace-Hadrill (1959). For a good discussion of the *Lex Talionis* see Daube (1947), pp. 102-153.

71. The best collection of penitentials is that of Wasserschleben (1851). Translations are available in Thorpe (1840), Volume 2, and Bieler (1963). The influence was probably mutual.

72. Owen (1841), p. 3.

73. Hancock, O'Mahony and others (1865-1901) Volume 3, pp. 433, cxxxi. Payments for injuries resulting from bee-stings were reckoned in hives and meals of honey. The fact that the compensation for blinding was only one hive, and for being stung to death two hives, suggests that the provisions were not very seriously meant.

74. *Iliad*, ix.632-636. The alternative is assumed to be exile, that life as a landless man which was regarded as the most terrible of fates in the Homeric world.

75. *Iliad*, xviii.497-508. The meaning of the text is not clear, and has been endlessly discussed. The wording implies that the dispute is over whether the wergeld has or has not been paid, but the sense seems to require that the amount proffered has been refused and a public verdict has been invited on whether the representatives of the injured party are bound to accept it or not. See Leaf (1887); F. B. Jevons (1925); and Gernet (1948-1949).

76. Willetts (1967), pp. 10, 40. Whether the absence of any reference to a composition for homicide is due to a retention of the blood-feud or to the text being incomplete is uncertain (*ibid.*, p. 9).

77. *Orations*, i.32 (Loeb, p. 18). This is sometimes taken to mean twice the damages for the rape of a slave, but the difference in such a case would be much greater, and I prefer the interpretation of Vinogradoff (1922), 192-193.

78. See Finley (1955). For a bibliography of the earlier literature, which is considerable, see Küstler (1944) 209-210, note 20. A difficulty in using the Homeric evidence is that it is concerned almost exclusively with unions amongst the highest social classes.

79. Finley (1955), pp. 172-173, and (1964), p. 75.

80. P. Chantraine (1940) esp. pp. 11-14. 'Il s'agit presque toujours d'une vente particulière, celle de captifs, si bien que l'on ne peut pas dire que le verbe *πρῆναι* signifie vendre en général' (p.12).

81. P. Chantraine (1940) p. 17 (four instances from Herodotus). The verb *pepramai* is frequently used with the same meaning (p. 15).

82. See Boisacq (1950), and Frisk (1970, s.v. *πυρήναι*). The word appears in Latin in such compounds as  *aestimare*, i.e. to price in bronze (*aes*). It has been argued, though not I think convincingly, that the Russian *tsina* (price) is from the same root.

83. *Si qui hominem liberum dolo sciens morti duit, parricidas est*. 'If anyone shall intentionally cause a free man to die, let him be (as) a parricide' (Festus, s.v. *Parrici*, in Girard (1923) p. 8, no. 12). This law is ascribed to Numa and its wording shows it to be of great antiquity. The interpretation, and the precise meaning of *parricidia*, have given rise to an enormous literature, most of it unprofitable. The interpretation given above seems to me the only reasonable one.

84. See Girard (1923) p. 2.

85. *Lex XII Tabularum*, viii.3, 4 (Girard, 1923 p. 18). The first test is known only through the jurist Paul, who gives the monetary units as *sestertii*. The original text would have had simply the numerals, as the second one has, leaving *asses* (not *sestertii*) to be understood. The *as* was, at the time of the Law of the Twelve Tables, a pound weight of bronze. With the depreciation of Roman coinage in the later Republic, when the *as* had become a bronze coin weighing half an ounce, such penalties were ludicrously inadequate, and Aulus Gellius has a famous anecdote of a wealthy Roman amusing himself by striking passers-by in the street and protecting himself from legal action by having his slaves tender the sum of 25 *asses* to his victims (*Noctes Atticae*, xx.1, 12-13; Loeb ed., III, 410).

86. Festus, *De verborum significatu*, s.v. *peculatus* (ed. W. M. Lindsay [Leipzig], 1913), pp. 268-70; cf. p. 220, *ovibus duobus*).

87. Seligman (1910), pp. 570-571.
88. Kroeber (1925), p. 28. For the variety of objects used in such payments, see the index to Quiggin (1949) s.v. 'wergeid.'
89. The best guide to the varieties of primitive money is Quiggin (1949), though she plays down unduly the role of cattle currency, partly because cattle were often not a medium of exchange and partly because, as she ruefully records, 'where a cattle standard exists, this is adequate, and discourages the growth of primitive currencies' (p. 277). Einzig (1966), is a more comprehensive collection of material, but it is less scientific—the author is an economist, not an anthropologist—its use of sources is often uncritical, and it lacks the plates and line drawings which add so much to the attractiveness of Quiggin (1949).
90. W. S. Jevons (1875) pp. 19-29.
91. See Thilenius (1921); Petri (1936). Gerloff (1947), uses a classification largely based on function (*Hortgeld, Tausch- or Handelsgeld, Sachgeld, Symbolgeld*).
92. Einzig (1966), pp. 46-47.
93. Codere (1968).
94. Fish (1938), esp. pp. 161, 164, 168-169. For early purses, and other ways of carrying uncoined silver, see Loewe (1955).
95. Bivar (1971).
96. Schlumberger (1953); Bivar (1954).
97. Robinson (1950).
98. Schaeffer (1939).
99. References in Balmuth (1967) pp. 25-31. The illustrations to this article are of particular interest.
100. References in Bivar (1971) p. 98, note 10.
101. References in Balmuth (1967) pp. 27-28.
102. See the very useful survey by Breglia (1961). The supposed monetary character of the large copper ingots resembling ox-hides, which bulked so large in the ideas of Seltman and others, must, I fear, now be abandoned. See Bass (1967), as against Buchholz (1966).
103. Hemming (1956); also a fragment in the Nūsh-i Jan hoard: Bivar (1971), 101, 107.
104. David Stronach, Director of the British School at Teheran, as reported in the New York Times of 3 September 1972 under the caption 'Coins Found in Iran May be the Oldest.' Bivar's claims are more modest. Stronach had initially believed the hoard to be of the 'silversmith' type.

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