

THE TARTARIA TABLETS

Three inscribed tablets found in Romania may be 1,000 years older than the oldest examples of writing from Mesopotamia. They are probably not that old, but they do illuminate the contacts between ancient cultures

by M. S. F. Hood

The earliest known writing appears on clay tablets uncovered at Uruk, a Sumerian city that flourished in Mesopotamia during that region's early Bronze Age. The tablets are known to be a little more than 5,000 years old. Prehistorians were surprised, therefore, when what appears to be much earlier writing was found a few years ago in the ruins of a Neolithic village in the Balkans. The Neolithic find, consisting of three small clay tablets, was made at

Tartaria in the Transylvanian region of Romania. On the widely accepted basis of carbon-14 dating, the Tartaria tablets could be more than 1,000 years older than the oldest Sumerian ones. This was not the only surprise at Tartaria. Some of the signs incised on the Tartaria tablets proved to be almost identical with Sumerian ones of the period around 3000 B.C. The Tartaria tablets also looked much like the written records produced in Crete around 2000 B.C., when the ear-

liest archives uncovered at Knossos were established. The Tartaria discovery obviously raises a number of puzzling questions.

The least troublesome questions concern the distance between the Balkans on the one hand and Crete and Mesopotamia on the other. It is now established beyond doubt that in Neolithic times the Near East and other areas around the Mediterranean were crisscrossed by trade routes over which the volcanic glass obsidian, for example, was carried hundreds of miles from mine to toolmaker [see "Obsidian and the Origins of Trade," by J. E. Dixon, J. R. Cann and Colin Renfrew; *SCIENTIFIC AMERICAN*, March]. Other materials may have moved over these routes, and written records could easily have been among them.

The questions that arise because of the differences in age between Neolithic Tartaria, early Bronze Age Sumer and late Bronze Age Crete are much more troublesome. Are the Tartaria tablets in fact older than the earliest writing at Uruk? Could writing have first been invented in Neolithic Europe? Was this key element in civilization disseminated from Europe to the Near East, in contradistinction to the usually accepted view that the movement was in the opposite direction? Assuming that such was the case, how can one account for the arrival of writing in distant Mesopotamia perhaps 1,000 years before archives first appear in comparatively nearby Crete? These are only a few of the questions one might ask.



SUMERIAN WRITING of the period around 3000 B.C. covers a clay tablet found at Jemdet Nasr in Mesopotamia. Several parallels exist between Sumerian writing and the inscriptions on tablets found at Tartaria in Romania (see illustration on opposite page). The Tartaria site belongs to the Neolithic period and thus the tablets have been thought to be older than the earliest Sumerian writing. The Jemdet Nasr tablet is reproduced by permission of the Keeper of the Department of Antiquities, Ashmolean Museum, University of Oxford.

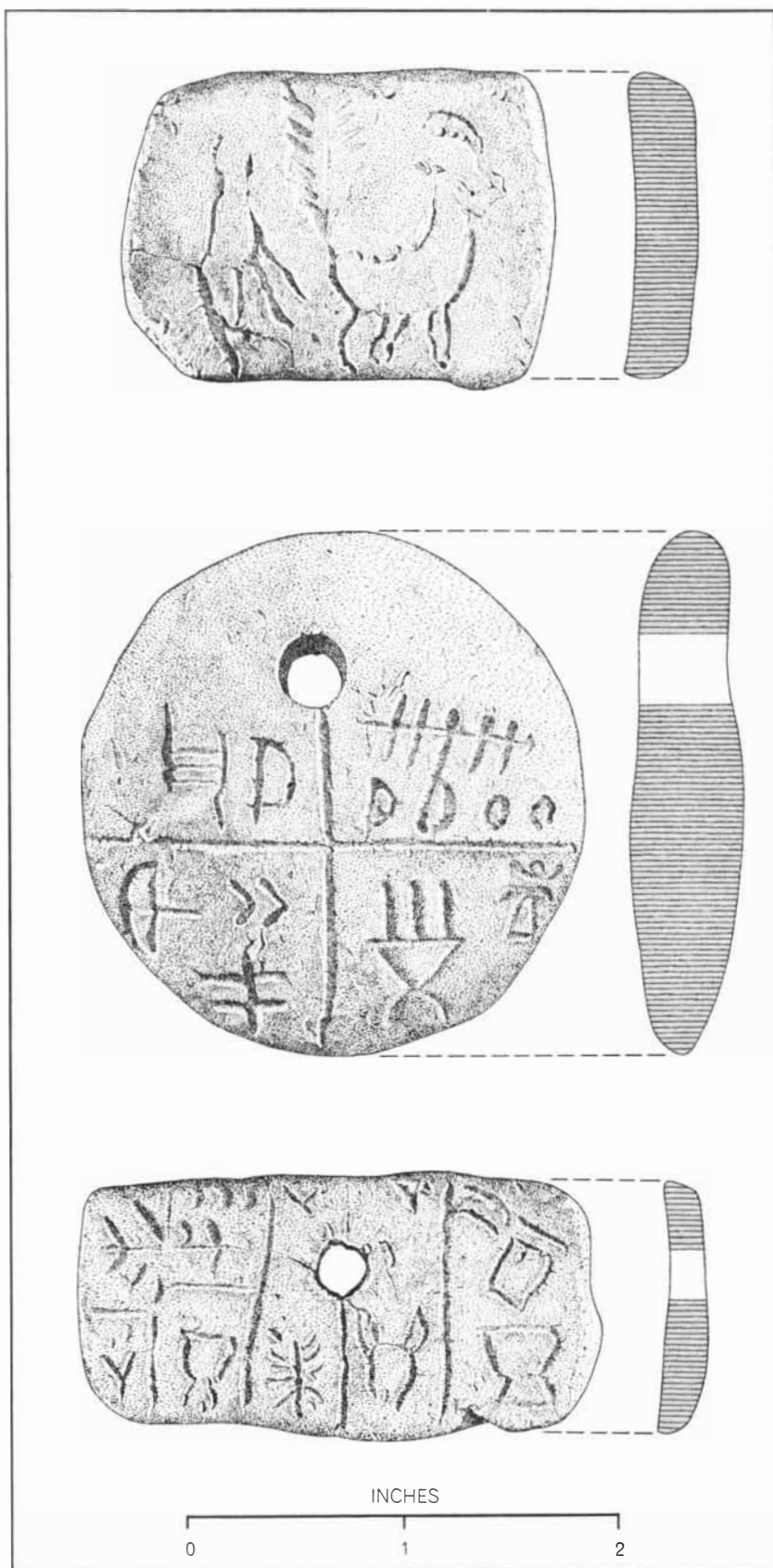
I hope to show that reasonably satisfactory answers can be given to most of such questions, if not all of them. First, however, the reader will need to be acquainted with the Tartaria site and its

contents, and with some facts about Balkan archaeology and about early writing in general. Tartaria is a town some 70 miles south of the city of Cluj; it lies on the Maros River near a part of Transylvania that was famous in classical times for its rich gold deposits. The Tartaria site is a mound some 250 yards long and 100 yards wide. It was first excavated in 1942 and 1943 but the war forced a halt; digging began again, under the direction of N. Vlassa of the Cluj Institute of History and Archaeology, only in 1961.

The main reason for excavating the Tartaria mound was that it was an undisturbed site and might provide a much-needed key to a more famous Neolithic site nearby: the mound at Tordos. This was one of the first Neolithic sites to be studied in Europe; excavations had been made there off and on since 1874. The most recent excavation had been undertaken in 1910. Soon afterward a nearby stream shifted its course and washed away most of the mound. Not all the digging had been up to modern standards, and it was hoped that a clear stratigraphic record from Tartaria would enable prehistorians to put the large number of artifacts from Tordos in their proper chronological sequence.

The culture represented at both Tordos and Tartaria is called Vinca after a major Neolithic village site in Yugoslavia, 120 miles southwest of the two mounds in Romania. The Vinca people were farmers who built simple huts with a framework of wooden posts and walls woven from thin branches and daubed with clay. When such a dwelling fell into disrepair or was destroyed, the villagers built a new hut on top of the leveled wreckage of the old one. Settlement mounds thus rose in the Balkans in the same way as did the *hüyüks* of Asia Minor and the *tepes* and *tells* of the Near East. The mound at Vinca is more than 30 feet high and has many successive building levels. The Tartaria mound is only six feet high but four periods of occupation can be distinguished.

The Vinca culture evidently lasted a long time, perhaps for 1,000 years or more. It is traditionally classified as a Neolithic culture, that is to say, a culture in which metal and its uses were unknown. In actuality two main phases of the culture can be distinguished, and throughout the later phase the Vinca farmers possessed axes and other tools made of copper, as well as axes and adzes made of polished stone and knives and arrowheads made of chipped flint and obsidian. Traces of copper have also been found in strata belonging to the



THREE INSCRIBED TABLETS, found at the bottom of an ash-filled pit at Tartaria, are reproduced slightly larger than actual size. The tablets are marked on one face only. Many of the marks resemble the signs used for numerals and for syllables in Sumerian writing.

earlier phase of the Vinca culture; these traces are thought to be the remains of imported metal ornaments rather than objects made locally.

Of the upper three occupation levels at Tartaria, the lower two belong to the later phase of the Vinca culture and the uppermost to a still later period. The lowest level at the site belongs to the earlier Vinca phase. Vlassa and his co-workers discovered that a pit had been dug down below the lowest level, apparently during the time when that level was occupied. The pit was filled with ashes. In a small heap at its bottom the diggers found 26 clay figurines, two stone figurines, a seashell bracelet and the three inscribed tablets. Nearby were the disjointed and scorched bones of an adult human. The pit had evidently been used for a ritual, perhaps a sacrifice involving some form of cannibalism, and the tablets may owe their preservation to their having been baked in the same

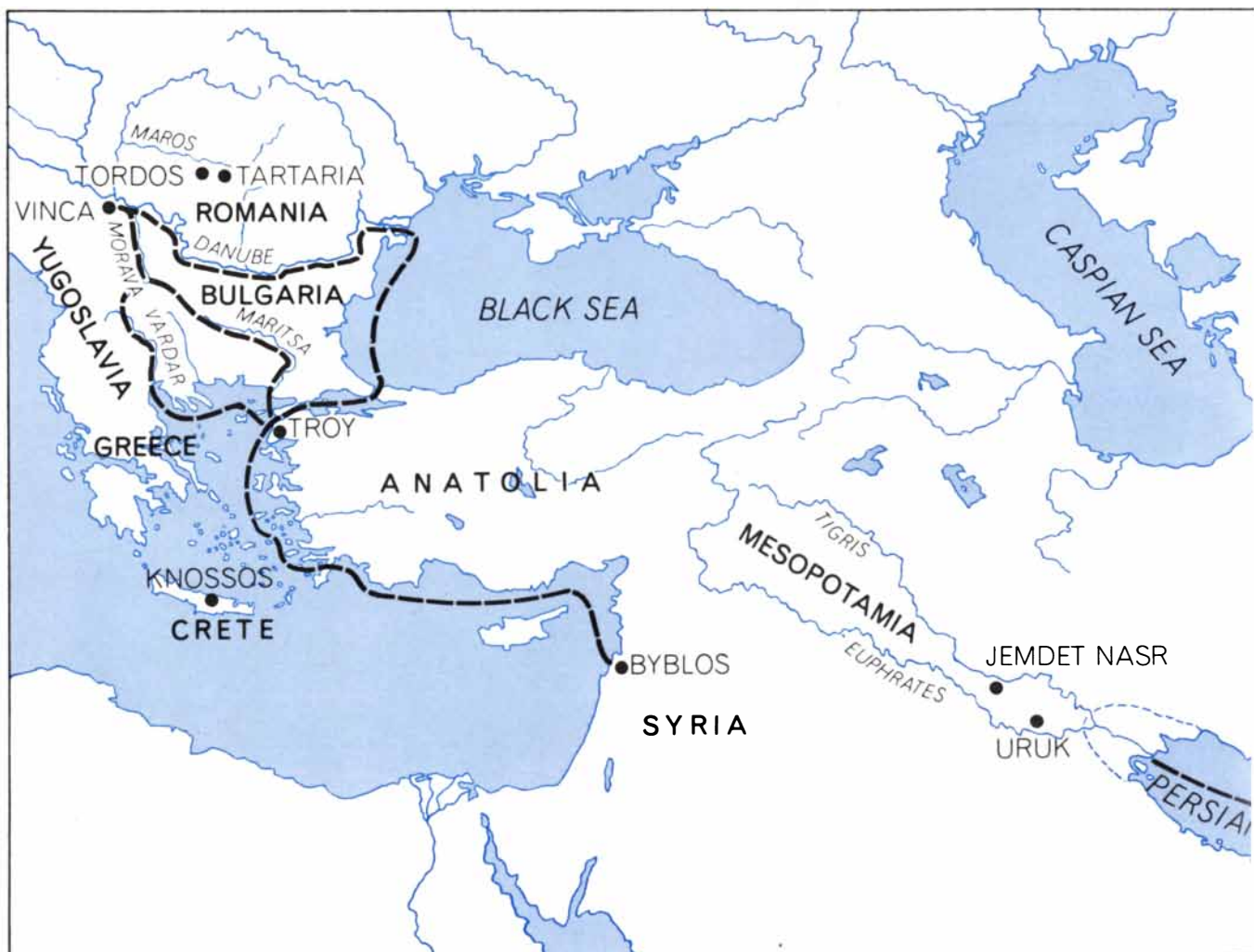
fire that scorched the bones and filled the pit with ashes.

The Tartaria tablets are small. Two of them are rectangular; they are respectively two inches and two and a half inches across, an inch high and a quarter of an inch thick. The third tablet is a roundel, or disk; it is two and a quarter inches in diameter and is thicker than the other tablets [see illustration on preceding page]. The tablets are inscribed on only one face. The roundel and the larger of the rectangles have a hole in them through which a string may have been passed; they are also incised with signs that appear to be more than simple pictographs. The third tablet seems to be exclusively pictographic; at its right side is the figure of a goat, in the middle what may be the branch of a tree or an ear of grain, and at the left another animal, perhaps a second goat.

Most of the signs on the roundel resemble symbols the early Sumerians

incised in clay to record numerals or syllables. Their closest Sumerian counterparts are signs written during a period around 3000 B.C. This fact was noted by Vlassa at the time the tablets were discovered and was subsequently confirmed by the late Adam Falkenstein of the University of Heidelberg, the principal student of the written records of Uruk. Tablets that bear writing of this period, known as the Jemdet Nasr phase, have been unearthed both at the city of Uruk and at the lesser site of Jemdet Nasr itself. Among the more striking resemblances are the following.

To write the number 10 the Sumerians at that time held a round stick upright and pressed its end straight into the clay, making a circular mark. They represented two other numbers by pressing the end of the stick into the clay at an angle, making a semicircular mark: a small semicircle represented the number one, a large semicircle the number 60.



ANCIENT WORLD, from the Indus to the Danube, may have been familiar to the merchant voyagers of the Near East. In the latter

half of the third millennium B.C. the Mesopotamian monarch Sargon of Akkad conquered Syria and also raided into eastern Anatolia. In

The Tartaria roundel is incised with similar circles and semicircles in two sizes, rendered in outline rather than punched into the clay.

To denote the syllables *En-Gi*, the name of a god, the Sumerians linked one sign, a long line crossed by a number of short dashes, with another, a grid with several parallel bars. A sign resembling each of the Sumerian ones appears on the Tartaria roundel, although they are incised separately rather than together. Perhaps the most striking resemblance is a candelabrum-shaped sign in the lower right quadrant of the roundel. A sign just like it is very common on the tablets from Jemdet Nasr. A number of other parallels between the Jemdet Nasr and the Tartaria signs can be noted [see bottom illustration on page 35].

The parallels are not limited to signs alone. For example, the Sumerians incised their tablets with horizontal and vertical lines to separate one group of

signs from another. There are similar dividing lines on the Tartaria roundel and the larger rectangle. In addition, on the Sumerian tablets a single word sign or a pair of signs is regularly found within a marked-off space along with signs that represent numbers. Two of the four divisions of the Tartaria roundel contain similar combinations. Finally, the Sumerians usually wrote on rectangular tablets.

There are differences as well as parallels. Rectangular Sumerian tablets with holes in them have been found, but they are extremely rare. Moreover, although most of the Tartaria signs are comparable to Sumerian signs, and some are strikingly comparable, they are by no means always identical with them.

Some of the differences between the Tartaria tablets and early Sumerian writing are points of resemblance with respect to the early written records of Crete. The earliest known Cretan tab-

lets, including rectangles and roundels, often have string holes [see top illustration on page 35]. At least four signs on the Tartaria tablets resemble signs on the tablets found in the 1900's by Sir Arthur Evans in the part of the palace at Knossos that he named the Hieroglyphic Deposit. Since then similar tablets have been found in the ruins of the palace at Phaistos in southern Crete and at Mallia, east of Knossos.

There are also differences between the Tartaria tablets and those of Crete. A few of the earliest Cretan tablets, for instance, have lines that mark off groups of signs, but the practice was evidently becoming obsolete and most tablets have no lines. Every Tartaria sign that has a Cretan equivalent also has a Sumerian one, but some signs with Sumerian equivalents have no Cretan counterparts.

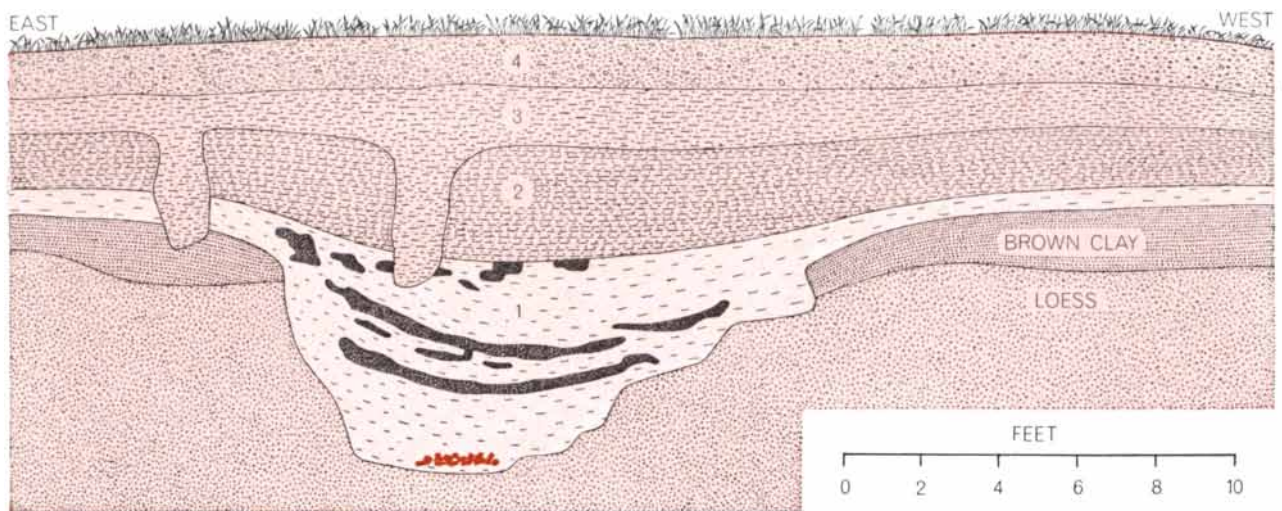
The Jemdet Nasr phase of Sumerian history is dated around 3000 B.C. In Crete, where the earliest evidence of writing is in the form of stone seals engraved with signs and of clay impressions made with seals, no sign-bearing seal is yet known that can be dated more than a century or so before 2000 B.C. The oldest written tablets discovered so far do not appear until later; the tablets in the Hieroglyphic Deposit at Knossos, for example, may not have been made until 1700 B.C. The early forms of Sumerian and Cretan writing may therefore have been separated in time by as much as 1,300 years. They have a minimum separation of some 900 years.

A number of carbon-14 dates from Neolithic sites in the Balkans indicate that the Vinca culture rose well before 4000 B.C. and perhaps even before 5000. This means that the Tartaria tablets could be a good deal more than 1,000 years older than their Sumerian counterparts and more than 2,000 years older than the Cretan ones. Is it possible somehow to bring these dates into line?

One way to do so is to deny that the Tartaria tablets are from the earlier phase of the Vinca culture. One might suggest that the pit where they were found had been dug down not from the lowest level of the Tartaria mound but from somewhere higher up. The pit's contents could then be given a considerably later date. But the excavation was a careful one, and Vlassa certainly got the impression that the pit had been dug down from the mound's lowest level. Vlassa's position is independently supported by the opinion of most experts that the figurines found in the pit are characteristic of the earlier phase of the



his successors' day traders visited the Indus delta (right). The author suggests that Syrian traders may have traveled beyond Troy to the middle Danube (left) in even earlier times.



TARTARIA MOUND is seen in cross section. The three upper strata represent the later phase of the Vinca culture and a period thereafter. Two small pits had been dug down from the surface of

the third level. The lowest stratum belongs to the earlier Vinca phase; here a large pit had been dug down into the underlying loess. It contained the tablets, human bones and other remains.

Vinca culture and not of the later phase, although this view is not held unanimously.

If we accept the Tartaria tablets as being from an authentically early period, what other ways are there to explain the puzzle? One would be to deny that the tablets had any real connection with early Sumerian writing, but the resemblances are so strong that such an argument is difficult to accept. Another way would be to challenge the validity of the carbon-14 dates obtained from Neolithic sites in the Balkans. This does not, of course, mean doubting the scientific principles of carbon-14 dating. The many carbon-14 dates for Neolithic cultures in central and eastern Europe are reasonably consistent and also in good agreement with the sequence of relative chronology suggested independently by archaeological correlations. There may nonetheless be room for thinking that the entire sequence of carbon-14 dates obtained for Neolithic Europe north of the Mediterranean is both too early and too long.

It has been suggested that carbon-14 dates may vary slightly in relation to latitude. Perhaps the variations due to latitude were greater in the Neolithic period than is now supposed. Perhaps factors of climate, or other factors that are not yet understood, have drastically influenced the carbon-14 dates for certain areas during early periods. Whatever the truth of the matter, once it is agreed that the Tartaria tablets' connection with Sumerian writing is authentic, and that they were written during the earlier phase of the Vinca culture, I find one conclusion inescapable. This is that the Vinca culture must have arisen some

1,500 years later than its carbon-14 dates suggest, that is, later than 3000 B.C.

One way to escape even this conclusion is to propose that the art of writing originated in the Balkans. But the origin of writing in Sumer can be traced with considerable precision from pictographic beginnings just before the Jemdet Nasr phase through the comparatively advanced writing of Jemdet Nasr—part ideographic and part phonetic—to the cuneiform of later Sumerian times. In contrast, the Tartaria tablets are a unique phenomenon in Balkan prehistory. They appear for an instant in time, boldly outlined against a barbaric background, and are succeeded by long ages of continuing barbarism that harbor no further suggestion of an acquaintance with writing. It seems impossible that the Balkan Neolithic was the milieu in which man first achieved literacy.

Let us assume, then, that the carbon-14 record is sufficiently wrong to allow setting the date of the Tartaria tablets at some time after 3000 B.C. It still remains to be shown how Sumerian writing of that period could have reached the wilds of eastern Europe. To consider the journey one step at a time, one can start by seeking an explanation for the similarity between Sumerian writing and the early archaic writing of Crete.

Syria and Lebanon are clearly potential intermediaries between Sumer and Crete. At Byblos, Lebanon's ancient seaport, the large clay jars that were used for burials in the period that precedes the Jemdet Nasr phase in Sumer are stamped with groups of signs. The signs have been interpreted as a rudimentary form of writing at the pictographic stage,

the same stage that had then been reached by the Sumerians. If the signs stamped on the Byblos jars represent writing, it is plausible to suppose that the idea had come from Mesopotamia.

No formal writing of the kind indicated by collections of tablets is known in Syria before about 2000 B.C. Long before that, however, Syrians scratched marks on their pottery, apparently so that the owners could tell which pots were theirs. The practice is first evident in Syria at the time of the Jemdet Nasr phase in Sumer, when writing had become comparatively advanced. The Syrian owners' marks are not true writing, but they may reflect some acquaintance with the art. Certainly Syria and Mesopotamia had close relations during this period: cylinder seals of the Jemdet Nasr type, as well as the impressions made by them, are found in Syrian sites. It is conceivable that, in addition to owners' marks, Syrians at this time had a system of writing inspired by the Sumerian example and using many of the same signs.

The Jemdet Nasr phase was the last in which the Sumerians wrote on their tablets by scratching signs in the soft clay. In the Early Dynastic period that followed all tablets are written in cuneiform, a system that uses a special, wedge-shaped implement to mark the clay. If, as I suggest, a system of writing in the Jemdet Nasr style was then known in Syria, it could have continued in use there for some time after cuneiform was adopted in Mesopotamia. Such a development could have enabled Syria to transmit a system of writing with incised signs to Crete even a long time after incised writing had vanished from its original home. Such a hypothesis helps to

solve one of our dating difficulties; it means that neither the early writing of Crete nor the Tartaria tablets need to be contemporaneous with the Jemdet Nasr phase in Mesopotamia.

Looking at the other end of the line for connections that would tie the Balkans to the Mediterranean, we readily find a geographic one. Only a short distance from Vinca down the Danube the main stream is joined by the north-flowing Morava River. Traveling southward along the valley of the Morava one crosses easily into the valley of the south-flowing Vardar River and can follow that route to the shores of the Aegean Sea. Exotic elements in the Vinca culture reflect this propinquity. It has even been suggested that the Vinca people, or at least some of them, came to the Danube from Macedonia and before that from Asia Minor beyond the Dardanelles. This is open to question, but in some respects the Vinca culture certainly resembles a simplified and barbarized form of Macedonian culture, which in turn is a simplified version of the early cultures of Troy in Asia Minor.

Many of the vases made by Vinca potters have shapes that are basically akin to Trojan ones. Pots with dark, polished surfaces, often decorated with incisions filled with a white paste, are common both in the first settlement at Troy and in the earlier phase of the Vinca culture. Vinca wares also show affinities with later pottery at Troy. In particular, pot lids strikingly decorated with representations of the human face are found in the lowest level and above at Vinca. They are not unlike the face-decorated pot lids found at Troy in the second settlement (Troy II) and later.

Even more compelling evidence of influences from Asia Minor in the Vinca culture is found in the numerous signs the Vinca people scratched on their pots, presumably as owners' marks. There are comparable marks—in many cases identical ones—on Trojan pots and spindle whorls dating from the period of Troy II and later. During this period similar marks appear in other parts of western Asia Minor, scratched or painted on pots. Within the area of the Vinca culture, owners' marks are particularly abundant at Tordos; the signs were usually incised on the bottom of a pot or low on the side before firing. Most Tordos pots that carry such marks have only one, but some have two or more.

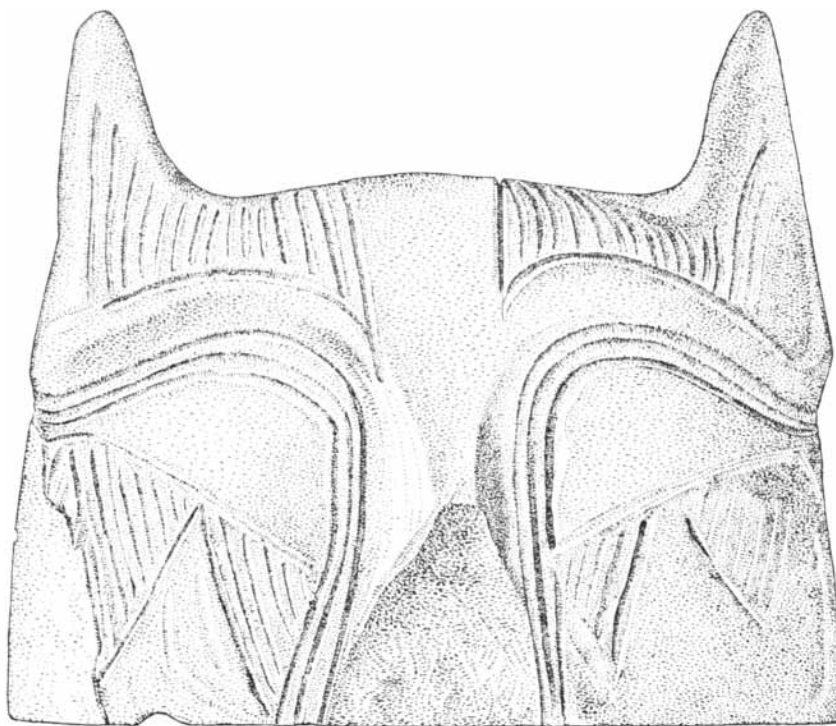
Several of the marks used by both Trojan and Vinca potters are identical with signs that appear in the earliest Sumerian writing. Because the signs are



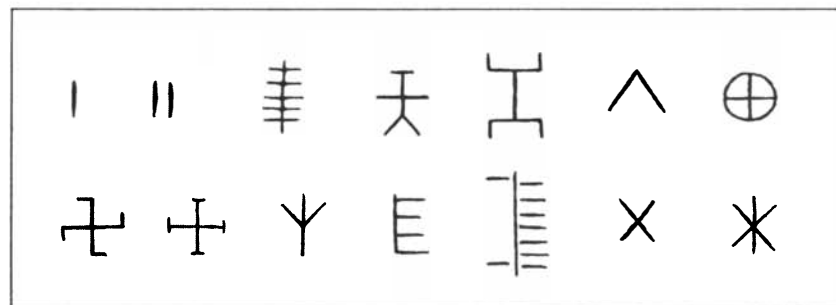
CRETAN WRITING that appears on the tablets found in the ruins at Knossos includes a few signs that resemble inscriptions on the Tartaria tablets. Other points of resemblance include tablets rectangular in shape (*top*), circular in shape (*bottom*) and with string holes.

JEMDET NASR PHASE	KNOSSOS HIEROGLYPHIC DEPOSIT	TARTARIA TABLETS
𐎶 𐎠	𐎶	𐎶 𐎠
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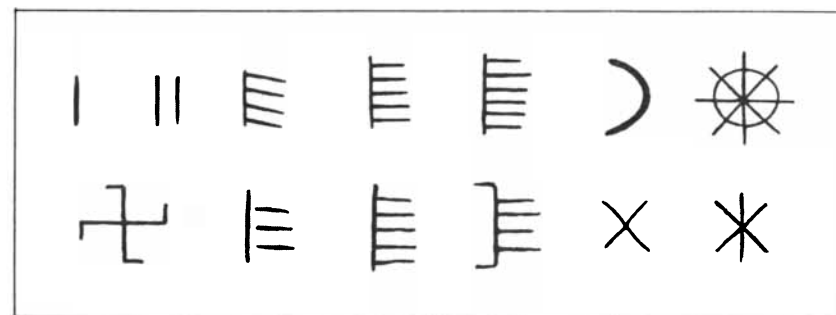
PARALLELS are apparent between the signs used in Sumerian writing of about 3000 B.C. (*left*), those of Cretan writing 1,000 years later (*center*) and the marks incised on the Tartaria tablets (*right*). Here only the Tartaria inscriptions are shown at a common scale.



DECORATED POT LID from the lower levels of the Vinca mound, a Neolithic village site in Yugoslavia, shows a representation of a human face, a motif evidently derived from Asia.



OWNERS' MARKS were placed on the sides or bottoms of pots by the potters of the Vinca culture. Pottery marked in this fashion is particularly abundant in the Tordos mound, a Neolithic site in the Transylvanian region of Romania only a few miles from Tartaria.



SIMILAR MARKS appear on the pottery and the spindle whorls unearthed from the second settlement and later levels at Troy, as well as elsewhere in western Asia Minor. The ones illustrated here are all from Troy II finds. Some are identical both with owners' marks of the Vinca culture and with signs that appear in early Sumerian writing. The author suggests that Trojan and Vincan marks, like the Tartaria ones, were brought from the Near East. This would mean that the Vinca culture is much younger than has generally been supposed.

simple ones, this coincidence has usually been explained away as an example of independent invention. In the light of the Tartaria discovery another interpretation suggests itself. Might not some of the signs, if not most of them, have been copied from the early writing of the Near East?

The traits that Troy and Vinca have in common imply that the Vinca culture could not have arisen much before the time of Troy II. Carbon-14 analysis of material from sites in western Asia Minor places Troy II some centuries after 2600 B.C., but the carbon-14 dates are not for Troy itself or for sites in the city's immediate neighborhood. On the basis of other criteria dates have been proposed for Troy II that range from 2600 to 2100 B.C. If one accepts a date of 2300 to 2200 B.C. for the start of Troy II, the Tartaria tablets need not have been made until as late as the turn of the second millennium B.C. Such a date would make the tablets not much older than the comparable tablets in Crete.

It is not hard to imagine how Trojan owners' marks could have reached the potters of Tordos. But how were the Trojan potters able to borrow the signs from Mesopotamia in the first place? Again Syria seems a probable intermediary. The people of Troy II evidently had many contacts with Cilicia, the southeastern coastal region of Asia Minor that borders Syria on the west. Cilician vase shapes were copied at Troy, and the "fast" potter's wheel, which was first used at Troy early in the Troy II period, may have been an import from Cilicia. The arrival of Mesopotamian influences in the Balkans by way of Syria, Cilicia and Troy is therefore far from impossible. Syrian and Cilician merchants may actually have had direct commercial contacts with the Balkans as early as the time of Troy II. When copper and bronze tools, weapons and ornaments came into general use in the Balkans, they were largely Syrian (ultimately Mesopotamian) types. The reader will recall that copper tools were present during the later phase of the Vinca culture and that traces of imported copper also appear in earlier Vinca strata.

What could have drawn Near Eastern goods, and perhaps Near Eastern traders as well, to the Balkans? It may have been mineral riches. The treasures of gold and silver unearthed from the ruins of Troy II attest to the city's wealth. Much of the Trojan jewelry is comparable in design and craftsmanship to Syrian and Mesopotamian work; some of it resem-

bles the jewelry found in the royal tombs of Ur in Mesopotamia. Whence came the gold for these Trojan treasures? Perhaps from western Asia Minor, where the "golden Pactolus" runs to the sea. Some, however, may have reached Troy from gold-rich Transylvania.

Gold is not the only metal that could have enticed merchants to the middle Danube and beyond. Deposits of cinnabar, the ore that yields mercury, are found near Vinca. Tin, important in bronze metallurgy, can be had in the Erz Mountains to the northwest in what is now Czechoslovakia. The journey from the Aegean to Vinca by way of the Vardar valley is not a difficult one. Traders from the south could also have sailed through the Dardanelles into the Black Sea and entered the Danube at its mouth. Still a third route is along the valley of the Maritsa River, through present-day Bulgaria.

Near Eastern merchants traveled great distances in those days, as is shown by the records of the dynasty founded by Sargon of Akkad soon after 2400 B.C. Sargon himself conquered Syria and appears to have campaigned far into eastern Asia Minor. In the opposite direction Akkadian merchants sailed the length of the Persian Gulf and beyond to trade with the remote civilization of the Indus valley. Romania is no farther, as the crow flies, from Mesopotamia than the Indus is. Even the distances of the two voyages—to Vinca from some port in Syria by way of the Danube, and to the Indus from the head of the Persian Gulf—are roughly comparable. In my opinion it is within the context of some such trade contact that the Tartaria tablets and their analogies with the early writing of Sumer and Crete can best be explained.

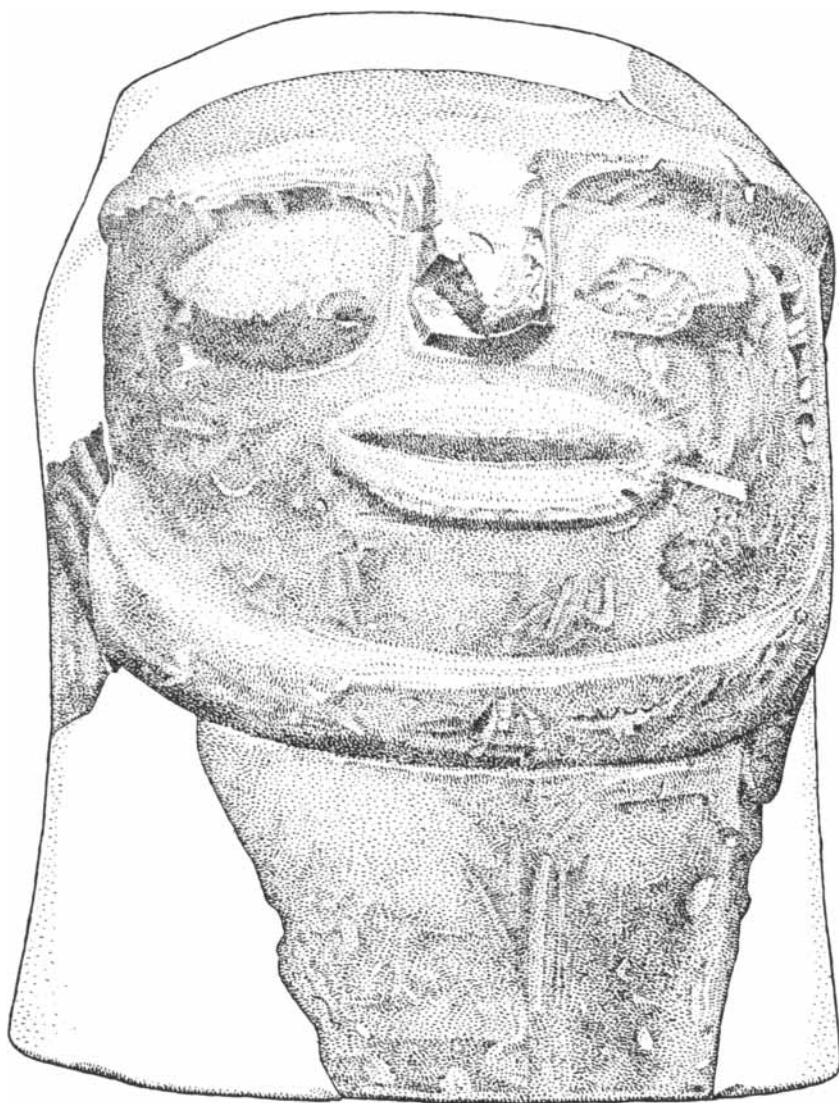
The ritual setting in which the Tartaria tablets were found provides a second possible context. It is just barely conceivable that magicians or priests of the Vinca culture were familiar with the art of writing, but even such familiarity is not necessary to the hypothesis. The culture's relatively elaborate ritual equipment seems to be of Near Eastern derivation. The furnishings include little three- and four-footed clay altars and an abundance of figurines such as the ones found at Tartaria. Both the altars and the figurines have analogies in the Aegean world to the south. A large ritual jar from an early level at Vinca is incised with a design that seems to represent the façade of a shrine; it is comparable to the shrine façades depicted

on Sumerian seals of the Jemdet Nasr period and later. One can imagine archaic Sumerian writing as a part of some religious complex that eventually reached the Balkans from the Near East.

There is even a kind of backward precedent for such an event. Twice in later history systems of writing reached this part of Europe in the train of an imported religion. The first time, in the fourth century A.D., a Gothic bishop, Ulfilas, invented an alphabet so that his barbarous tribesmen could read the Bible in their own language. The second time, in the ninth century A.D., two Greek missionaries, Cyril and Methodius, invented the alphabet that won the Slavs of Moravia and Bohemia to Christianity. It is not impossible that missionaries of an even older religion carried the

first example of writing to the Balkans thousands of years earlier.

But do the Tartaria tablets actually bear writing? Probably not. The tablets appear to be of local clay, which favors their having been made on the spot and not imported. The close resemblance of their signs to Sumerian ones, however, favors their having been copied from some other document available to the copyist on the spot. It seems quite possible that they are merely an uncomprehending imitation of more civilized peoples' written records. Certainly the language in which they are written, if it is one, is unknown. Perhaps the Tartaria tablets are nothing more than a pretense by some unlettered barbarian to command the magic embodied in an art he had witnessed but did not understand.



HUMAN FACE decorates a pot lid unearthed from the stratum at Troy that holds the remains of the city's second settlement. Other affinities between the pottery of the Vinca culture and of Troy include pots with similar shapes, polished surfaces and incised decorations.