THE PERCEPTION OF FUNCTION AND THE PREHISTORY OF THE STATE IN SYRO-MESOPOTAMIA

Giorgio Buccellati

Urban revolution and state formation are two Janus-like faces of a single phenomenon that looms large in any discussion of early Syro-Mesopotamian history. It is also an area where anthropologists and humanists, historians, and archaeologists, are more likely to find a common ground than for any other period of that same history. It seems accordingly a fitting topic for a paper in honor of Clem Meighan, with whom I had the good fortune to share joint personal and professional goals over so many years. He was a prime mover behind the establishment of the Institute of Archaeology at UCLA, and a prime mover as well behind my appointment as its first Director in 1973. What we did together on the UCLA campus we decided then to continue in the field.

In 1976, Clem and his wife Joan joined my wife Marilyn and me as we began our excavation project at Terqa in Eastern Syria. The natural outcome of our collaboration in the office was that we should extend it to a joint venture in the dirt–the first such collegial enterprise for an anthropologist and a humanist from UCLA. It was the most harmonious collaboration over the full length of the season, one that cemented our reciprocal respect and friendship, and one that helped set the Terqa project on a solid footing that served us in good stead for the whole of the next ten years that we remained active at the site.

One reason why the field experience was so positive was because of Clem's great passion for the concrete. Ever so interested in the specific data, he would thrive in the experience of the retrieval and the documentation that is part and parcel of the fieldwork. And this passion I shared as well. The excavation, the record, the publication–how often did we revisit these topics, how insistently did we look for avenues to bring them to full fruition. The title I proposed for the first major publication series of the Institute, *Monumenta Archaeologica*, easily caught his fancy because it stressed the durability of the finds as facts.

But we shared as well the desire to infuse meaning into these facts: theory could only be validated if it served as an exegesis of the artifacts, one that would return life to a tradition that was once alive, however imprisoned in the grip of the earth it might have since become. It is in this vein that I wish to present here some reflections on the double-sided issue of the urban revolution and of state formation, by pointing to a series of factors that help explain the dynamics behind this momentous period in human development.

1. PERCEPTUAL FRAGMENTATION: DISTANCING FROM NATURE

Around 6000 B.C., a cluster of major innovations points to the emergence of a whole new dimension of human life in the regions of Southwestern Asia, a dimension that entails the ability to control nature and to manipulate some of its aspect for the apparent benefit of man. Such new competence extends to the botanical, the faunal, and the chemical sphere, as reflected, respectively, in the introduction of agriculture, the domestication of animals, and the production of pottery. The change, occurring as it does over a relatively short period of time, is broadly known as the agricultural or Neolithic revolution. It is the marked beginning of man's wholesale manipulation of nature which leads ultimately to present-day ecological concerns. An early mythological reflection on the change may be found in both a Mesopotamian and a Biblical text–the "humanization" of·Enkidu in the Epic of Gilgamesh and the Genesis account of Adam's banishment from a world of innocence, characterized by food-gathering, to a world where the tilling of the soil is conceived as a curse.

The technological infrastructure was of great significance not only in itself, but also because it accelerated the trend toward further innovations, in particular the smelting of metals, the beginning of monumental architecture, and the introduction of writing. A political system developed that was quick to incorporate the advantages of all these discoveries: agriculture and permanent storage of supplies placed easy means of control in the hands of a few; metals allowed the development of weapons which gave coercive force a greater impact in human relationships; writing developed rapidly into a means for the capillary control of the impersonal links among humans. By about 3000 B.C. these phenomena became crystallized into what is broadly known as the urban revolution, when not only the first cities, but also the first proper state formations, can be said to have started.

These are well known facts, and both the evidence and the socio-political inferences that can be drawn from them have been at the center of attention for a long time. Here, I propose to consider these events, and the institutions that resulted from them, from the perspective of *how human perception was impacted* by the whole process. It is essentially an inferential argument. And as in all such cases, its validity, and eventual merit, rests on how it can help to account for the facts as we know them. At the very least, I hope it may serve as a step in an effort to go beyond what remains often otherwise a tautological declaration of significance. I will consider perception as a presupposition of specific and concrete cultural manifestations, without developing any of the ramifications that would take us into the realm of cognitive archaeology–hence, for instance, I will talk about fragmentation as a concrete perception rather than about analytical thinking as a cognitive process. Also, I will develop the argument in a programmatic vein, without recourse to either documentation or bibliography.

That the production of tools affords mastery over nature is an example of a tautological argument. For, having said as much, the question remains as to what such mastery entails and how it developed. A possible answer comes from a consideration of specific perceptual conditions that would have made this process possible in the first place. The first such condition may be described as *fragmentation*. The stages in the manufacturing and use of a tool are segments in a linear sequence that is not as such given in nature.

And fragmentation is the perception of the linear link across the segmental intervals. Thus the manufacturing of a trap entails procurement of given materials and then their fashioning into a predesigned mechanism. The use of this mechanism is staggered to take place over time at unpredictable moments for random "users" (the animals to be trapped). The linear link is the full

sequence of events, from procurement of components to the capture of an animal. The segmented intervals are the temporal interstices between events, e.g., between completion of the trap and the capture of the first animal.

And fragmentation is the perception that all of this is possible. Note the difference between such a process and, say, the nesting activities of a bird: in tool making, the intervals can be great (even months can intervene between procurement and fashioning), the participants can be many (the person who designed the trap may be different from the one who puts it where he knows the animal will pass), the design can be adapted depending on long-term goals (changing, for instance, the type of trap depending on the intended victim), and so on–none of which applies in the case of the bird's nesting.

It is out of this fragmenting of the natural sequence that a progressive perceptual distancing from nature takes place. Humans perceive a sequence that is not physically obvious. We might describe this phenomenon as the development of a *meta-perceptual dimension*, whereby perception transcends the limits of the perceivable. The intermediate steps are perceptions derived from immediate sensory stimuli (the elements of which the trap is made, the trap itself, the captured animal), but the whole process is perceived only as a cluster, a linear sequence whose components are never completely present in a physically contiguous state.

2. PERCEPTUAL REALIGNMENT: THE ROLE OF FUNCTION

Two factors contribute from the beginning to accelerate this process of distancing from nature: (a) the increase in complexity beyond simple linear sequences, and (b) the consolidation of the overarching links into permanent cultural constructs. As a result, (c) a new perceptual realignment takes shape that results in the emergence of functional slots. It is here that, it would seem, the most fundamental transformation takes place in the mental template underlying what we have since come to call "civilization." Let us review some of the pertinent details.

(1) The increase in complexity is evidenced in a number of ways. First, a very long string of events can develop, stretching over years: astronomical observations are a prime example of this. Second, and more importantly, "if–then" types of alternatives come to be embedded in the sequences, providing for divergent paths in the sequence and for multi-dimensional arrays of options. Thus the linearity of trap-building forks into a tree-like structure when choices such as trap portability or different game types are reconsidered. Take another example, agriculture: irrigation measures can be quite complex and conditional upon climatic variations; the alteration in the quality of the soil conditions can lead to changes in the choices of crops; market pressures can dictate reliance on different cultures; and so on. None of this could remain under control without a high degree of awareness, i.e., without the ability to coordinate the intricate web of relationships that gradually ensued.

(2) The second factor is the consolidation of the overarching links, resulting in permanent cultural constructs. The point I wish to make is that the nodes in this new perceptual web acquire, as it were, an existence of their own, even though they are nowhere to be found in nature. For example, the link between a given season and the sowing of a given crop, or the link between the news of an impending rise in the water level of the river and the implementation of given measures in the canal system. The notion of Spring as a season of the year, or the notion of flooding as an event to be monitored in function of other events taking place upstream, are cultural constructs that do not exist as such in nature. In the terms suggested above, we may say that

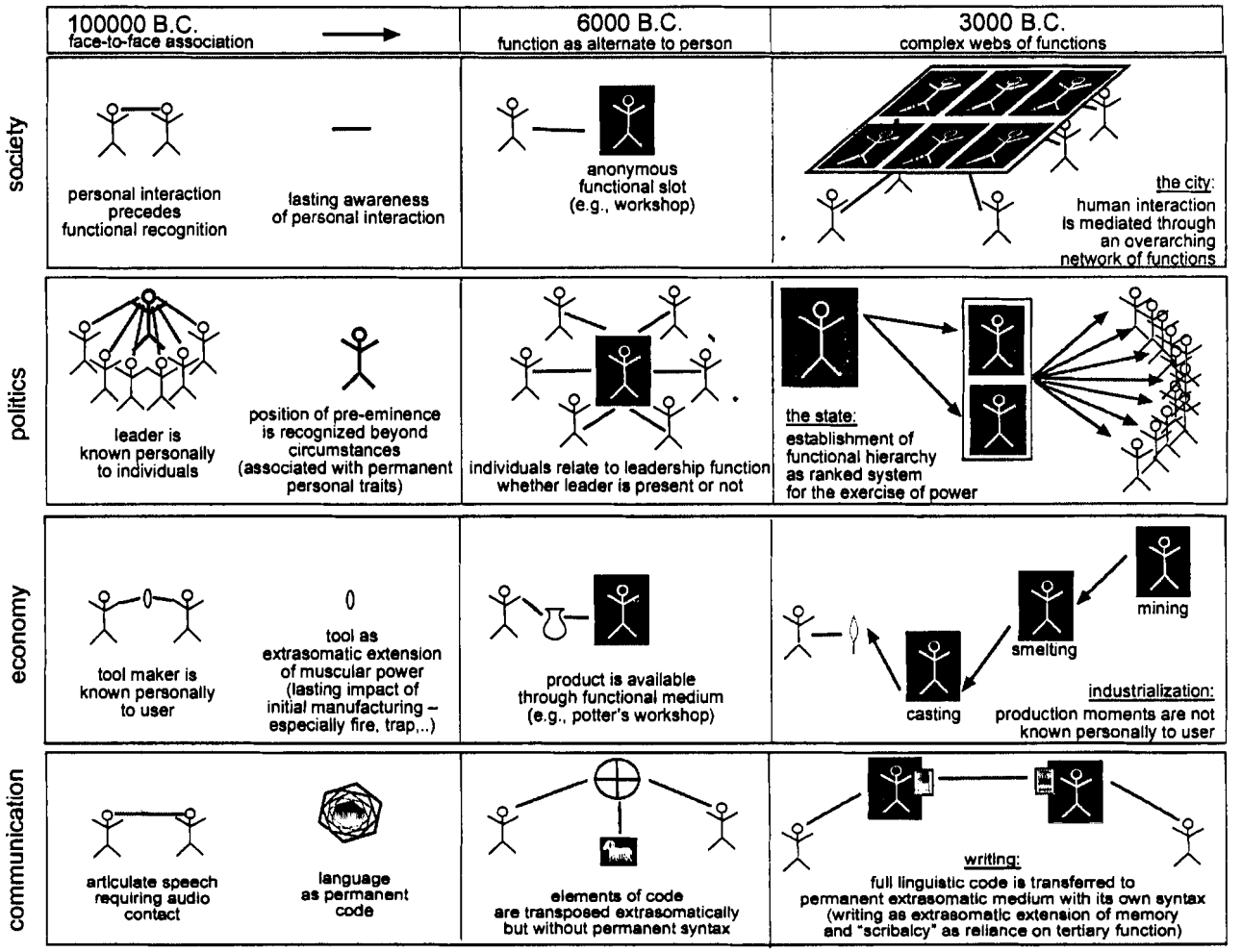

Figure 1. Diagrammatic rendering of major steps in the development of function.

meta-perception becomes perception. This is a fundamental transformation that affects in the most profound, systemic way the confrontation humans have with nature and with themselves.

(3) On the one hand, such "meta-perception" is not necessarily intuitive for any and all members of the human group. In most cases, its apprehension depends on a special training, which results in what we know as professionalism. The realignment of perception requires instruction and exercise, hence only those who go through the steps can develop the required sensitivity for this new perceptual dimension. The notion of Spring may, yes, become part of the general cultural template, but its specific import for agriculture is for the professional farmers to absorb and act upon.

And yet, on the other hand, a most important consequence is that this sort of extraposition readily becomes in itself a new powerful mechanism of human perception, regardless of the specific uses to which it may be put. And from it develops the *concept of function.* Rather than occasional moments or circumstantial services, there developed the perception that human interaction was permanently served by specific functional slots. These existed regardless of who filled them, to some extent regardless even of whether or not they were filled. For instance, a potter's workshop would supply clients with pots out of a stock that was expected to be there, regardless of who the potter was, and (as long as the supply lasted) regardless of whether *any* potter was there or not.

Importantly, functional slots were not perceived in isolation, but as subsets of a larger system that came to regulate more and more the very subsistence of the group and of the individuals within it. This began a marked process of depersonalization in human interaction, of which the whole world is now, for better or for worse, the heir. The perceptual dimension of the inner dynamics behind this process is the progressive definition of strong tensional factors that establish the solidarity within the groups.

3. BREAKING THE BARRIER OF FACE-TO-FACE ASSOCIATION: THE CITY

Such a new perception of the role of function in interpersonal relations provides a powerful answer to the basic underlying question: how did these groups view themselves as groups once the sum total of individuals began to transcend the horizons of personal familiarity? In other words, how did the individual perceive the group once the group began to grow vastly beyond the level of acquaintanceship? The answer is, precisely, that function came to serve as an alternative to face-to-face contact. Function acted as the tensional factor, or social glue, that allowed solidarity to exist even when individuals did not know each other personally. The various steps described in this and the following paragraphs are summarized diagrammatically in Figure 1.

This–even more than technological advances such as food surpluses–allowed the size of the population to grow at an exponential rate. But from the beginning the city was more than an overgrown village. For increase in size has to be understood not just as a simple quantitative increase in the size of human settlements, but rather as a radical alteration of the self-perception of the human group.

We see this in two major respects. (1) *The city as an organism is larger than the sum total of individuals belonging to it.* The total number of people who are tied together by the common links of solidarity within the city is larger than the sum total of individuals known to every single individual through face-to-face association; the threshold at which this phenomenon becomes true may be placed at around 3000 individuals at most. That such a social organism could

come into existence is indicative of a real quantum jump in the evolution of social groups. (2) What is more, such an organism implies *the new functional definition of who (or rather "what") its constituent members are.* Their role within the group is derived from the function they serve within the organism, not from personal interaction or kinship ties among each other. There is, as it were, knowing without knowing. A given individual is recognized as having a given functional relevance for the functioning of the organism, i.e., as a potter, a soldier, a bureaucrat. The impersonal qualification through a function takes the place of personal qualification through direct contact.

This functionalization of human beings, for the purposes of the social organism which they constitute, is another major alteration of the primary (and pre-existing) natural order. Its extreme manifestation is the institution of slavery, which implies, at least in theory, a total depersonalization of the subject–and systemic slavery, too, may be traced back to incipient urbanism.

There is an additional factor that plays an important role in the early stages of this process: territorial contiguity. We may look at this in perceptual terms. Functions existed within boundaries that were easily perceivable by each member of the group. And two important elements of the early Mesopotamian urban landscape contribute to define the urban territory as a self-contained perceptual entity: the temple tower (ziggurat, or *ziqqurratum* in Akkadian) and the city walls. The temple tower was a focal point visible from any point in the immediate hinterland of the urban core: it identified the center of the city (in Akkadian *libbi ālim* or "heart of the city").

The city walls identified instead the perimeter: they were visible especially from the outside, and conveyed the notion of containment, i.e., of the systemic territorial contiguity of the individual components (public buildings, houses, open spaces). Thus the increase in the physical size of the settlement, which matches the increase in the size of the population, is not an amorphous, but rather an organic growth which shows a coordination of the available space according to a hierarchy of architectural, and functional, levels, with non-random clustering of types of buildings. The explicit focusing by means of the temple tower, and demarcation by means of a highly marked perimeter in the form of city-walls, define the center and the edge of solidarity of a cohesive and well-defined human group.

In this light, we can define the "city" as a *group whose solidarity is based on systemic presuppositions of broadly tensional, territorially contiguous, impersonal human functions.* We are dealing with a network of *functions* that are not found in any single human being, but are rather the result of cultural growth (not every human being is a potter); they are *systemic* because they are presupposed as part of the system (seeing the skyline of a city tells a visitor that he will find there a potter); they are *tensional* in the sense that they hold together in balance a widely scattered human group (I may not know the person who is the potter, but I know that within this group there will be sufficient potters to justify competition, though not so many to make their individual survival impossible); they are *contiguous* to the extent that they are to be found side by side within the same physical settlement (the potter's workshop is part of the mental map of any inhabitant of the city); and they are *impersonal* because they are not based on the personality of their carriers (the potter will sell his wares to customers he does not even know).

4. FRAGMENTATION AND REALIGNMENT OF THE HUMAN GROUP: THE STATE

A strong political correlative to the phenomenon of urbanization in Mesopotamia is the beginning of the state. For our purposes, as a working definition we may say that the state embodies *(1) the systemic articulation of power throughout the social group, (2) supported by a capillary system of public administration, and (3) resting on institutional permanence*. By this I mean that the city is viewed as the social group, not just as a physical settlement; and that power is exercised within it through a complex system that articulates degrees of control through permanently recognized mechanisms.

For example, the king knows he can count on a specified number of individuals to perform an assigned task (say, dredging a canal) even though he does not know personally any of these individuals, nor does he have to apply any particular pressure for them to do so, nor does he have to initiate any personal contact with them. The potential of coercive force is implicit, but needs to be used only as an exception, which is why power is truly articulated through institutions, not necessarily enforced through physical constraint.

Such a coordination of factors is presupposed as a permanent set of conditions, which is not altered by the specific personal destiny affecting the individuals who make it work. The significance that the Akkadian term *ekallu*, "palace," comes to have in the language is indicative. Analogously to the use of the English "the Crown," *ekallu* comes to refer to the "Palace" as a legal person. "It" acts as much as any "he"–whether the king himself or members of his court.

The role of a determined leadership was essential in this process. The crystallization of the individual functional slots, and especially their hierarchical articulation, could best take hold and become permanent under the supervision of a central control point. The real significance of ranking is not in the acceptance by given individuals of the *de facto* superiority of other individuals, but rather in the establishment of a ladder, or rather a pyramid, where the progressive sequence of steps is fixed in function of their reciprocal systemic correlation.

The definition of what these steps are, and how they are ranked in relationship to each other, is carefully monitored and codified by the higher positions in the sequence. Delegation of authority was developed to a high formal degree, so that rank could both correspond to an explicit, specific, and recognizable level of manpower, and prevent personal presumptions beyond the assigned level.

Fragmentation, then, is the perception of belonging in any one of these slots. Let us take, for example, the military hierarchy. An individual belonging to the lower rank perceives his role in relationship to the tasks he is ordered to perform–a sailor on a river barge, a footman in a group of armed men. He also perceives his role in relationship to his immediate commander, to the task at hand, to risks involved that result from his position, and to potential benefits resulting from a hoped-for avoidance of these risks.

Beyond this limited, pigeonholed perception of the scope of his given functional slot, the sailor or the footman can gain a broader view of things only to the extent that this is proposed intentionally by those in the higher ranks, all the way to the king. At a minimum he expects that his functional slot should have, precisely, a function, that it should serve a purpose. Even in such a minimal way there is a realignment of perception, which results from the belief that a larger picture exists, and that the other ranks are responsible for implementing it. There are concrete results that make such realignment perceptually viable: besides specific events (military victories, public works, religious ceremonies), the very continued existence of a hierarchical setting dem-

onstrates its essential viability. Even the lowest ranks in the military, the infantryman and the sailor, develop a perception of the ladder of power that leads all the way up to the king, in spite of the fact that they hardly ever as much as see him.

Ideology plays an important role, as it is skillfully used to foster just such a perceptual realignment. The soldier may never come personally in contact with the king, but he has a clear perception of his policies as advertised through highly visible means. These means are instruments of public communication, forms of "propaganda" as consciously directed to a specific intended audience by the Mesopotamian royal chancery as they are today by public relations firms. Thus the famous law "code" of Hammurapi can be properly understood as a political document, carved on a stone stela that carries a relief showing the king himself and is set up for all to see in the main temple of Babylon (Rev. xxiv 62f). In it the king defines explicitly his audience ("that the strong may not oppress the *weak*, that I may let *the orphans and the widow* find justice" Rev. xxiv 60-61), and explains how they can benefit from his concern for justice:

> Let any oppressed man who has a complaint
> come in front of the representation of myself as king of righteousness,
> and let him have somebody read aloud to him my inscribed stele,
> let him listen to my precious words,
> let my stele clarify his case for him,
> let him find the verdict that is applicable to him,
> let him breathe easily. [Rev. xxv 8-19]

In a populist vein, the king projects the exact image in which he wants to be seen, channeling and fine-tuning a perception that he can mold and fabricate.

In this way, the king seems also to emerge as an alternative to the progressive and inexorable process of functionalization of human relationships. It became a cliché of political propaganda that the king should be the just judge, the father, the shepherd, etc. But all clichés are a window onto the reality that gives rise to this very cliché. A father figure was needed, whether or not any individual king could, or would wish to, fulfill that role. Functionalization was perceived as a harsh reality, even if the perception was not articulated in our terms.

And the king, at the same time that he was profiting from that reality, needed to make it not so much tolerable as desirable. Loyalty to him as a person was a benefit–even though hardly any one among his subjects ever even saw him personally. Vicariously ("meta-perceptually"), his subjects related to him as a person. So, ironically, the very device that aims at compensating the impersonal dimension of the royal function and of the entire system on which it rests became a function! The symbolic view of the king as father, shepherd, advocate was just that, a symbol, resting on a function projected and assumed, whether or not fulfilled.

5. FRAGMENTATION AND REALIGNMENT OF PRODUCTION: INDUSTRIALIZATION

In the perspective presented here, we may better understand a certain aspect of economic production that goes hand in hand with the urban revolution and state formation, and that may properly be considered a process of industrialization. At the root of it we see once again the widespread impact of fragmentation. Complex chains of individuals and events develop, whereby

each ring in the chain is dependent on the other, while the overall linkage is controlled by a single node, or very few nodes, at the top. This obtains especially with goods that are available only at remote locations, such as metal ores in the mountains or raw salt in the steppe. From mining and gathering, to smelting and refining, to manufacturing, marketing and shipping–a whole range of specialties is called into play that require extensive manpower and considerable training at each of the intermediate steps. But–and this is the fundamental component of the process–none of the individuals involved in these intermediate steps needs to relate personally with the other individuals so involved.

Industrialization, then, is *the segmentation of the procurement, production, and marketing of goods*. Two major side effects impact on the perception that the individuals involved have toward the process itself. (1) No single segment can control the entire process. Hence, effective control over the process is in the hands of the few who do have an overview and who control the flow from one segment to the other. These are individuals who have technical and/or coercive skills and mechanisms at their disposal–merchants and/or political leaders. Clearly, this was a major springboard for the accumulation of individual power and wealth. (2) Any individual within any given segment can be replaced with relative ease, as the skills are limited to that segment, and can be taught through repetition. This, too, makes the personal role less and less unique, and the overarching system correlatively more important.

As in the case of the state, the realignment of perception is in the hands of those who control the segmentation itself. The finished product is the sum total of the steps that have led to it, and somehow it embodies them physically. But they are of little concern to the consumer who has the ultimate fruition of the item itself. The real perceptual confrontation with the whole chain of production rests only with the highest-level manager–that "merchant" (*tamkārum* in Akkadian) who is to be seen more as an industrialist than as a traveling salesman.

One should note further how a skillful manipulation of the production chain impacts on the broader range of perceptions as they affect the overall economic process. In the first place, there develops *the concept of long-term investment*. This presupposes a market for goods produced over a longer period of time or obtained from greater distances, and the ability to assess its needs and anticipate its response. Secondly, and analogously, *the concept of interest* develops. This presupposes the understanding that timely availability of goods is in itself a good to be paid for. This is another very abstract perception that rests ultimately on the ability to segment time sequences, and to realign them according to a new intended sequence.

Finally, *the concept of supply and demand* becomes articulated more explicitly than ever before: a potter does not set up shop in a city, or quarter of a city, where there are already too many potters, a merchant does not bring goods from afar unless he can determine that there is a market for them.

6. FRAGMENTATION AND REALIGNMENT OF MEMORY: WRITING

Our last example of fragmentation is perhaps is the most dramatic–and the most illustrative with regard to our concern about perception: writing. Take a tablet from the royal archive of Ebla, which accounts for 67,060 individual sheep over a period of several months. Such a mass of animals did not exist as a herd visible in a given sheepfold. If it could be viewed as a single entity at

all, it was because it had first been fragmented into subgroups which could subsequently be gathered as bits of information. In this way, fragments present otherwise only in memory become physical entities, as represented by graphic symbols that can be compared with each other and readjusted at will.

We are used today to speak of virtual reality, and thus we can understand how our "virtual herd" existed in a way that was perceptually concrete and identifiable. But in the case of a 3-D rendering of a building, "virtual" means "vicarious": we approximate visually a physical reality that in fact exists, i.e., the virtual reality can be matched against its actual counterpart. The virtuality of early writing was even more radical: for the "herd" of 67,060 sheep never existed as a physically perceivable entity. The virtual herd on the tablet was not a vicarious approximation of real perception; it was rather a realigned whole, perceivable physically through the recomposing of perceptual fragments that did otherwise exist only as such (i.e., only as fragments), in both the physical world and in memory.

It is because of this process that writing alters fundamentally the human mental template. Here more than anywhere else what I have called "meta-perception" becomes perception. Which is far from implying that there was widespread literacy in ancient Syro-Mesopotamia. Certainly, only the scribes, constituting an extremely minute percentage of the population, could write and read. But the influence of writing reached well beyond the scribal class to where it did embrace the entire population–not just because everyone relied on it, but because of the reordering of perception that it presupposed and it offered. Instead of literacy, we should properly speak of "scribalcy," meaning that everyone came to perceive reality through the eyes of the scribe.

The coherence of the scribal art was accepted by all, the authenticity of the written message was guaranteed by the univocal value attributed to it by the act of reading. And thus the scribe was raised to the level of a cognition tool: the fragmentation of time, space, and memory brought about in writing was recomposed for all through reading. We have seen an example of this in the epilog from the Code of Hammurapi quoted above ("let . . . somebody read aloud to him my inscribed stele"), but the same obtains when ordinary individuals have a letter written (and the recipient has it read), a contract drawn up (and then reviewed by a judge in case of a dispute), an apotropaic ritual performed (and verified against the written canon of omina). In every case, the illiterate places his trust in the perceptual realignment that writing had brought about.

In order to better understand how writing affected these results, we should consider two fundamental aspects that distinguish writing from both memory and other graphic antecedents (such as tokens, potter's marks, or representational figures). (1) The *semiotic opposition* of individual traits, whereby the recognition of minimal pairs attributes the proper meaning to each member of the pair more than the individual shape of any given single sign. This implies a higher level of abstraction than simply the correlation between a representational rendering of a given item and the item itself. (2) The *syntactical ordering* of the components, i.e., of the signs, whereby the natural sequence is replaced by a symbolic sequence. The sequencing rules of the signs are as important as the individual signs in themselves, and this, too, adds a very considerable level of intellectual complexity to the whole mechanism.

A persistent tradition makes the beginning of history coincide with the beginning of writing. Given the amount of information which written texts provide, this major periodization may seem well justified–on the historiographic level, that is. But what does writing introduce that is unique on the historical level? Here are some answers.

(1) The first element of our answer deals with the intellectual dimension of this invention, and this in turn hinges on the definition of writing, which may now be given as follows: *writing is the extrasomatic extension of fragmented passive, logical brain functions, and their realignment according to the inner logic of the extrasomatic medium*. In this, writing is parallel to manual tools, which are the extrasomatic extension of muscular power: just as tools identify humans as humans from the earliest time in prehistory, so writing identifies civilized humans as such from the beginning of urbanization.

The extension of memory into an extrasomatic medium permitted humans to develop their reliance on memory beyond biological limits, without a physical intervention upon their biological system. It appears then that writing marks truly a quantum leap in human history: in its nature and origin it marks a major transformation in the man-to-nature relationship in that it transforms radically the reliance on memory.

(2) The realignment produces a *crystallization of behavioral routines* (thus lists emerge as constraints on grouping), and organization of the data becomes a visible entity with a life of its own (thus for instance, census taking projects a quantifiable view of the population). As a result, a high level of impersonal accountability is introduced (receipts/contracts replace personal commitment and the role of witnesses).

(3) In its social import, writing emerges as *an impersonal carrier of information* among humans conceived as functional slots in the social organism. Hence, it serves as a major catalyst in the process of functionalization described above.

(4) In its documentary value, writing provides a funnel of more *highly compacted and differentiated information* than with any other means. It is only with writing, for example, that we first have a record of proper names and of individual events linked with them.

7. CONCLUSION: THE PERCEPTUAL HISTORY OF A "DEAD" CIVILIZATION

Historia magistra vitae–"History teaches us to live." We can validate this adage not because we read in the past a prediction of the future, but because attuning our sensitivity to the very phenomenon of growth (to "history") we learn to respond to the dynamics of our human life. It is not mechanical predictability that we seek, but rather a finer sensibility for the unpredictable. Indeed there are patterns, but their applicability is never mechanical. It is rather nuanced, fluid, deep, and thus often obscure.

Above all, history gives us a sense of perspective. Take the introduction of writing some 5000 years ago and the introduction of computers some 50 years ago. The extrasomatic transfer of logical brain functions can now be seen not only as a matter of storage (no matter how much larger in size), but as an even finer fragmentation of the data and especially an even more radical realignment–for now we posit *active* brain functions as external and independent operations. Our 67,060 sheep of the Ebla document can be subjected to self-sustaining analysis, as if we could see our brain at work outside of itself. The rate of change of our mental template in comparison to the merely literate stage of the last 5000 years is quite comparable to that which occurred when scribal literacy took hold over against the mere oral tradition of the preceding tens of thousands of years.

If we can learn from the past, it is because the past was alive, and because we have access to the life it lived. It is indeed most inappropriate to refer to ancient cultures and civilizations as

"dead," as if to imply that their life is beyond our reach. It is true that we do not have direct access to that ancient perception that I have been seeking to elucidate, any more than we do to ancient experience. But there is a cultural imprint of perception, just as there is of experience. And it is through this imprint, inferentially, that we can legitimately assess how the ancients assessed, in turn, their own environment, their history, their institutions.

We assume the continuity of the human response not in its specific modes and mechanisms, but in the nature of the response itself. Just as we infer articulate human sound for prehistoric times that left no written embodiment of what the ancient sound would have been like; so can we infer perceptions that arose in response to given situations and which, in turn, conditioned any further development. We are heirs to the experience of the ancients not just because we come later. We are heirs because we can, still, make their experience and their perception our own.

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ARCHAEOLOGY

Papers in Honor of Clement W. Meighan

UCLA Anthropology Department since 1952; Director of UCLA Archaeological Survey 1958-1961, Chair of the Anthropology Department 1961-1964, Chair of the Faculty of the College of Letters and Science 1971-1973; co-founder in 1978 of the Institute of Archaeology's Rock Art Archive; active in the archaeology of California and Mexico; author of over 200 publications

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