STUDI MICENEI ED EGEO-ANATOLICI
NUOVA SERIE

5, 2019

Edizioni Quasar

STUDI MICENEI
ED EGEO-ANATOLICI
NUOVA SERIE

è una rivista del Consiglio Nazionale delle Ricerche, Roma

eISSN 2532-1757
eISBN 978-88-5491-015-7

Stampa e distribuzione / Printing and distribution
Edizioni Quasar di Severino Tognon s.r.l.
Via Ajaccio 41-43 – 00198 Roma
tel. +39 0685358444, fax +39 0685833591
email: info@edizioniquasar.it
www.edizioniquasar.it

Autorizzazione Tribunale di Roma nr. 288/2014 del 31.12.2014

SOMMARIO

SPEAKING PICTURES, WRITING WORDS: ON THE INTERPLAY OF COMMUNICATION IN ANCIENT MESOPOTAMIA

Davide Nadali

Summary

Pictures and words are the primordial ways of communication used by human beings: indeed, one might even conjecture which communication medium arose first. The present paper aims to analyse the deep relationship between pictures and words in ancient Mesopotamia, showing how communication is in fact the result of cooperation between the two: in particular, how pictures prevailed over and preceded words (also today we are used or we prefer to express our thoughts and emotions through pictures). It seems that pictures confer a stronger and more effective power in communication: the materiality of pictures as opposed to the immateriality of words discloses the possibility of asking questions of not only what pictures are, but how they are. Indeed, material culture deeply affects both the mind and the body and this entanglement closely links the sensual experience (perception, shaping, and use of things) to the emotional experience (reception of and reaction to things). In this respect, pictures are special objects of the material world and they can do things to people or even make people to do things that words cannot do.

INTRODUCTION: THE MATERIAL APPROACH TO ART AND WRITING

Pictures and texts could be considered indissoluble categories within the interconnections of communication networks in ancient Mesopotamia: in fact, they both are the expression of a meaning and result of a message that has a sender, content, and an addressee. But how do they work? Moreover, how do they cooperate (if they do) in transmission of a message? If, on a general level, pictures and texts can be indissoluble media, they have distinct elements and characteristics on a more specific level.[1] In particular, the interplay of content and context plays a fundamental role in defining the effect of communication, on one hand, and the engagement both senders and addressees enact and undergo, on the other. In fact, both pictures and texts are tangible manifestations of the material culture of a particular society and the act of inscribing texts onto objects or, conversely, the engraving of pictures and drawings onto written text definitely strengthens the relationship between the two and often cause an unbalanced predominance of the one over the other; as a matter of fact, the importance given to either texts or pictures can be the result of personal biases that mostly depend on the education of the analysts in using texts to explain pictures (that are eventually treated as the visualization of words) or in giving pictures an independent code of expression, a language with its own grammar, rules, and phrases.[2] In this respect, it seems that the power of words overwhelms the power of images that are in some way explained, supported by, and supported via the content of texts. This approach has deeply and heavily affected the Mesopotamian culture, particularly concerning the meaning and life of pictures as independent beings of the system of communication by ancient Mesopotamian societies: in fact, if texts can of course be an important hermeneutic instrument in the deciphering and comprehension of pictures in

1 Cooper (2008) in fact suitably defines the two corpora (wring and art) as incongruent: not only do they sometimes overlap, but I would also add they even contrast in giving a (re)presentation of the reality.

2 Influenced by the "linguistic turn", terms and definitions such as "language of images", "grammar of images" and "images forming sentences" have been introduced and are currently used in visual studies with a contamination of linguistics and semiotics in art history so that one can speak of "reading a painting or a relief" (Goodman 1968; Mitchell 1986; Robinson 2000).

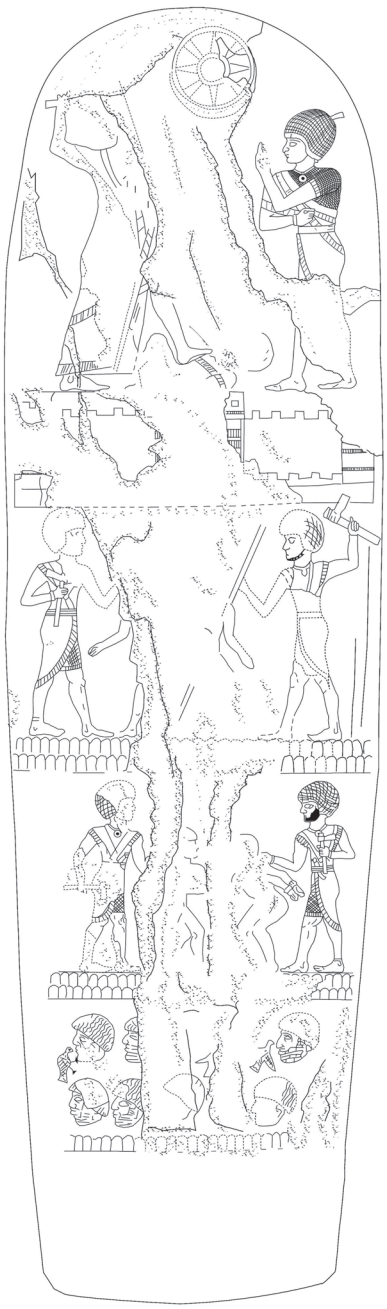

Fig. 1. Drawing of the Stele of Dadusha (by Licia Romano, published in Nadali 2008).

literate societies, what can we say for illiterate people? How can their pictures be explained without the presence of contemporary texts and literature? In the end, the preponderance in using texts to signify the value and power of pictures can undermine the significance of pictures *per se*, specifically in those periods and cultures that precede the advent of writing. This special relationship between texts and pictures, with a quite explicit subsidiarity of the latter, has a very Mesopotamian connotation since the importance given to texts and the role Mesopotamia had in history for the invention and advent of writing at least from the so-called proto-literate period (Late Uruk and Jemdet Nasr periods, between the end of the 4th and the very beginning of the 3rd millennium BC) (Nissen 1988, 65-127; Postgate 1992, 23-25). In a Mesopotamian perspective, or better to say, in a Mesopotamian-centric vision of Near Eastern cultures and societies by scholars (a tradition that still persists), literary tradition dictated the analysis of iconographical aspects and meanings: the legacy of texts is so imposing that, although it is acknowledged that writing and art developed separately from the very beginning (Cooper 2008, 69, 81), pre-literate art is in fact considered poor and minor (Cooper 2008, 69).[3] However, it is also true that art or the making of pictures was born before writing that eventually became, more as a result of analysts' wishes, the only possible sure interpretation of iconographies, with exceptions and unsuccessful attempts as the debate on the Old Babylonian Stele of Dadusha shows. The stele (Fig. 1), found in 1983 near the site of Tell Asmar, represents the military victory of Dadusha against Bunu-Ištar and bears an inscription that narrates the event of the conquest and describes the monument (for a recent updated edition of the inscription, see Charpin 2004, 152-157). Indeed, the final part of the inscription can be properly interpreted as a description of the top register, opening a (still unsolved) debate on the nature and identification of the two characters. According to the inscription, it would be logical to interpret the smiting figure on the left as king Dadusha who tramples on the enemy (Charpin 2004, 160; Nadali 2008, 134-135); conversely, it has been identified as the god Adad (Miglus 2003, 403; Braun-Holzinger 2007, 152; Rollinger 2017, 211). As a consequence, the figure to the right has been differently interpreted as Dadusha (Charpin 2004, 160; Miglus 2003, 403; Braun-Holzinger 2007, 153; Rollinger 2017, 210-211) or the crown prince as military official (van Koppen 2006, 101; Nadali 2008, 136-137; Uehlinger 2008, 534-535). If the inscription apparently explicitly solves the identification, the iconographical analysis complicates the issue with different contrasting solutions (lastly see Suter 2018).

3 It is definitely true that production of pictures and art increased along with the emergence of urban civilization in the second half of the 4th millennium BC: as a consequence, exactly as Cooper (2008, 69) states, art before that time is poor, surely poor in number as it is quite logical that the diffusion of art and pictures came along with the monumental architecture, enlargement of cities, and the need for representation of powers, both divine and human. I suspect however that the term 'poor' is often the result of a misleading aesthetic judgement and appreciation: that is art before the great urban revolution has a minor role since it cannot be suitably linked with the emergence of political powers and, in addition, with texts.

When confronting and analysing the interplay of texts and objects, doubtless there is a general tendency to treat and consider texts and words as immaterial elements that are read and spoken, while the aspects of sight and touch are underestimated or even neglected. But texts themselves must be correctly considered objects: how is a cuneiform tablet classified? Is it a text or an object? In fact, it could eventually be labelled as an inscribed object, where, however, the feature of writing prevails on the indication of object: cuneiform tablets have always been considered special archaeological records, in particular because of the content. Actually, the content has been, erroneously, considered more important than the context becoming, in the end, even detrimental to the context itself:[4] in this view, cuneiform tablets are not important as objects within the stratigraphy and the history of a site (for example, like other types of archaeological findings such as cylinder seals, sealings, and pottery) but because of the content which is the information that is inscribed and registered. Nevertheless, and despite the tendency of some scholars, cuneiform tablets are objects first of all and they must be treated as such consequently. Of course, the content is important because tablets have purposely been made to register, in writing, important messages, administrative data, stories, and thoughts. Scholars, however, tend to make this aspect prevail giving cuneiform tablets a special status, what could be labelled as a "sacralization of texts" (Tsouparopoulou 2016, 258): that is the most important (someone could even state the unique) meaning and importance of written artefacts is the text they bear (Tsouparopoulou 2016, 259-260). The consideration and analysis of cuneiform tablets as archaeological objects can disclose essential and additional information that enables us to link the content of the texts with the context and the set of other findings with which they were kept in the past and, therefore, found by archaeologists: it is in fact important to study the relations among the archaeological records, cuneiform tablets being a part of the set and not exclusively the most important one (Tsouparopoulou 2016, 257).

If the theory of the "linguistic turn" substantially influenced other disciplines of humanities (such as for example arts, media, and visual studies with the consequent denomination of a "pictorial turn", Mitchell 1994, 11-34), I suggest that the "material turn" should also be extended to literary, linguistics, and textual studies (pointing out the implication of the different material – clay or stone – of the support for writing, Pollock 2016).[5] In this respect, the material turn of texts should also take into consideration the shape and material of the physical support onto which texts were attached and inscribed: in fact, cuneiform tablets are not the only written records in ancient Mesopotamia (Balke 2016). Surely, tablets were quite easily handled, but texts were also incised on larger monuments where the idea of manageability is totally inappropriate (*e.g.* steles), on objects that were not supposed to be seen and therefore read (*e.g.* foundation deposits) and on small items where texts could be barely seen and read unless they were explicitly made clear (as for example the impression of cylinder seals on soft clay, but even in this case the impression could be imprecise and incomplete to the detriment of the readability of the inscription).[6]

Within the special status that is usually ascribed to texts (a prerogative, as already said, belonging more to the modern analysis), it is in fact quite common to use pictures as illustration of written words. Images are a visual materialization of abstract words and concepts; consequently it seems, as an exaggeration, that pictures acquire in fact the most meaningful significance only if a text can explain and decipher the representation.[7] Taking into account the idea, shared by different scholars, that writing and iconography were independent and separated communicative media

4 This unfortunately happened, specifically in recent times, with the growth of illicit digging in the regions of the Near East that are no longer under the control of local governments. The special status given to tablets and to the content more than the context by some scholars actually increased and, to a certain extent, justified illicit excavations to recover tablets that are nevertheless studied and published just to reveal what they say.

5 On the trend of materiality as applied to texts, see in particular Pollock 2016 and Tsouparopoulou 2016.

6 If so, was the inscription so important in the process of rolling cylinder seals on documents and goods to be sealed? Together with images, text worked as a part of the meaning and role that the administrative tool had in the process of registration of income/outcome of goods and entrance/exit of people. Moreover, exactly as "the seal cutter and the producer of the inscription were not necessarily the same person" (Pollock 2016, 284), the owner of the seal – who supposedly used the tool for his office – impressed the seal to validate goods and operations despite the iconography and the inscription (Pollock 2016, 287-288).

7 As happened for example with the Assyrian bas-reliefs that have, even recently, been used as an illustrative compendium to the edition of texts of the Assyrian chancellery (Matthiae 2014, 388).

(Cooper 2008; Balke 2016), is it still possible and valid to make a classification where words come first then pictures? Actually, if the Mesopotamian philosophical and ontological nature of pictures is taken into consideration, it would immediately become clear that this distinction does not hold since the shaping of an object/image and its naming (the writing of the name) are complementary actions and they establish the two tracks on which Mesopotamian reality is conceived and evolves (Bahrani 2003, 133-138). In fact, naming something has been recognized as a factual process that transforms a (anonymous) thing into a (named) object (Schwenger 2001; 2006); one can also argue that the naming of an image represents the passage to a materialized picture (Belting 2001, 14-18; 2005).

The tied relationship between material, word, and image or, according to Knappett (2008, 146), between artefact, picture, and text is perfectly expressed by the introduction of writing in ancient Mesopotamia and by the use of the first cuneiform signs to signify word, concept, and action: in this respect, signs (word/text) are expressed by ideograms (image/picture) incised on clay (material/artefact). More precisely, archaic cuneiform tablets were administrative documents registering quantities and types of things and goods by using number and iconic representations. In this phase, cuneiform script was at a very primitive stage and signs were in fact expressed through the use of abstract iconic symbols that were meant to reproduce objects and subsequently organized to express thoughts, concepts and more specifically actions (Englund 1998, 61; Cooper 2004, 74-77): early texts were conceived to quantify numbers of goods and it seems particularly interesting that the first writing actually used icons to represent goods (the signs were indeed pictographic) in association with numbers.

THE AFFORDANCES OF PICTURES AND WRITING IN THE PROCESS OF COMMUNICATION

It is interesting how the use of pictures in writing actually determined the origin itself of writing, on one hand, but it might be inferred that writing through pictures (objects and representation of parts of the human body) probably influenced and determined the evolution of spoken language, thus passing from an iconic (ideogram) to a phonetic (ideophone) representation of writing; the same process can be described as the passage from an indirect representation (when the icon looks like the object represented) to a direct representation (when textual signs correspond to syllables and phonemes) (Robertson 2004). In his analysis of the origin of cuneiform script, Jerrold Cooper however commits to Trigger's observation that "no early writing system was the full writing system it eventually became – that is, each was able to fully express language only after centuries of development. The reason is that no writing system was invented, or used early on, to mimic spoken language or to perform spoken language's function" (Cooper 2004, 83).[8] Trigger's point can surely be shared but, although it is true that it is nearly impossible to reach a final conclusion on the phonetics of signs, I would nevertheless argue that the early iconic writing system helped to develop the phonetic system of spoken language. People first started speaking then writing (Overmann 2016a, 289). People were communicating using words and sounds and then started to write their words using iconic symbols: things were named and therefore recognized with a name and sound. Indefinite things have been thus transformed into objects, they have been transformed into an artefactual dimension that can be singled out and counted, and it is significant that this passage in writing went through the use of picture at the beginning: exactly as immaterial images become materialised pictures, so immaterial words become materialised texts. Materiality of writing can be specifically researched in the shape of the first signs that are in fact directly derived from material objects: signs replicate objects with a progressive passage from a pictographic to an abstract form that eventually eliminates the aspects of physicality and materiality that precisely bring back to the real objects (Knappett 2008, 147). The reference of first cuneiform signs to material

8 Glassner (2000, 69-70) also rejects that early writing with pictograms ("l'enfance de l'écriture") might have had any phonetic value and reference to spoken language; only at a later date, writing has a direct relationship with language when "le 'pictogramme' mué en 'logogramme', l' 'écriture de choses' cede la place à une 'écriture de mots' puisque le signe, indiquant un morpheme, transcrit désormais des 'mots' et non plus des 'choses'" (Glassner 2000, 71). Also Englund (1998, 65): "the script was not used to represent a spoken language in a large majority of texts available to us".

objects passed through the counting and administrative systems of tokens (Schmandt-Besserat 1992; 1996; Englund 2011, 33-34): tokens were small clay objects in the shape of goods and they were used in first administrative system to manage and count quantities, particularly of agricultural products. I mean that, when the process of writing started, tokens were in fact used to signify goods preceded by quantities expressing numbers with a quite simple transfer of the physical shape of the tokens to the surface of the tablets. In this respect, some tokens anticipated and then inspired the incised pictographs on clay: the passage to take note of commodities precisely involves the concept of numbers. Items were counted one-by-one when using tokens (tokens, in fact, do not represent quantity, Schmandt-Besserat 1992, 185) while the writing on tablets introduced the abstract concept of numbers, that is goods and items were not enumerated one-by-one, but enlisted through the corresponding symbols (derived and re-adapted from the token) with a numerical notation (Malafouris 2010, 39; Overmann 2016a, 290-291).

If tokens, with their shapes, contributed to the development of writing, from a first symbolic and pictographic nature to a more abstract and aniconic final definition, can numbers, or better to say counting, be associated with language and speaking (Wynn, Coolidge, Overmann 2013)? It has been shown that numeracy and language are independent (Overmann 2016a, 299; 2016b, 97); moreover, writing came after speaking (Ong 2002, 7), and therefore if numbers might have had a role in communication, this first occurred at an oral level when items and body-parts were associated with quantity and oral sounds. If counting through tokens is mostly a physical operation (touching, Overmann 2016c), counting through written numbers and items is more abstract and implies other senses (seeing and hearing).

Given the low level of literacy, few people could write and read texts, it is quite reasonable to suggest that, specifically in the initial process of the invention of writing, this instrument was the prerogative of a small entourage of scribes and bureaucrats: texts (mostly administrative notations) were made to register high quantities of goods that tokens could no longer correctly and suitably manage. How were those numerical notations then used? If the idea was to manage and control both income and outcome (Nissen 1993, 54), one can conclude that texts were written while someone else was counting commodities; it could also happen that while someone was reading the content of previous notes, somebody else was checking materially the items, thus counting the objects and products reported in the text. If so, orality founded the process of converting information into written words and it is therefore extremely interesting that the shape of the first signs exactly replicated the shape of tokens and tried to translate actions into a sign, specifically the income and outcome of goods and allocations, through a body language. Therefore, writing not only wanted to register goods and elements of the neighbouring environment, but we can recognize an attempt to express other meanings by using the parts of human body, in particular to translate actions that require and involve a movement ("to eat, feed, provide rations," and "to go, stand") (Englund 1998, 71, 80; Cooper 2004, 84-85).

Hearing and expression of actions define the nature of the first archive documents: maybe they were not simply notes to be stored in dark archives, but they were used and handled daily to help verify information. Counting involves several actions and encompasses brain and body, in a constant passage from abstractness to concreteness (Overmann 2016d, 354): numerical notations as well as language process in general are tightly linked with manual praxis and coordination and in this respect it is important to point out the use of fingers to count (Stout, Toth, Schick, Chaminade 2008, 1947; Overmann 2016c, 44) and the use of hands to handle and write a clay tablet.

Numbers and icons are at the root of writing and language in a combination of different body expressions, actions, and mimics (Rizzolatti, Buccino 2005, 224). In this respect, the statement that "art and writing in ancient Mesopotamia were, for the most part, separate and only partially overlapping traditions" (Cooper 2008, 69) should be reconsidered: on one hand, it is true that art and writing had a different audience, dissimilar targets and uses; on the other, icons and pictograms were first used in administration to count and identify objects once transcribed onto clay tablets. Moreover, it is this combination, and indeed partially overlapping employ of icons in both art and writing that enable one to speak of the possibility of reading pictures.[9]

9 See for example the Uruk Vase with a system of representation through the same pictograms of the archaic writing and the later Neo-Assyrian prism of Esarhaddon with a hieroglyphic writing (Schmandt-Besserat 2007, 41-46; Cooper 2008, 72-73, 80-81).

As observed by Cooper (2008, 73), "in sum, we can say that except for the human figures, and the domestic animals represented by symbols rather than pictograms, the proto-cuneiform signs and the [Uruk] Vase belong to the same esthetic-representational tradition": indeed, it is interesting to point out that, next to the schematic representation for animals and vegetation and the replica of objects (from the tokens tradition), early writing also used parts of the body, such as the head, the mouth and the foot, often in combination with other elements and signs (pictograms). What can this early system of writing imply? What can the use of body-parts to write imply? Which kind of relation can be made between body, action, and language?

Archaic cuneiform documents show a series of iconic elements that could be interpreted as referring to a movement or a gesture, and eventually to the sound that pinpoints that precise action:[10] evolution of the writing system, in fact, moved to the abstraction of signs losing their iconic shape toward a direct representation expressing the link between the sign and the spoken sound. Sensory-motor perception and dimension as well as communicative gesture have been shown to have a fundamental role in cognitive processes of understanding, communicating, and sharing emotions with others (Arbib, Rizzolatti 1997; Frey 2008; Corballis 2010): gestures have an important function in communication and the use of hands can be seen in the different passages, from counting through tokens and fingers to the writing by hand of clay tablets through iconic signs and, again, iconic gestures. In this respect, I suggest that the birth of writing can be seen as the result of a materialization of words expressing the sound, on one hand, and the idea of movement they imply, on the other.

As suggested by Christopher Tilley, material things, "unlike words", are "not just communicating meaning but actively doing something" (1999, 265; Malafouris 2013, 32): if we consider texts as part of the material things, we can conclude that texts do not only communicate meaning, but they act and do something, and this sounds particularly true if special types of texts are taken into consideration: not only texts that, for example, concern religious activities where it is purposely meant that actions must be done correctly and in the right order, but also texts that are directly carved onto objects and, more specifically, onto pictures (statues, bas-reliefs, plaques etc.). Irene Winter (2007, 61) has already shown how grammatical structure of Sumerian texts is essential to understand and decipher "the potentially ambiguous image", for example the basket-bearing ruler on the Early Dynastic Period plaque of king Ur-Nanshe.

The balance or even unbalanced comparison between word and image or text and illustration suggests, in a certain way, a distinction between something material and concrete (an image and an illustration) and something immaterial (word and text): the aspect of materiality recently opened new debates and researches in archaeology (*e.g.* Tilley 2004; Meskell 2005; Knappett 2014), stressing the importance of the materials the objects are made of. This not only encompasses studies on the origin and the skill in working raw materials, but rather it points to the study and analysis of how materials shape the objects and, consequently, how human beings are shaped while making and using the objects (Malafouris 2008a; 2008b).[11] In this respect, words can be (sometimes exclusively) evaluated internally and mentally, for example when they are heard, with an indirect perception of the content of a text that is read by someone else so that we can say "I hear" and not "I read". Images and objects can be evaluated internally and mentally, for example when we look at pictures in books and on the screen: at the same time, they can also be considered in their aspects of execution, therefore externally and physically, when materials are worked and moulded to make the final product that can be the result of the assembly of different parts, each made of a special distinctive material. Indeed, this aspect also applies to words when conceived as a text that can he handled: in the Ancient Near East, clay was worked by hand to prepare the tablet that was eventually engraved with the cuneiform signs; moreover, tablets were handled and touched each time they needed to be looked up and read. Mate-

10 In a kind of onomatopoeia, *i.e.* a similarity between the sound of the word and the sound made by the action (Rizzolatti, Buccino 2005, 223).

11 Materials used also infer additional power: in Mesopotamian aesthetics, the different materials have a power in themselves that is then transmitted to and propagated through the shaped object. In this respect, precious metals and stones (such as lapis lazuli) that are specifically characterized by a colourful and shining nature had an important role in the process of making, mounting, and upholstering (rather than decorating) images and objects. See Winter 1999; 2003.

rials must be considered for both their extrinsic and intrinsic qualities and values: the preciousness and rarity of the materials used to shape objects properly give artefacts that special aesthetic quality they can enact and emanate. In this respect, aesthetic must not be intended as the peculiar and exclusive evaluation of the beauty of the objects: the concept of aesthetic quality I precisely mean refers to the study of sensory values, in the precise Greek acceptation of *aisthesis* as the investigation about the sensory knowledge. The analysis of materials of artefacts – their materiality – can in fact reveal the impact of materials on human beings, more precisely in the engagement and response of the senses, going beyond the supremacy of sight we usually assign when speaking of pictures and objects.

In general, material things (texts, pictures, and objects – taking into account the possibility that an object can bear both texts and pictures and that texts and pictures are objects) do something or make someone do something: execution of actions as well as the observation and even hearing actions has a specific neural correlation in the brain. The observation-execution reciprocal system is codified through the mirror-neuron-system (MNS) that, first identified in monkeys (in the rostral part of monkey inferior area 6, area F5), has then been considered the homolog of Broca's area in humans (Gallese *et al*. 1996; Rizzolatti *et al*. 1996).[12] At the same time, some neurons in area F5 also discharge (activate) to the sound of some actions, that is they discharge when even the action that produces the sound is not seen (Rizzolatti, Buccino 2005, 226-229; Rizzolatti, Sinigaglia 2006, 103; Corballis 2010, 26).

The functioning of mirror neurons in human brains and the implication of action and sound in the relations among people had interesting consequences in the study of the motor system applied to the manual skills engagement with things, materials, and language. In particular, the functions of Broca's area in the human brain have been specifically targeted for the connection and development of language and speaking skills: in fact, the function of Broca's area is mostly related to speech while area F5 is considered the area for hand movement (Rizzolatti, Arbib 1998, 189; Rizzolatti, Buccino 2005, 224). However, it has then been shown that the functions of Broca's area are not exclusively related to speech: research has shown that Broca's area is also active during the performance of hand or arm gestures and movements (Arbib, Rizzolatti 1988, 6; Rizzolatti, Arbib 1998, 189).[13] It is this quality for hand movements and language features (both speech production and neuronal answer to sentences describing actions, Tettamanti *et al*. 2005, 274) that made Broca's area central in the studies of the evolution of language (Corballis 2002; 2010) with the conclusion that the origin of language is not only (and not exclusively) dependent on oral properties, but also on the hand: indeed it is precisely the interconnection between hand and mouth that finally led to language (Corballis 2002, 153).[14]

The cognitive mechanism disclosed by the discovery of the MNS, with the precise investigation and comprehension of Broca's area in relation to both hand movements and development of speech, is particularly interesting and, I would add, useful and pertinent when looking at the emergence and development of writing in Mesopotamia: the passage from a strictly and exclusively oral communication to writing is singled out by the transcription use of numbers and objects onto clay by hand with the association of a specific sound to each item or, more precisely, to each ideogram. In the oral tradition, before the invention of writing, each word (sound) identified an item; tokens as well as fingers were used to count and manage the quantities and types of goods; once writing has been introduced, each object (that was identified with a word/sound and corresponded to a precise token – replicating the shape of the object itself) was transferred onto a clay tablet keeping the graphic resemblance and, one might infer, the same phonetic quality. In this respect, the hand movement (from counting to writing onto the tablet) can in fact be the result of what Michael Corballis labels as the passage from hand to mouth in the process of development of language: body and mind work together, in perfect combination and this cooperation is reflected in the

12 On the functioning of MNS in monkeys and humans and their location in the brain (specifically in relation to the Broca's area in humans) see also Rizzolatti, Arbib 1998; Rizzolatti, Sinigaglia 2006, 115-138.

13 As stated by Arbib, Rizzolatti (1988, 6), "Broca's area, like F5, has a hand movement representation. This hand representation is activated during movements actively performed, during movement imagery, and during observations of gesture made by others."

14 The relation between gesture and language is thus proved by the neural functioning system of mirroring what we see and hear (even without seeing): differently, the idea that the mechanism of MNS might also contribute to the understanding of communicative meaning (Rizzolatti, Craighero 2004), on the syntactic level, has been questioned (see Moro 2008, 125; 2016, 76; Tettamanti, Moro 2012).

cognitive perception at neuronal level in Broca's area (hand movement and speech) and in the physicality of gestures and sounds that are made and emitted. This combined mechanism of communication occurs each time a written tablet is read: it means that the process of mirroring (the receiver mirrors the message, gesture and sound of the sender and vice versa) activates each time the written words are read aloud and heard by a receiver as well as when the tablet is mentally read (without the sound of the voice; Moro 2016, 88). Mirroring, however, does not mean that when we observe an action we describe it verbally internally, but it shows that a special relationship between gestures and speech exists and that we therefore perceive spoken language as a series of gestures and not solely as a sequence of sounds (Rizzolatti, Buccino 2005, 224-225; Corballis 2009, 557).

CONCLUDING REMARKS

Communication in Mesopotamia started and proceeded through the use of material culture and picture. If it is true that "art and writing in ancient Mesopotamia were, for the most part, separate" (Cooper 2008, 69), it is also similarly valid that art and writing were essential components of the conception and description of reality, the attribution of qualities to objects, and the communication system. The relationship between art and writing cannot be solely limited to a reciprocal influence and co-existence, inscribed artefacts and inscriptions referring to or even explaining art: it is a connection much deeper and it is not only because "as visual languages, they [writing and art] both depended on the same skills based on hand and eye coordination" (Schmandt-Besserat 2007, 105). At the same time, the statement that "art learned from writing how to load images with information by using symbols modelled on logograms and determinatives" (Schmandt-Besserat 2007, 102) is an oversimplification: I do not want to deny it, but I think that writing or, better to say the emergence of writing, learned and mostly depended on art, and more specifically on the materiality of art (token) and the representation of items and parts of the human body to convey actions. In the very first texts, next to numerical annotations, items and actions were expressed through pictograms, *i.e.* images transferred onto clay with the addition of a phonetic value (Overmann 2016a, 296): actually, when writing was invented, Sumerians applied a system of writing very similar to our contemporary way of using emoticons and images to convey a message. If we think of text-based emoticons (by the use of punctuation) the special relationship between writing and image is even more striking, with the idea that those text-based combinations want to express moods or facial expressions corresponding to an emotion of the writer.

Writing first used icons and pictograms that once combined had other meanings and formulated actions: this is, for example, the case of the sign KA (Sumerian ka "mouth") that derived from the sign SAG (Sumerian sag "head") with the addition of three diagonal lines (Cooper 2004, 90) or the expression šu-ti (ŠU = "hand") with the meaning of "hand-approach" as a goal-directed action (Englund 1998, 71).

The result is a close, systematic, and continuous interactivity between objects and humans: in this respect, objects shape our mind and way of seeing, perceiving, and moving in the world. Lambros Malafouris (2013), in his *Material Engagement Theory*, explains that material signs do not represent; they enact. As consequence, I would suggest that pictures, being a product of material culture, do not *simply* and *solely* represent; they enact. This seems particularly true in the context of using ideograms in writing. "There are no fixed attributes of agent entities and patient entities and no clean ontological separations between them; rather, there is a constitutive intertwining between intentionality and affordance", as stated by Malafouris (2013, 18): affordance of objects describes the relationships between the material world and humans through a process of engagement and embodiments; objects are not inert and they do not simply undergo our action, but they are active and animate, thus causing a process of engagement and interaction where it is not simply automatic that we act upon them, but they conversely act upon us. And this reciprocal effect seems well signified by the combination of parts of the human body and materials to write a goal-directed message.

Borrowing Christopher Tilley's words (1999, 265), we can say that pictures are not just "actively doing something" but, additionally, I think they make people do things that words cannot do: thinking of the early system of writing in Mesopotamia and even of contemporary communication, pictures substitute for words and words are rendered as pictures. It seems that the materiality of pictures and representations is stronger and more effective

than the power of words: I think that this depends on the way we feel pictures. Pictures and representation of human bodies as well as of objects enact the same affordance as if we are looking at the person in the flesh and at real objects: we have seen that speech is strictly linked to the perception of movement. The MNS in the human brain fires and discharges when we accomplish a goal-directed action, on one hand, and we observe someone else making a goal-directed action, on the other: the MNS thus opened the possibility of research in the field of the mechanisms of intersubjectivity and the comprehension of others' intentions and emotions (Gallese 2005; 2009; 2014).

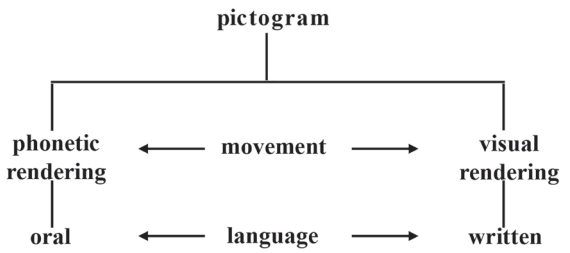

Fig. 2. Diagram of interconnections of early writing system in Mesopotamia.

This fact establishes the real possibility of new studies: 1) the interaction among people; 2) the interaction between things and people; 3) the observation of the interaction between things and people by someone else. The comprehension of others' action and emotions is thus simultaneous, through the process of inner simulation (or embodied simulation): this is valid when accomplishing an action, when observing the reality, or even when the action is simply mimed. Pictures and visual representation are therefore the mirror on which people can recognize and share the same sensual experience and emotions: it is an empathic mirror producing an aesthetic experience, that is sensual and physical.

Malafouris (2004, 58) says that "the efficacy of material culture in the cognitive system lies primarily in the fact that it makes it possible for the mind to operate without having to construct a mental representation, that is to think through things, in action, without the need of mental representation"; Ian Hodder and Scott Hutson (2003, 147) state that the comprehension of the mind of the past should not "simply sit and 'empathize with', or 'commune with', the past". MNS and the resulting theory of the embodied simulation do not produce a mental representation inside the individual brain nor pretend to recreate past minds; simulation is a dynamic cognitive process so that pictures as well as archaeological records are in fact to be looked at and analysed as the results of the combination of sensory-motor actions, intentions, and emotions.

The interplay of communication in early Mesopotamia is precisely an example of this special combination and construction of the re-organization of the communicative system, from a total oral to an oral and written tradition: writing met art or art met writing? I think that the MNS and the role of Broca's area suggest that writing met art, that is art or, better to say material culture and pictures, inspired the creation of ideograms that led to the more complex writing system of combined signs with different phonetic value (Fig. 2). Can we infer that the ideographic system of writing might have stood for several languages and that signs were thus read and pronounced accordingly (Selz 2011, 57)? It is difficult to find a clear solution to the question of spoken language and indeed someone even argued that "earliest writing was perhaps not speech-bound" (Selz 2011, 57; see also note 10 here). Therefore, I do not agree with Selz (2011, 57-58) when he states that "The earliest signs are just glyphs, icons developed for communication, and by no means were necessarily connected to speech. Language(s) may, of course, have played a certain role; but the rendering of speech was certainly not the primary objective of the earliest scribes". I think it is true that rendering of speech was not the primary objective, but I also think that this was, in some way, automatically implied in the special neural functions of Broca's area that is specifically devoted and linked to hand movement and speech production (Overmann 2016a, 287-288). The lack of evidence in archaeological and textual data does not support the total rejection that early signs were connected to speech or they were in some way used to develop phonetics and spoken language. This system and progress point out how people started thinking through things and how the same things founded the written thought.

References

Arbib M.A., Rizzolatti G. 1997, Neural expectations: a possible evolutionary path from manual skills to language, *Communication and Cognition* 29, 393-424.

Bahrani Z. 2003, *The Graven Image. Representation in Babylonia and Assyria*, Philadelphia.

Balke T.E. 2016, The interplay of material, text, and iconography in some of the oldest "legal" documents, in Balke T.E., Tsouparopoulou C. (eds), *Materiality of Writing in Early Mesopotamia*, Berlin, 73-94.

Belting H. 2001, *Bild-Anthropologie. Entwürfe für eine Bildwissenschaft*, München.

Belting H. 2005, Image, medium, body: a new approach to iconology, *Critical Inquiry* 31, 302-319.

Braun-Holzinger E. 2007, *Das Herrscherbild in Mesopotamien und Elam. Spätes 4. bis frühes 2. Jt. v. Chr.* (AOAT 342), Münster.

Charpin D. 2004, Chroniques bibliographiques 3. Données nouvelles sur la region du Petit Zab au XVIII[e] siècle av. J.-C., *Revue d'Assyriologie* 98, 151-178.

Cooper J.S. 2004, Babylonian beginnings: the origin of the cuneiform writing system in comparative perspective, in Houston S.H. (ed.), *The First Writing. Script Invention as History and Process*, Cambridge, 71-99.

Cooper J.S. 2008, Incongruent corpora: writing and art in ancient Iraq, in Taylor P. (ed.), *Iconography without Texts* (Warburg Institute Colloquia 13), Torino, 69-94.

Corballis M.C. 2002, *From Hand to Mouth: The Origins of Language*, Princeton.

Corballis M.C. 2009, Language as gesture, *Human Movement Science* 28, 556-565.

Corballis M.C. 2010, Mirror neurons and the evolution of language, *Brain & Language* 112, 25-35.

Englund R.K. 1998, Texts from the Late Uruk Period, in Attinger P., Wäfler M. (eds), *Mesopotamien: Späturuk-Zeit und Frühdynastiche Zeit* (OBO 160/1), Freiburg-Göttingen, 15-233.

Englund R.K. 2011, Accounting in Proto-Cuneiform, in Radner K., Robson E. (eds), *The Oxford Handbook of Cuneiform Culture*, Oxford, 31-50.

Frey S.H. 2008, Tool use, communicative gesture and cerebral asymmetries in the modern human brain, *Phil. Trans. R. Soc. B* 363, 1951-1957.

Gallese V. 2005, Embodied simulation: from neurons to phenomenal experience, *Phenomenology and Cognitive Sciences* 4, 23-48.

Gallese V. 2009, Mirror neurons, embodied simulation, and the neural basis of social identification, *Psychoanalytic Dialogue* 19, 519-536.

Gallese V. 2014, Bodily selves in relation: embodied simulation as second-person perspective on intersubjectivity, *Phil. Trans. R. Soc. B* 369, 20130177.

Gallese V., Fadiga L., Fogassi L., Rizzolatti G. 1996, Action recognition in the premotor cortex, *Brain* 119, 593-609.

Glassner J.-J. 2000, *Écrire à Sumer. L'invention du cunéiforme*, Paris.

Goodman N. 1968, *Languages of Art: An Approach to a Theory of Symbols*, Indianapolis.

Hodder I., Hutson S. 2003, *Reading the past. Current approaches to interpretation in archaeology*, Cambridge.

Knappett C. 2008, The neglected networks of material agency: artefacts, pictures and texts, in Knappett C., Malafouris L. (eds), *Material Agency Towards a Non-Anthropocentric Approach*, New York, 139-156.

Knappett C. 2014, Materiality in archaeological theory, in Smith C. (ed.), *Encyclopedia of Global Archaeology*, New York, 4700-4708.

Koppen F. van 2006, Old Babylonian period inscriptions, in Chavalas M.W. (ed.), *The Ancient Near East. Historical Sources in Translation*, Oxford, 88-106.

Malafouris L. 2004, The cognitive basis of material engagement: where brain, body and culture conflate, in DeMarrais E., Gosden C., Renfrew C. (eds), *Rethinking Materiality: The Engagement of Mind with the Material World*, Cambridge, 53-62.

Malafouris L. 2008a, Between brains, bodies and things: *tectonoetic* awareness and the extended self, *Phil. Trans. R. Soc. B* 363, 1993-2002.

Malafouris L. 2008b, At the potter's wheel: an argument for material agency, in Knappett C., Malafouris L. (eds), *Material Agency Towards a Non-Anthropocentric Approach*, New York, 19-36.

Malafouris L. 2010, Grasping the concept of number: how did the sapient mind move beyond approximation?, in Morley I., Renfrew C. (eds), *The Archaeology of Measurement. Comprehending Heaven, Earth and Time in Ancient Societies*, Cambridge, 35-42.

Malafouris L. 2013, *How Things Shape the Mind. A Theory of Material Engagement*, Cambridge.

Matthiae P. 2014, Image, ideology, and politics: a historical consideration of the message of Neo-Assyrian reliefs, in Gaspa S., Greco A., Morandi Bonacossi D., Ponchia S. (eds), *From Source to History. Studies on Ancient Near Eastern Worlds and*

Beyond Dedicated to Giovanni Battista Lanfranchi on the Occasion of His 65th Birthday on June 23, 2014 (AOAT 412), Münster, 387-404.
Meskell L. (ed.) 2005, *Archaeologies of Materiality*, Malden.
Miglus P.A. 2003, Die Siegesstele des Königs Dāduša von Ešnunna und ihre Stellung in der Kunst Mesopotamiens und der Nachbargebiete, in Dittmann R., Eder C., Jacobs B. (eds), *Altertumswissenschaften im Dialog. Festschrift für Wolfram Nagel zur Vollendung seines 80. Lebensjahres* (AOAT 306), Münster, 397-419.
Mitchell W.J.T. 1986, *Iconology: Image, Text, Ideology*, Chicago.
Mitchell W.J.T. 1994, *Picture Theory*, Chicago.
Moro A. 2008, *The Boundaries of Babel: The Brain and the Enigma of Impossible Languages*, Cambridge.
Moro A. 2016, *Impossible Languages*, Cambridge.
Nadali D. 2008, La Stele di Daduša come documento storico dell'età paleobabilonese. Immagini e iscrizione a confronto, *Vicino Oriente* 14, 129-146.
Nissen H.J. 1988, *The Early History of the Ancient Near East 9000-2000 B.C.*, Chicago.
Nissen H.J. 1993, The context of the emergence of writing in Mesopotamia and Iran, in Curtis J. (ed.), *Early Mesopotamia and Iran: Contact and Conflict 3500-1600 BC*, London, 54-71.
Ong W.J. 2002, *Orality and Literacy. The Technologizing of the Word*, London.
Overmann K.A. 2016a, Beyond writing: the development of literacy in the Ancient Near East, *Cambridge Archaeological Journal* 26, 285-303.
Overmann K.A. 2016b, Materiality and numerical cognition: a material engagement theory perspective, in Wynn T., Coolidge F.L. (eds), *Cognitive Models in Palaeolithic Archaeology*, Oxford, 89-112.
Overmann K.A. 2016c, The role of materiality in numerical cognition, *Quaternary International* 405, 42-51.
Overmann K.A. 2016d, Number concepts are constructed through material engagement: a reply to Sutliff, Read, and Everett, *Current Anthropology* 57, 352-356.
Pollock S. 2016, From clay to stone: material practices and writing in third millennium Mesopotamia, in Balke T.E., Tsouparopoulou C. (eds), *Materiality of Writing in Early Mesopotamia*, Berlin, 277-291.
Postgate J.N. 1992, *Early Mesopotamia. Society and Economy at the Dawn of History*, London.
Rizzolatti G., Arbib M.A. 1998, Language within our grasp, *Trends in Neurosciences* 21, 188-194.
Rizzolatti G., Buccino G. 2005, The mirror neuron system and its role in imitation and language, in Dehaene S., Duhamel J.-R., Hauser M.D., Rizzolatti G. (eds), *From Monkey Brain to Human Brain. A Fyssen Foundation Symposium*, Cambridge-London, 213-233.
Rizzolatti G., Craighero L. 2004, The mirror-neuron system, *Annual Review of Neuroscience* 27, 169-192.
Rizzolatti G., Fadiga L., Gallese V., Fogassi L. 1996, Premotor cortex and the recognition of motor actions, *Brain Research, Cognitive Brain Research* 3, 131-141.
Rizzolatti G., Sinigaglia C. 2006, *Brain – How Our Minds Share Actions and Emotions*, Oxford.
Robertson J.S. 2004, The possibility and actuality of writing, in Houston S.H. (ed.), *The First Writing. Script Invention as History and Process*, Cambridge, 16-38.
Robinson J. 2000, Languages of art at the turn of the century, *The Journal of Aesthetics and Art Criticism* 58/3, 213-218.
Rollinger R. 2017, Dāduša's Stela and the vexed question of identifying the main actors on the relief, *Iraq* 79, 203-212.
Schmandt-Besserat D. 1992, *Before Writing. From Counting to Cuneiform*, Austin.
Schmandt-Besserat D. 1996, *How Writing Came About*, Austin.
Schmandt-Besserat D. 2007, *When Writing Met Art. From Symbol to Story*, Austin.
Schwenger P. 2001, Words and the murder of the thing, *Critical Inquiry* 28, 99-113.
Schwenger P. 2006, *The Tears of Things: Melancholy and Physical Objects*, Minneapolis.
Selz G.J. 2011, Remarks on the empirical foundation and scholastic tradition of Early Mesopotamian acquisition of knowledge, in Selz G.J. (ed.), *The Empirical Dimension of Ancient Near Eastern Studies/Die empirische Dimension altorientalischer Forschung* (Wiener Offene Orientalistik 6), Vienna, 49-70.
Stout D., Toth N., Schick K., Chaminade T. 2008, Neural correlates of Early Stone Age toolmaking: technology, language and cognition in human evolution, *Phil. Trans. R. Soc. B* 363, 1939-1949.
Suter C.E. 2018, The victory stele of Dadusha of Eshnunna: A new look at its culminating scene, *Ash-Sharq* 2/2, 1-18 .
Tettamanti M., Buccino G., Saccuman M.C., Gallese V., Danna M., Scifo P., Fazio F., Rizzolatti G., Cappa S.F., Perani D. 2005, Listening to action-related sentences activates fronto-parietal motor circuits, *Journal of Cognitive Neuroscience* 17, 273-281.

Tettamanti M., Moro A. 2012, Can syntax appear in a mirror (system)?, *Cortex* 48, 923-935.
Tilley C. 1999, *Metaphor and Material Culture*, Oxford.
Tilley C. 2004, *The Materiality of Stone. Explorations in Landscape Phenomenology: 1*, Oxford.
Tsouparopoulou C. 2016, Deconstructing textuality, reconstructing materiality, in Balke T.E., Tsouparopoulou C. (eds), *Materiality of Writing in Early Mesopotamia*, Berlin, 257-275.
Uehlinger C. 2008, Gott oder König? Bild und Text auf der altbabylonischen Siegesstele des Königs Dāduša von Ešnunna, in Janowski B., Bauks M., Liess K., Riede P. (eds), *Was ist der Mensch, dass du seiner gedenkst? (Psalm 8,5). Aspekte einer theologischen Anthropologie. Festschrift für Bernd Janowski zum 65. Geburtstag*, Neukirchen-Vluyn, 515-536.
Winter I.J. 1999, The aesthetic value of Lapis Lazuli in Mesopotamia, in Caubet A. (ed.), *Cornaline et pierres précieuses. La Méditerranée, de l'Antiquité à l'Islam*, Paris, 45-58.
Winter I.J. 2003, "Surpassing Work": Mastery of materials and the value of skilled production in ancient Sumer, in Potts T., Roaf M., Stein D. (eds), *Culture through Objects: Ancient Near Eastern Studies in Honour of P.R.S. Moorey*, Oxford, 403-421.
Winter I.J. 2007, Agency marked, agency ascribed: the affective object in ancient Mesopotamia, in Osborne R., Tanner J. (eds), *Art's Agency and Art History*, Oxford, 42-69.
Wynn T., Coolidge F.L., Overmann K.A. 2013, The archaeology of number concept and its implications for the evolution of language, in Botha R., Everaert M. (eds), *The Evolutionary Emergence of Human Language: Evidence and Inference*, Oxford, 118-138.

Davide Nadali
Sapienza Università di Roma
Dipartimento di Scienze dell'antichità
Via dei Volsci 122
00185 Roma, Italy
davide.nadali@uniroma1.it