From Clay Tablet to Digital Tablet. The Diamesic Variation of Writing

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Abstract. 'Diamesy' is a metalinguistic term referring to the communication. The aim of this paper is to redefine the concept of diamesy applied to writing systems from the grapholinguistic point of view, in order to insert it into the architecture of writing's variation, and investigating writing shifts in relation to media identity.

For this purpose, the story of the term diamesy, its attestations and meanings in both linguistics and grapholinguistics will be illustrated, providing cases of diamesic variation in writing history. Afterwards, the focus will be on the materiality of writing and the relation between it and material technology, in order to redefine the concept of medium, distinguishing it from mode and modality of communication, and its significance for writing variation.

1. Introduction

The concept of diamesy has taken its first steps within the debate about oral and written language, as the identity of the medium used for the communication was found to be a factor responsible for differences in

The term was introduced by Mioni (1983) to emphasize the difference between oral and written modes of representation in contemporary Italian.

In linguistic studies the concept of variation depending upon media has been explored by several critics and reviews, which have the same idea that language can change explicitly and exclusively due to materials, channel, or mode of representation. Therefore the concept of diamesy itself has undergone several and different interpretations (and

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critiques), which offered reasons to reduce its area of implementation and to adopt other expressions like "medial variation" and "immediacy/distance," referring to the conditions of communication.

For the purpose of introducing the concept of diamesy as one dimension of grapholinguistic variation and, hence, applying it to writing, it is necessary to review the status of writing in both grapholinguistics and linguistics. Moreover, given that the discussion point about the influence of medium in linguistics was born from the debate about oral and written language, it is also necessary to reassess the status of both writing and speaking in relation to language.

These last issues represent a compulsory and unavoidable topic of research that should be addressed before proceeding. The Greek poet Simonides of Keos, first recorded by Plutarch (*De gloria Atheniensium*, 3.347a), wrote that "Poema pictura loquens, pictura poema silens" (poetry is a speaking picture, painting a silent [mute] poetry). This statement is often rehearsed during investigation into the relation between poetry and painting, which are similar but different artistic products of human imagination. In the same way, it can be stated that speech and writing are similar in their functions, one of which is surely to render language, but they are also different in their nature, one of which is surely the modality of rendering language.

In this paper writing and speaking are considered not to be the same: they work together and serve a similar purpose, which is to convey a message. They are "distinct materializations of language" (Meletis, 2020, p. 72); they do not depend upon each other, because they differ fundamentally, first of all by the fact that writing extends mainly in space, while speech extends in time (Dürscheid, 2016, pp. 24–35).

In this respect, writing is a medium of human communication that involves the representation of a language with written symbols (Ong, 1982). They are meant to render a language into a form that can be reconstructed by other humans separated by time and/or space (Haas, 1996). Hence writing has media for itself, while being a medium for

Above all, this paper recalls, as inspiration, Florian Coulmas' words: "the media revolution is not just a catchword; it is a reality to which we are forced to adapt and in which writing is of central importance" (2013, p. X). The paper aims to further investigate how medial technologies both constrain and enable writing, and how writing systems, through millennia, have been producing, adapting, and are affected by medial technologies.

2.   Diamesic Variation in Linguistics

The current classificatory model used in sociolinguistics, especially in European studies, is from the Norwegian linguist Flydal (1952, pp. 241–

258), who introduced the terms *diastraty* and *diatopy*, and the Romanian linguist Coseriu (1955–1956), who, adding the technicism *diaphasy* to the previous terms, elaborated a taxonomy consisting of mutual referring technicisms, forming a structured and cohesive system.

Based on the famous Saussurean dichotomy diachrony/syncrony, Coseriu motivated the prefix and Greek preposition δια- "through" in order to give the meaning of internal articulation of the linguistic system, adding Greek and Latin substantives (τόπος "place"; φάσις "utterance"; *stratum* "a class of society composed of people with similar social, cultural, or economic status"). The resulting scheme, called "architecture of language" had been composed of four linguistic variations: diatopic, diachronic, diastriatic, and diaphasic variations.[1] Coseriu coined the only diaphasia technicism, which refers to the different level of formality in communicative situations.

Before the formal introduction of diamesy into the architecture of concept of diaphasic variation into what will then be called diamesic variation. Indeed, Coseriu (1966, p. 199; 1980a, p. 198) discriminated between "language's style" (first attested in French "styles de langue"), which does refer to the communicative circumstances, and "register," which should be considered when written/oral/literary language is taken into account. Following his path, several dictionaries have registered distinct headwords for "style" and "register". Dubois et al. (2002) defined style as "la marque de l'individualité du sujet dans le discours" and as "que ce choix soit coscient et délibéré, ou une simple deviation, le style reside dans l'écart entre la parole individuelle et la langue" (2002, pp. 446–447), and register as "les registres de la parole sont les utilizations que chaque sujet parlant fait des niveaux de langue existant dans l'usage social d'une langue (familier, populaire, soutenu, etc.)[2]" (2002, p. 406).

Likewise, Cardona (1988) defined register as "un determinato livello stilistico (colloquiale, poetico, burocratico, formale e così vi) o un sottocodice relativo ad una lingua speciale"[3] and identified Reid (1956) as the name originator, and style as:

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1. In German studies Diatopie, Diastratie, and Diaphasie are first attested in Coseriu (1980b, pp. 111–112); in French studies they appeared first in Coseriu (1998, p. 14); in Italian studies the first attestation goes back to 1973 in the Gradit dictionary (cf. Bombi and Orioles (2003, p. 54)).

2. "whether that choice is conscious and deliberate, or a mere deviation, style resides in the gap between individual speech and are the uses that each speaker makes levels of language existing in the social use of a language (colloquial, popular, sustained, etc.)".

3. "a certain stylistic level (colloquial, poetic, bureaucratic, formal, and so on) or a subcode relating to a special language".

qualunque manifestazione linguistica, scritta o orale, purché caratteriz-
zata da specifiche scelte (lessicali, sintattiche, eventualmente intonative)
all'interno della (…) varietà di riferimento funzionale; si chiamano infatti ss.
funzionali (ingl. *functional styles* ecc.) degli insiemi di scelte orientati verso
specifici fini comunicativi (s. scientifico, colloquiale, commerciale, ufficiale,
giornalistico ecc.).[4]

These dictionaries had registered the subtle but unambiguous dis-
tinction once suggested by Coseriu, in order to keep the concepts of in-
formal separate. Indeed, the ultimate aim was to not consider a specific
realisation, whether written, oral, transmitted etc., bound to a specific
style.

Unfortunately this distinction was not receipted and, hence, "style"
and "register" have been often, and still are, treated as synonyms (see
§ 3.).

For the peculiar Italian linguistic situation, the linguist Mioni (1983)
coined and added to this scheme the term *diamesy*, resorting to the Greek
μέσος "middle of, between amidst," with the aim of referring to the ex-
pressive medium (written, oral, transmitted etc.) used for the communi-
cation.[5] The concept of diamesy has undergone several criticisms, due
to the characteristics of the debate that brought the term alongside with
the other variation's dimensions: its definition was deeply influenced
by the definition of "popular Italian" and "written Italian" (i.e., liter-
ary), while no thought was dedicated to the oral opposite poles with no
common features at all.

Since its insertion in the variational architecture of language, di-
amesy has posed considerable semantic and metalinguistic issues, with
special reference to its relation with diaphasic variation, as highlighted
by Holtus (1984) and Radtke (1992):

> Per evitare possibili equivoci è da chiarire che scritto e parlato non vanno
> intesi come varietà (cioè una deviazione dalla lingua comune), ma come due
> forme di rappresentazione tramite media diversi (cioè come realizzazioni di-
> verse di una lingua e delle sue varietà)[6] (ibid., p. 67).

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4. "any linguistic utterances, written or oral, as long as it is characterized by spe-
cific choices (lexical, syntactic, possibly intonative) within the (…) variety of func-
tional reference; in fact they are called functional styles of the sets of choices oriented
towards specific communicative purposes (scientific, colloquial, commercial, official,
journalistic etc.)".

5. Diamesy is the result of several research projects that, between the 1970s and
1980s, spread in European linguistics. In Italy there has been a debate on so-called
"popular Italian" and "regional Italian," while in France the debate was focused on the
diachronic variation of contemporary French (Fusco, 2000).

6. "In order to avoid possible misunderstandings it should be clarified that written
and oral must not be understood as varieties (i.e., deviation from common language),
but as two forms of representation through different media (i.e., different realizations
of a language and its varieties)".

In the same period, Koch and Oesterreicher (1985; 1990) created a different and more articulated model for linguistic variations, which considered the universal parameters of proximity and distance in the communication as the only ones determining the linguistic variation.[7] They were aware of Mioni's works and about diamesy, but they did not agree with the choice of medium as noun formation. Koch wrote:

> Der von Mioni (1983, S. 508) eingeführte und in der italienischen und italienistischen Forschung verbreitete Terminus 'diamesisch' ist insofern, wiewohl aus Gründen der terminologischen Symmetrie recht praktisch, nicht sehr glücklich, weil er auf das Medium (agr. μέσον entsprechend lat. medium) abhebt[8] (ebd., 143, n. 3)

Indeed, they used the term 'medium' meant as "two realizations for linguistic utterances" referring to the phonetic and graphemic realizations, and did discriminate between *Medium* and *Konzeption*, a distinction adopted from the model suited for the French language by Söll (1980), who fixed the general features of oral

Due to their distinction between *Medium* and *Konzeption* and the idea of medium-transferability, the possibility of transferring a communication from one medium to another without any issue (Schneider, 2016; Schneider, Butterworth, and Hahn, 2018), Koch-Oesterreicher's model has undergone several reviews, with special attention to their concept of medium. Indeed, they affirmed that, because language is independent, every text can be transferred in new media without any need of modification. Among the reviewers, Krefeld (2017) has highlighted the weakness of their concept of medium and the ambiguity of it and other terms, such as modality, and observed that the "materialität des Zeichens" must not be confused with "seiner medialität".

On the other hand, Dürscheid (2018) has suggested not using the term 'medium' at all:

> Doch vermutlich hätten Koch/Oesterreicher gut daran getan, nicht ihrerseits den Terminus *Medium* zu bemühen; besser hätten sie von Beginn an von *Modalität* gesprochen und folglich von *Modalität und Konzeption*, nicht von *Medium und Konzeption*. Die vielen medientheoretischen Auseinandersetzungen

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7. Regarding the CMC, Hausendorf, Kesselheim, Kato, and Breitholz (2017, p. 15) have found that this modality of communication goes beyond "face and hear" because it does not necessarily need to be spoken aloud; they then proposed using the terms "presence" (*Anwesenheit*) and "readability" (*Lesbarkeit*), instead of "orality" and "literacy".

8. "The term 'diamesisch', introduced by Mioni (1983, S. 508) and widely used in Italian and Italian research, is not very accurate, although it is quite practical for reasons of terminological symmetry, because it refers to the medium (agr. μέσον corresponding to Latin medium) what? takes off".

rund um ihr Modell wären dann vielleicht ausgeblieben.[9] (Dürscheid, 2018, S. 12)

Moreover, in an attempt to clarify the competing media terms, Dürscheid has introduced three different concepts of medium: medium1, which, refers to the modality, "modalitätbezogen" (ibid., p. 11), constitutes the meant sense found in Koch-Oesterreicher;[10] medium2, which, refers to the technological aspect, "technikbezogen," meant for the distinction between technologically different media, such as SMS, chat, Internet communication and vocal messages; medium3, which refers to the processing activity for the formation of linguistic signs (Schneider, 2016).

3.   Diamesic Variation in Grapholinguistics

This terminological uncertainty has led to similar different uses of both diamesy and medium in Grapholinguistics.

First of all, Bunčić, Lippert, and Rabus' research, edited in 2016, mentioned diamesy with the other dimensions of variations, diastratic and diaphasic. They used this term referring to the Koch-Oesterreicher distinction, while choosing the term "medial," already used by Dürscheid (2002, pp. 47–50), to refer to the actual distinction in the medium itself.

> For the choice of script, in many cases of digraphia the writing material— parchment, wood, stone [...]—plays an important role as well. [...] Such situations can therefore be called medial digraphia (Bunčić, Lippert, and Rabus, 2016, p. 58)

> an Italian tradition of referring to a similarly defined kind of variation as diamesic (from Greek μέσον 'middle', a cognate of Latin medium). This adjective will be used there to denote a type of digraphia governed by the distinction introduced by Koch and Oesterreicher (1985), viz. diamesic digraphia (Bunčić, Lippert, and Rabus, 2016, p. 59)

In their rich presentation of linguistic cases, regarding diaphasic variation, it is noteworthy to highlight the fact that no distinction is made between style and register (cfr. Bunčić, Lippert, and Rabus (ibid., p. 57)), even if the sense in which the term is used explicitly recalls Coseriu's interpretation (ibid., n. 25).

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9. "But presumably Koch/Oesterreicher would have done well not to use the term 'medium' themselves; it would have been better if they had spoken of modality from the beginning and consequently of modality and conception, not of medium and conception. The many media-theoretical debates surrounding their model might then have failed to materialize".

10. This would be the reason for using "modality" and "medium" in the same context and, apparently, with the same meaning.

Afterwards, in his all-embracing grapholinguistics monograph, Meletis (2020) addressed several sociolinguistics issues about writing, mentioning the previous study and the diamesic factor:

> Based on the type of opposition—in the Trubezkoyan sense—between two scripts, Bunčić assumes privative and equipollent situations. In (1) digraphia, there is a privative opposition between scripts, meaning one script is lacking a feature that is exhibited by the other script. Which of the two scripts is used in given situations is determined by (1a) diaphasic (pertaining to registers and style), (1b) diastratic (pertaining to social strata), (1c) diamesic (pertaining to the conceptual dimension of written vs. spoken established by Koch and Oesterreicher (1985), or (1d) medial (depending on the writing material) factors. (Meletis, 2020, p. 334)

Then he goes further, recalling the concept of 'medium' in Koch and Oesterreicher's model, that is conceived as distinct from the conceptual dimension.

> The hybrid functional nature of both writing and speech is captured by a conceptual distinction that has been impactful in the German-speaking realm: Koch & Oesterreicher's (1985; 1990; for an English translation, cf. Koch & Oesterreicher 2012) continuum of orality and literacy (cf. also Biber (1988)). In their conception, the dimension of medium—whether a text is medially, i.e., materially, realized in the spoken or written modality—is divorced from the conceptual dimension. (Meletis, 2020, p. 350)

Meletis has explained the reasons lying behind these two terminologies: medial variation refers to the realizations of linguistic utterances,[11] while diamesic variation refers to the modalities and style of the expression.[12] The necessity of such distinctions was already highlighted by

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11. Already in Dürscheid (2002, p. 47), referring to Koch-Oesterreicher: "dass eine Äußerung phonisch oder graphisch vorliegt, also gesprochen oder geschrieben wird. In diesem Sinne beziehen sich die Termini ‚mündlich/schriftlich' auf "das Medium der Realisierung sprachlicher Äußerungen" ("this simply means the fact that an utterance is phonic or graphic, i.e., it is spoken or written. In this sense, the terms 'oral/written' refer to "the medium of realization of linguistic utterances").

12. In the few lines below, Dürscheid illustrated it: "Zum anderen werde darunter oft der Duktus, die Modalität der Äußerungen verstanden, "kurz: die Konzeption, die die Äußerung prägt" (Koch and Oesterreicher, 1984, p. 587). Es geht dabei um die Tatsache, dass eine bestimmte Ausdrucksweise gewählt wird und diese eher "mündlich" (d.h. an die gesprochene Sprache) oder eher "schriftlich" (an die geschriebene Sprache) angelehnt ist." ("On the other hand, it is often understood to mean the characteristic style, the modality of the utterance, "in short: the concept that characterizes the utterance" (ibid., p. 587). It is about the fact that a certain mode of expression is chosen and that it is more "oral" (i.e., spoken language) or more "written" (i.e., written language) based").

Dürscheid: „Zwischen der konzeptionellen und der medialen Dimension von Mündlichkeit und Schriftlichkeit ist also zu unterscheiden".[13]

Using Coseriu's terminology, in order to define the diphasic variation, the register is here grouped in with the style, which concerns only communicative circumstances. The semantic domain of register, which was supposed to refer to the diamesic variation meant as distinctive for written/oral/literary language, is here combined with the semantic domain of style, which was supposed to indicate situational and functional features. Not accepting the Coseriu's specification, and grouping in style and register for the diaphasic variation leaves no choice other than to create a new term designed for the "conceptual dimension" of written language.

Notwithstanding, this clearcut distinction offers an opportunity to focus on the material features of medium.

Therefore, it can be stated that in Linguistics the actual tendency is either to reabsorb the diamesic variation into the diaphasic one, or to subcategorize it in accordance with the multifaceted concept of medium. Likewise, in Grapholinguistics this has led to the distinction between medial variation, which does refer to the medium intended as material, and diamesic variation, which refers to the intended function, purpose, and conditions of written communication (first prerogative of the style and diaphasic variation).

4.   Medium, Mode and Modality

Diamesy is inherently connected to the idea of medium, and its meaning must be reassessed and distinguished from other concepts including modality and mode of transmission.

The concept of medium covers a wide variety of phenomena. It can be seen as the conduit for the transmission of information, and as the form of support for the transmission itself. Ong (1982) objected to a conception of media which reduces them to "pipelines for the transfer of a material called information," because the shape of the pipe affects the type of information that can be transmitted, alters the conditions of reception, and often leads to the creation of works tailor-made for the medium.

In the 20th century, when technological inventions such as photography, film etc. expanded the repertory of channels of communication and means of representation, the concept of medium emerged as an autonomous topic of enquiry, leading to different analysis approaches then called "medium theory". Among the scholars concerned with how the

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13. "A distinction must therefore be made between the conceptual and the medial dimension of orality and writing".

media altered the meaning of the information transferred through them, McLuhan (1964) stated that media appear to be like an "extension of man," since they are "forms that shape and reshape our perceptions". He came to say that "the medium itself is the message".

Bolter and Grusin (1999) proposed the concept of "remediation" in order to explain relations between different media. In their view, every new technology-based medium must be understood, in the context of new media, as an attempt to "remediate" their limitations and get closer to the elusive goal of "achieving the real". They did not agree with the claim that every new medium constitutes an improvement over an old one, because every gain in expressions comes at a cost, and new media do not necessarily produce better narratives than older ones.

We have seen that writing itself is a medium of human communication that involves the representation of a language with written symbols. Hence, while being a medium, writing has media for itself, tools and technologies to fulfill its main and first function. It is because writing and technology are so closely linked that technology questions were often overlooked. What is then intended with technology? Technology is not an object, but rather a vital system that is bound to the world of time and space, it is always inextricably tied both to a particular moment in human history and to the practical action of the human-like world in which it is embedded. Is it possible that material technologies, implements, and artifacts can alter and shape the material processes by which writing occurs?

Grapholinguistics should focus on these questions in order to appropriately use the concept of diamesy in writing variation.

4.1. Material Media

Writing is language made material (Haas, 1996, p. 3), hence the relation between writing and material is of high relevance for the definition of writing itself. Writing has its power by linking two powerful systems: the material realms of time and space with the human act of language. Therefore, conceiving writing as inextricably based in the material world can provide a theoretical base from which it is possible to argue about the most recent interaction of the technology question: what is the nature of computer technologies, and what is their impact on writing?

In Grapholinguistics, the concept of writing as medium has been defined due to its nature as realization of language, referring to its materiality.

This type of interpretation highlights the material aspect of medium, which was previously defined with the adjective "medial" and the label "medium2". Here is Fontanille's suggestion:

L'extension de l'analyse aux objets-supports et aux situations d'écriture conduit alors à s'intéresser à la structure matérielle du support, à la manière dont elle offre au destinateur une surface d'inscription, et au destinataire, une surface de déchiffrement ou d'action.[14] (Fontanille, 2005, p. 185)

We should go further and consider the writing surface and the writing-bearing object, and, because they are all space- and time-related, the relations between them and the context of storage and display. This interpretation of medium helps to understand how material technologies both constrain and enable writing, and that objects of or with writing are themselves constitutive of meanings, due to the impact of the materiality on human perception.

Looking at modern technological media, such as digital tablets and smartphones, it can be observed that the materiality of the object is nearer to releasing itself from the relation form/function, giving the user an impression of extreme ductility, while the graphic interface looks increasingly like common material media (folder, notebook, paper sheet) and their heavy weights. It has been already observed by Gérard Genette that the material component through which writing can be accomplished offers a "sense supplement" to the text, and that the support's form should be interpreted as one condition for the organization of the text. Genette came to say that "le plus souvent, donc, le paratexte est lui-même un texte: s'il n'est pas encore le texte, il est déjà du texte" (Genette, 1987, p. 9).[15]

The notion that objects are themselves constitutive of meanings, due to the impact of the materiality of their support on perception, can also be discovered in ancient times. For instance, the case of cuneiform script that had been, wherever used and for whatever languages, deeply linked to the clay tablet as bearing object. The tablet in this case has been the common denominator in the spread of cuneiform script and the major medium due to the material, the clay, which was common in these areas, to the easily preservable and portable format, and to the established link between it and bureaucracy. The inscriptions on stone had also played an important role, due to their context of display and intended functions, which was not necessarily to be read, but to express power.

In the cuneiform world there is a strong contrast between the clay tablets, the majority of which come from archive contexts and were probably intended for use by those who could read them, and inscriptions on stone which

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14. "The extension of the analysis to support objects and writing situations then leads to an interest in the material structure of the support, the way in which it offers the addressee a surface for inscription, and the addressee, a surface, Decryption, or action".

15. "most often, therefore, the paratext is itself a text: if it is not yet the text, it is already text".

> were mostly situated in public or semi-public places and were meant to be seen and to impress a wide range of people including those, probably the majority, who could not actually read them (Matthews, 2013, p. 73)

To use the actual terminology, the medial variation here led to diamesic variation, because it refers to situational features.

Another important aspect of the materiality of writing supports relates to their likelihood of preservation and survival both in ancient times to the present day. Many texts themselves express this trait, for instance the tablet SAA X 373 R. 4-13 (= ABL 334) reads "Let me read the tablets in the presence of the king, my lord, and let me put down on them whatever is agreeable to the king; whatever is not acceptable to the king, I shall remove from them. The tablets I am speaking about are worth preserving until far-off days".

Moreover, writing tools may also influence a script's shape. The ductus of Indian scripts tends toward straight lines and sharp angles in northern India, for example in Bengali, whereas that of southern Indian scripts, such as Tamil, emphasizes curved lines and rounded forms. The reason is thought to be that the birch bark and paper used in northern India was less prone to being split by a metal stylus drawing straight lines and sharp angles than the palm leaves used in the south. Cuneiform, conversely, has been always written with a stylus, usually obtained from a reed. Its standard name in Akkadian was *qan tuppi* "tablet's reed". The way the reed was cut would have determined the calligraphic style. The paleo Babylonian tablets (XVII a.C.) have a typical oblique handwriting, which is due to the use of an oblique cut reed, while Assyrian text was written with a flat cut reed.

4.2.   Mode of Production and Transmission

Writing is not just a technology (for representing speech) but rather a "mode of communication that is socially learned and culturally shaped or transmitted" (Houston, 2012, p. xiv). Indeed, we have seen that written for communication. Applying this to writing itself implies assuming medium as mode of transmission for writing, and distinguishing medium as technology from medium as communication form, intended as set of social rules that users follow once they have the technologies to use (cf. Meyrowitz (1987)).

This point is relevant for the diachronic perspective of writing variation, because, tracing back through the evolution of written signs, we notice that they have been under the influence of several factors, some due to their physical form, to the physical form of the carrying objects, and to the physical form of the tool implied. This interpretation of medium can then point out the graphetic features concerning material

aspects of medium which influence the writing process. Indeed, signs' shapes, once they are recognized in their signified meanings, become increasingly subject to forces related to movement and perception that change characters written by hand.

These forces include the so-called "biomechanics of production" which Overmann includes in the forces related to movement and perception that change characters written by hand.

> In a literate brain, the region with an evolutionarily provided function for recognizing physical objects becomes trained to recognize written characters as if they were physical objects, interpret them through the gestures of handwriting, and associate them with the meanings and sounds of language. Such reorganization involves not just brains but behaviors and material forms as well.
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> Biomechanics of production: the use of hands and arms, as well as head and body positions that affect how objects used for writing are held, oriented, viewed, and manipulated (Overmann, 2021, p. 98)

For instance, in proto-cuneiform script, namely the archaic signs attested in Uruk IV (3500-3300 BC) and Uruk III (3300-3000 BC), two general tendencies can be observed: first, the pictographic signs of Uruk IVa become increasingly abstract in Uruk III, as the round and incised strokes are replaced with straight and impressed lines; second, lines' orientations are chosen instead of others, because they allow a more natural flow of the cuneus and require less effort to the scribe. The motivation of both graphemic variations is to minimize the effort to produce writing and make it more efficient. These ultimately link to the nature, material and functional, of the medium.

It was thus the more efficient use of tools that forced the elements that make up signs into their wedgelike shapes, taking on the characteristic angular form. Cuneiform writing therefore originated because of the difficulties of representing curved lines on the fresh clay and the need to break up the signs into segments made up of small rectilinear incisions with a triangular head.

4.3.   Modality of Writing, Modality of Language

Lastly, writing has been also as a modality of language, written modality of rendering writing, i.e., written language. The modality is "the particular physical means by which an alphabet is executed and received" (Watt, 1983, p. 1543). It is related both to the process of coding and decoding the message and to the intended audience and recipient.

Going back to the cuneiform example, we have seen that physical constraints, due to the support and the tool, are key factors for the graphemic change of script. The law of least effort, or Zipf law, indeed

points to the same direction. Notwithstanding this, for writing there are more features to be considered.

In the case of Egyptian scripts, for instance, the time investment was also an important concern, given the development of cursive scripts rather than Hieroglyphs. The purpose of these was to make coding easier and quicker than what was possible with hieroglyphs. However, writing speed become inversely proportional to legibility, a factor that is directly related to the intended readership: the larger intended readership, the more easily readable the script has to be. Indeed, after demotic was introduced, scribes had to learn it daily and before others, as Clement of Alexandria shows us.

> Αὐτίκα οἱ παρ' Αἰγυπτίοις παιδευόμενοι πρῶτον μὲν πάντων τὴν Αἰγυπτίων γραμ-
> μάτων μέθοδον ἐκμανθάνουσι, τὴν ἐπιστολογραφικὴν καλουμένην· δευτέραν δὲ τὴν
> ἱερατικήν, ᾗ χρῶνται οἱ ἱερογραμματεῖς· ὑστάτην δὲ καὶ τελευταίαν τὴν ἱερογλυφικήν
> [...]. (*Stromata* V, iv, 20-21)[16]

Therefore, in the later periods of Egyptian writing history, scribes had to take into consideration the intended readership to determine the reading capability and then to choose which script use.

A clear example in diachronic variation is the Ptolemaic sacerdotal decrees, which are engraved on stone in hieroglyphs, demotic, and Greek. In particular, the Decree of Canopus (238 BC) refers to Hieroglyphs as "the script of the pr-ʿnh" (hieroglyphic «sḫꜣ n pr-ʿnḫ», demotic «sḫꜣ (n) pr-ʿnh», ἱερός in Greek); to Demotic as "the document script" (hieroglyphic «sḫꜣ n šʿ.t», demotic «sḫꜣ (n) šʿ(.t)», Greek Αἰγύπτιος); and to Greek as "the script of the Aegean islanders" (i.e., Greeks) (hieroglyphic «sḫꜣ n ḫꜣ.w-nb.wt», demotic «sḫꜣ (n) wynn», Greek ἑλληνικοῖς (sc. γράμμασιν). The decree of Memphis (196 BC) refers to Hieroglyphs as "the script of the divine words" (hieroglyphic «sḫꜣ mdw-nṯr»; demotic «sḫꜣ md(.t)-nṯr», Greek: ἱερός); to Demotic as "the document script" (hieroglyphic «sḫꜣ n šʿy», demotic «sḫꜣ (n) šʿ.t», Greek: ἐγχώριος); and to Greek as "the script of the Aegean islanders (i.e., Greeks)". Both of these documents refer to Demotic as document script, translated in Greek as ἐγχώριος "indigenous." The Demotic script records are then intended to record everyday business and to be separate to the other two scripts by means of distinct functionality. This means that the nature of medium, conceiving its material constraints, influenced the diachronic evolution of Egyptian scripts, alongside the purpose of the same script, which has changed depending upon the intended subject of the written communication and its intended readership.

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16. "Now those instructed among the Egyptians learned first of all that style of the Egyptian letters which is called Epistolographic; and second, the Hieratic, which the sacred scribes practice. And last of all, the Hieroglyphic [...]".

The increasing use of emojis in digital writing, thanks to the inclusion in the Unicode Standard in 2010 (cfr. Dürscheid and Meletis 2019), is challenging the principle of least effort regarding the time and exertion needed for the production of written signs, and is enlarging the variants of written digital communication. Nowadays the relationship image/writing and the same concept of writing are evolving thanks to the number of emojis included in the Unicode Standard, which will definitely change the intended readership or the capability of read digital written communication.

5.   Conclusion

Overall, retracing the history of the term diamesy, as often happens with terminology, gives us the chance to examine in depth another term, in this case 'medium'. We have seen that, from a linguistic point of view, the same writing has been seen as medium for language, the influence on which is still undergoing several interpretations. From a grapholinguistic point of view, on the other hand, the concept of medium has been conceived based on the influence that it could have on written functional and situational features.

Now, we have seen that these aspects are inherently bound to each other, given the spatial and timing-related nature of media, and because material and technological aspects inevitably lead to functions which can either directly affect the writing or script choice, or have indexical meaning that affects the communication, then dealing with the temporal and spatial distance or proximity between the different participants in the act of communication.

We are aware that writing has been defined as a technology that extends human ability to communicate with others across space and through time (Haas, 2013). Writing turns the time of communication—the one required by a vocal message, for instance—into space—the one required by a text message—or, I might better suggest, writing adds the time of space to send and receive a message to the space of time that coding and decoding a message need.

The two dimensions of writing, time and space,[17] are possible thanks to the medium, that exists in space, because it is material—whether it is tangible in the common and direct sense, as a paper sheet, or less, as the size in gigabyte of text file—and time, because it is supposed to last over time—for clay tablets over centuries, for digital tablets too, even if the latter is not designed to make texts last a great amount of time.

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17. Innis (1951) has argued that most media of communication have either a "time bias" or a "space bias": they have a tendency either toward lasting a long time or toward moving across space.

Moreover, the surface comes first, whether it is something arbitrarily chosen from existing things or a created artifact, it is a space that had to be invented, accepted, and integrated within society. Today becoming literate is still a matter of interacting with material forms: typing on keyboards instead of handwriting with tools might affect motor skills including hand/eye coordination and signs' recognition, because the potential loss of tolerance for ambiguity in how signs are formed will led to the increasing difficulty of reading handwriting text.

Ultimately, the increasing inclusion of electronic media will involve changes both in individual components of literacy, namely the material forms used for reading and writing, and all interpersonal communicative systems. Because literacy took centuries to develop, it remains an open question how far and deeply electronic media will change it; Florian Coulmas' words can be stated for sure, that "the electronic media revolution has changed and continues to change the linguistic landscape and the public sphere. Written language is at the center of this revolution" (Coulmas, 2013, p. 38).

For our purpose, we might be willing to thank new media and writing tools, which always instigate linguistic innovation beyond the incessant pace of language change (ibid., p. 128) and motivate metalinguistic reflections that lead us now to say that the features constitutive of the same concept 'medium' go beyond the mere materiality of it, and that this should be included in the connotation of the term 'diamesy', which, etymologically, meant everything that stays in between, in the middle of what writing is intended to accomplish.

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