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# The Media-History of Memory. Mapping the Technological Regimes of Memory

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**Abstract**: Building upon the twin premises of the historicity and mediality of memory – individual and collective alike –, this study makes an analytic incursion in the history of memory in terms of the technological media of storing knowledge about the past, i.e. a media-history of memory. The paper aims, in the opening act, at shedding light on the inextricable relationship between memory and the bio-cultural technology available for preserving knowledge, and thus saving the past from oblivion. The study moves on to trace out the succession of the different "technological regimes of memory" emerged in human history, examining how the technology of memory influenced both the formal structure and the *modus operandi* of collective memory, that is to say, both its structural framework and its regime of functioning.

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## The opening protasis: the historicity of memory

The "seed idea" from which this study grows contains in itself the thesis enouncing the *historicity of memory* (individual and collective memory alike). The argument for the historicity of individual human memory has to overcome, first and foremost, psychology's inbuilt ahistorical stance as its main epistemological obstacle. Completely absorbed by the paramount reality of the present, cognitive psychology has detached its attentional focus from the past, treating history as methodologically irrelevant and theoretically unimportant. Abstracting the individual from its socio-cultural nexus in order to study what goes on within his mind in terms of the three processes of encoding, storing, and retrieving data input from the environment, the cognitivist thrust of modern psychology de-historicized human mind. "The 'memory' of such a mind would be outside human history: it dwelt only in the walled interior of the universalized individual."[1] No wonder that within such a present oriented, cognitivist inspired analytical framework, "a history of memory would not merely be irrelevant but would actually make no sense."[2] Against such a background came Seymour Sarason's critical assessment made three decades ago, which retains its general validity for the present: "For all practical purposes psychology is ahistorical. It has its subject matter: the

[1] Kurt Danziger, *Marking the Mind: A History of Memory* (Cambridge: Cambridge University Press, 2008), 10.
[2] Ibid.

individual, and all else is commentary – interesting, but commentary."[1] One step out of this ahistorical deadlock has been taken by paying attention to the biological time, once evolutionary biology started to be integrated within the cognitivist framework. The resulting evolutionary cognitive psychology, while taking into account biological time, it nonetheless failed to acknowledge the crucial importance of socio-historical time in shaping mind and memory. Programmatically refusing the derogatory status of just another "interesting commentary," Kurt Danziger's book *Marking the Mind: A History of Memory* "confronts psychology's 'short present' with [memory's] 'long past'" in his quest to prove the brains' neural plasticity, the mind's social situatedness, and the memory's cultural embeddedness. He argues compellingly that the functioning of individual memory depends upon two extra-cerebral factors irreducible to bio-cognitive evolution: i) the cultural technologies of memory used to discharge knowledge from humans' minds into external memory devices, whose appearance and rapid pace of change forced human memory to continuously adapt its inner working in order to keep up with the high tempo of cultural evolution; ii) secondly, there are socio-political structures conditioning individual memory, which "also does its work in the service and tasks whose parameters are set by changing social demands and conventions."[2] These considerations form the basis upon which Danziger declares individual memory to be a genuine "historical problem" (not only in its evolutionary biological sense, but also in socio-cultural development through time).

In comparison to individual memory, arguing the case for the historicity of collective memory is a less tricky problem. Starting with the first studies tackling the topic, such as Maurice Halbwachs's groundbreaking *La Topographie légendaire des Évangiles en Terre sainte*,[3] scholars of collective memory were fully aware of the historicity of their object of inquiry. In fact, following in the footsteps of Halbwachs's seminal study, mapping the historical shifts occurred in the structure of a group or nation's collective memory has been the standard objective to be pursued by memory analysts. Given this incipient historicist mind-set, an intellectual consensus regarding collective memory's historicity has been established under the theoretical banner of "presentism." The central idea underpinning the presentist stance is that far from remaining immutable, frozen into a state of *perpetuum immobile*, collective memory turns out to be a temporally variable socio-cultural construction, continuously re-organized to fit in the changing contemporary political conditions and power structures. Given its episodic transformations and reorganizations in the course of time, collective memory can form the object on historical analysis. Continuing the tradition, our general assumption underlying this study (i.e. the historicity of memory) contends that "memory is not an unchanging vessel for carrying the past in the present; memory is a process, not a thing,"[4] working differently in different periods of time, and thus having its own dynamics and history. That is to say, by delving into a historical study of memory, we

[1] Seymour Sarasor, *Psychology Misdirected* (New York: Free Press, 1981), 176.
[2] Danzig, *Marking the Mind*, 4–5.
[3] Maurice Halbwachs, "The Legendary Topography of the Gospels in the Holy Land," in *On Collective Memory* (1941; Chicago and London: The University of Chicago Press, 1992), 191-235.
[4] Jeffrey K. Olick and Joyce Robbin, "Social Memory Studies: From 'Collective Memory' to the Historical Sociology of Mnemonic Practices," *Annual Review of Sociology* 24 (1998): 105–140, 122.

come across different modes of remembering, or "memory regimes." Fully acknowledging the history of memory, Jeffrey K. Olick and Joyce Robbin – the main advocates of institutionalizing the new multi-disciplinary field of "social memory studies" – argue for the need of a conceptual shift from a static image of collective memory towards a historical sociology of mnemonic practices. For the sake of convention, respecting in the same time the venerable notion launched by Maurice Halbwachs[1] almost a century ago, we will not follow Olick and Robbin's terminological injunction, continuing to use the concept of "collective memory," fully aware of its historicity. Operationalizing our terms before advancing further, collective memory will be conceived of as the system of retrospective representations of the past undergoing adaptive revisions as time flows, through which a society manages its own historical identity.

Any human society confronts, besides a package of basic existential problems[2] – such as the necessity of satisfying economic needs, physical security, and biological reproduction of its members –, with the cultural problem of managing its own past. It can hardly be imagined, let alone found in the empirical world, a human society disinterested in its own historicity, unengaged in the attempt "to conquer time and save the past from oblivion."[3] True, we should not fall victims to an ethnocentric illusion by forgetting the case of archaic societies which, although fully aware of a "certain form of 'history,' make every effort to disregard it."[4] Rebelling against historical time, the archaic man is longing nostalgically for the return of the mythical time of primordial beginnings. Through their elaborate rituals and ceremonies, these societies are not commemorating historical events making up their historical past – which have no relevance and meaning for them – , but attempt to re-enact in the present the mythical time, i.e. the genuinely real, ahistorical and primordial, "Great Time." These archaic societies, who retaliate against the "terror of history" by the "myth of the eternal return," seem to be contrary evidence to our thesis. But it should bear in mind that even these communities have to face the problem of passing down to the next generations their practical social memory including all the pragmatic knowledge accumulated in the course of time. Even if they are ritualistically oriented towards commemorating the mythical time, they are nonetheless also involved in the mundane business of protecting and transmitting further their prosaic but useful, indeed necessary to survive, stock of practical knowledge. Going rather against the speculative grain of Eliade's philosophical anthropology, ethnologists and other more empirically minded social anthropologists have shown that non-literate societies are not totally absorbed by the cyclical, sacred time. In spite of their contempt for "history," they have nonetheless devised ingenious ways to store knowledge and equally impressive systems of transmitting their culture. For instance, the *griot* in Mande society, the *arokin* of Yoruba people, or the *bana balute*

[1] Maurice Halbwachs, *On Collective Memory* (1925; Chicago and London: The University of Chicago Press, 1992).

[2] D.F. Aberle, A.K. Cohen, A.K. Davis, M.J. Levy, Jr. and F.X. Sutton, "The Functional Prerequisites of a Society," *Ethics* 60 (Jan. 1950), 100–111.

[3] "Editorial," *The UNESCO Courier: The UNESCO Courier: a window open on the world*, XLIII, 3 "In Pursuit of The Past. Memory and History" (March 1990), 11.

[4] Mircea Eliade, *Cosmos and History. The Myth of the Eternal Return* (New York: Harper Torchbooks, 1959), xi.

of Luba people (to name only three "men of memory" from Western and Central Africa) are all examples of agents of memory socially designated to be human repositories of the political and genealogical pasts of their respective societies for practical purposes. Despite their nostalgic yearnings towards the mythical times, archaic societies also developed intricate and highly functional oral memory systems in order to cope with the pressures of concrete history.

The historicity of collective memory implies that in the course of time, the ways in which societies organized their memories and knowledge about the past, how they tried to "save the past from oblivion," varies from one epoch to another. Two leads will guide the directions followed by the current study: i) the first of them points out that memory is intrinsically linked to a mnemonic technology that serves it as its material support; ii) the second of them shows that the technological support used for preserving the stock of knowledge about the past shared within a given community (*id est*, collective memory) leaves its mark on the structure and internal logic of memory. We will try to show how, at a historical scale, the technological medium used for the purpose of conserving memory imposes a specific logic to the way in which collective memory is organized. Before plunging into the media-history of memory, a series of preliminary statements are necessary to be made in order to set the theoretical frame of reference into which our endeavour is embedded.

## Theoretical preliminaries: the *societal* frameworks of collective memory

Maurice Halbwachs continues to be celebrated in the sociology of collective memory for elaborating the "theory of the social frameworks of memory," whose basic tenet is that individual memory, i.e. the psychological memory, is possible only from within the perspective of a social group.[1] In order for him to remember, an individual has to put himself in the current of thought specific to a particular group. This makes the individual's memory "nothing but the crossroads of collective memories."[2] Just as Ludwig Wittgenstein demolished the possibility of a "private language,"[3] Halbwachs showed that private memories are always, in a certain degree, social memories. Since as socialized individuals "we are never alone,"[4] carrying inside our selves the society along with its long array of categories of thought, values, and meanings, our memories are always shaped by some "social frames" (*cadres sociaux*). Halbwachs dispels the illusion of purely private memories, arguing instead the radical idea that every memory, however intimate, is intrinsically social. Intellectual legatee and paradigmatic continuator of Durkheim's sociological tradition, Halbwachs declares himself astound by the *individualistic fallacy* made with such offhandedness by psychologists who attempt to reveal the mysteries of human memory by cloistering the individual from his or her

[1] Maurice Halbwachs, "The Social Frameworks of Memory," in *On Collective Memory* (1925; Chicago: The University of Chicago Press, 1992), 35–189.
[2] Gerdien Jonker, *The Topography of Remembrance: The Dead, Tradition and Collective Memory in Mesopotamia* (Leiden: E.J. Brill, 1995), 20.
[3] Ludwig Wittgenstein, *Philosophical Investigations* (Oxford: Blackwell Publishing, 1953), §243, §244–§271.
[4] Maurice Halbwachs, *The Collective Memory* (1950; New York: Harper & Row, 1980), 23.

social environment in order to study him or her in the artificial and socially aseptic conditions of the experimental laboratory:

> One is rather astonished when reading psychological treatises that deal with memory to find that people are considered there as isolated beings. These make it appear that to understand our mental operations, we need to stick to individuals and first of all, to divide all the bonds which attach individuals to the society of their fellows. Yet it is in society that people normally acquire their memories. It is also in society that they recall, recognize, and localize their memories.[1]

Categorically rejecting this view as a symptomatic expression of reductionistic psychologism, Halbwachs boldly enounces the social framing of memory as a pre-requisite of its existence.

> There is no point in seeking where they [memories] are preserved in my brain or in some nook of my mind to which I alone have access: for they are recalled to me externally, and the groups of which I am a part at any time give me the means to reconstruct them, upon condition, to be sure, that I turn toward them and adopt, at least for the moment, their way of thinking.[2]

Only "to the degree that our individual thought places itself in these frameworks [i.e. the social frameworks of the family, membership groups, religious group, etc.] and participates in this memory [i.e. the collective memory maintained by these social groups] that is capable of the act of recollection."[3] In a nutshell, individual memory exists only in a "social frame," what Peter Berger will later call a social "structure of plausibility."[4] However important this insight turns out to be by proving the social nature of memory, for sociology, Halbwachs' theory of the social frameworks of memory remains a pre-sociological conception, belonging rather to social psychology than to sociology proper. Nonetheless, Halbwachs' project can be radicalized into a "theory of the *societal* frameworks of memory" that will show how collective memory is made possible and conditioned by structural elements, societal in nature. The assembly of structural condition (political, economic, ideological, religious, and technological) that makes possible the existence of a coherent corpus of collective memories cultivated in that given society forms what would be called *the regime of collective memory*. The notion of "the regime of memory" (inspired from the idea of "regime of truth" elaborated by Michel Foucault[5]) denotes the specific configuration of conditions making

[1] Halbwachs, "The Social Frameworks of Memory," 38.
[2] Ibid.
[3] Ibid.
[4] Peter L. Berger, *The Sacred Canopy. Elements of a Sociological Theory of Religion* (New York: Anchor Books, 1967), 45.
[5] Michel Foucault, "Truth and Power," in *Power/Knowledge: Selected Interviews & Other Writings 1972-1977* (New York: Pantheon Books, 1980), 109-133, 131.

possible the existence of a consistent discourse about the past, a discourse that takes shape in terms of the structural possibilities allowed by this particular configuration.

The political frames of collective memory are made up of the form of government and the prevailing ideological regime within a given body social. A totalitarian system will produce a monolithic memory brought in the service of the political power, reducing the "polyglossia" of the past into a single authoritarian and sententious voice. In contrast, a democratic system will allow for the multivocality of the past to be heard through various social representations of the past, possibly even contradictory in nature. The hegemonic ideology leaves its mark too on collective memory: in a conservatory or traditionalist society, the past will tend to be monumentalized, while the memory of the historical great figures and events will be elevated to sacredness. Moreover, what Eviatar Zerubavel calls the "sociomental topography of the past," i.e. how the past is registered and organized into collective memory,[1] is narratively structured differently in terms of the ideological regime. Hence, conservatism favours a collective memory configured along the lines of "the Decline Narrative." Central to this historical consciousness is the "inevitably tragic vision of some glorious past that, unfortunately, is lost forever." The progressive distancing as the time passes from this highly romanticized past taken as reference point and model for the present arouses a strong sentiment of nostalgia.[2] Deep-seated in collective consciousness is the pessimistic feeling of gradual deterioration, coupled with the ancillary belief that "every generation is of a somewhat lesser quality than its predecessors."[3] *Per contrario*, it is safe to assume that a liberal-progressivist ideology will influence collective memory towards monumentalizing the present rather than idealizing the past. Moreover, the collective memory shaped within a liberal ideological *milieu* will include "sociomnemonic structures" that will express the "Progress Narrative."[4]

Paralleling the constraints exerted by political-ideological factors, the "economic frames" of collective memory stand out as instrumental in shaping historical consciousness and the social representation of the past. The economic situation of a society allows for or inhibits the public display of the past by sustaining financially the costs of raising monuments, erecting statues, and building memorials. The material monumentalization of the past, accomplished by publicly displaying the convenient and symbolically exploitable past through physical artefacts, is dependent upon economic wellbeing. Moreover, emplotting and staging the past through commemorative rituals and other social ways of publicly performing the past require financial funds. Even writing the past involves massive investments, since a society has to bear the costs implied by a professional group of historians. No question about it, memory is expensive. Public remembering, too, is a costly affair, with great symbolic payoffs in terms of legitimizing political power, but depending on economic wealth. There are, nonetheless, exceptions that should not be overlooked: the case of North Korea is a

[1] Eviatar Zerubavel, *Time Maps. Collective Memory and the Social Shape of the Past* (Chicago and London: The University of Chicago Press, 2003), 1.
[2] Ibid., 17, 16.
[3] Ibid., 17.
[4] Ibid., 14, 15.

clear-cut counter-example of an economically bankrupt society, defined by structural shortage and chronic scarcity of basic goods, in which almost the entire resources are allocated to the military sector and for the explicit monumentalization of both the present and the past. A similar situation was peculiar to the Socialist Republic of Romania during the 1980s, when the deepening crisis into which the command economy was sinking set the stage for an increasingly intense ideological emission of praising a fictional glorious past. As the engines of the economy were presenting the mechanical symptoms of gripping, the regime revved the cultural motors by which it intensified mythohistorical production. Politically manoeuvred against the backdrop of deteriorating economic conditions, the resort to historical memory was a form of "therapy through myth."[1] The symbolic balm of a monumental past had to alleviate the material wounds of a ruinous present. Anyway, either ensuring the material base for the program of publicly displaying the past, or favouring the escape from the difficult present and the symbolic regression in a heroic past, the economic frames shape, one way or another, historical memory.

Another category of societal pressures and influences is represented by the "religious frames" of collective memory. In an ecclesiastically dominated society, i) in which power is largely concentrated in the institutional apparatus of the Church, ii) the intellectual elite is largely clerical, and iii) suffused with an all-encompassing theological worldview (*Weltanschauung*) (e.g. European Middle Ages societies), it is highly probable that collective memory will have a strong religious shade, if not a religious nature *tout court*. Theocratic societies (e.g. contemporary Iran) are politically founded upon *religious mnemonic orders*. Moreover, the entire state-sponsored and state-authorized memory is essentially an ongoing, never-ending commemoration of religious events, sacred deeds, and saintly figures. Paraphrasing the words of Jorge de Burgos, the abbot of the monastery from Umberto Eco's *The Name of the Rose*, knowledge of the past is nothing but "a continuous and sublime recapitulation."[2] Within ecclesiastically dominated societies, collective consciousness is built upon a "liturgical time," ritualistic and cyclical, in contrast to modern secular societies in which prevails the consciousness of a "historical time," linear and irreversible. Within the liturgical commemorations from such ecclesiastically dominated societies, "the past exists only by means of recitation; the fundamental goal of such recitation is to make it live again in the present, to fuse past and present, chanter and hearer, into a single collective entity."[3] This "liturgical memory" consisting in a "continuous and sublime recapitulation" of the past annihilates the historical sense, understood as the consciousness of the linearity and irreversibility of time.

Lastly, the "technological frames" of collective memory strongly influence its formal structure and thus condition its internal makeup. Technological frame stands for the physical support of data storage (i.e. the medium of memory) used for recording, preserving, and transmitting the information making up collective memory to the next

[1] Alexandra Tomiță, *O istorie „glorioasă". Dosarul protocronismului românesc* (A "Glorious" History. The Dossier of Romanian Protochronism) (București: Cartea Românească, 2007), 12.
[2] Umberto Eco, *The Name of the Rose* (San Diego: Harcourt, 1984), 399.
[3] Gabrielle M. Spiegel, "Memory and History: Liturgical Time and Historical Time," *History and Theory* 41 (May 2002), 149–162, 149.

generations. Although it may sound truly astounding, the idea that the brain itself is just one technology of memory among many others is gaining both traction and foothold in the newly emerged field of inquiry labelled as social memory studies.[1] The idea of the brain as technology of memory gets even more intriguing if we treat seriously the "extended mind thesis" developed in the philosophy of mind.[2] In short, *the extended mind thesis* – an idea denoting a maximum coefficient of counter-intuitivity and possibly appearing to be quite scandalous for the large contingent of conventional cognitivist psychologist, not to mention for the majority of ordinary people – states that human mind is not trapped within the physical boundaries of the braincase, hence the movement's slogan: "cognitive processes ain't (all) in the head."[3] The authors of this surprising thesis question the conventional understanding of the mind as embodied cognitive activities (*internalism*), raising the question "Where does the mind stop and the rest of the world begin?"[4] Rejecting the internalist answer based on "the demarcation of skin and skull" between mind and external world, Clark and Chalmers advance the position of *active externalism*, from where the mind is understood as transgressing its cranial residence to encompass elements from the environment with which it forms a *sui generis* cognitive system, i.e. a "coupled system."[5] The central argument is delivered by way of a mental experiment: suppose Inga wants to go to the Museum of Modern Art to see an exhibition. After she thinks where the museum is located, she recalls the museum's address and walks to it. Otto, who suffers from Alzheimer's disease, also hears of the exposition and wants to go and see it. But since his biological memory is not functional, Otto uses a notebook to store information. Consulting his notes, Otto finds out the address and walks to the museum. Using this scenario, Clark and Chalmers advance two arguments: a) Otto's external artificial memory (i.e. the notebook) is equivalent to Inga's biological memory; and b) Otto's mind, by accessing information existing "beyond the skin," extends beyond his brain. In other words, Otto's mind lies in the interaction between his brain and the external memory, with whom the brain creates a "cognitive integration."[6] Clark and Chalmers are convinced that the functioning of the mind can be properly understood only "once the hegemony of skin and skull is usurped."[7] Following up this invitation to usurp the hegemony of the skin and skull, this paper aims at examining not so much the technologies of biological (individual) memory – among which, as we are about to see, the brain is only one amidst many others – as the media technologies of collective memory.

Insisting upon the "technological frames" of memory, this study takes a soft and sober *technological determinist* stance. This statement needs to be urgently clarified so

[1] Jeffrey K. Olick, Vered Vinitzky-Seroussi and Daniel Levi, "Introduction," in *The Collective Memory Reader*, eds. Jeffrey K. Olick, Vered Vinitzky-Seroussi and Daniel Levi (Oxford and New York: Oxford University Press, 2011), 3–62, 6.
[2] Andy Clark and David J. Chalmers, "The Extended Mind," in *The Extended Mind*, ed. Richard Menary (Cambridge, MA and London: The MIT Press, 2010), 27–42.
[3] Ibid., 29.
[4] Ibid., 27.
[5] Ibid., 29.
[6] Richard Menary, "Introduction: The Extended Mind in Focus," in *The Extended Mind*, ed. Richard Menary (Cambridge, MA and London: The MIT Press, 2010), 1–26, 4.
[7] Clark and Chalmers, "The Extended Mind," 39.

as not to raise unnecessary eyebrows. Technological determinism is a doctrine accounting for social change, whose general point is that the main driving force of history generating social change is technology. One of its purest expressions was given by Karl Marx's assertion that "the windmill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist."[1] Although the orthodox strand of Marxist thought inspired by this quotation can be said to promote a technologically deterministic view of historical change (forces of production determine the relations of production, further determining society's "superstructure"), Thorstein Veblen is the one credited for coining the term and elaborating the first theoretical draft of technological determinism.[2] Its radical incarnation came into being in Jacques Ellul's *The Technological Society*,[3] which advances a gloomy view of an inescapable, reductionistic, and mono-causal technological determinism of social reality. More optimistic, but still reductionistic in his technological determinism is Marshall McLuhan's brand of *media determinism*, asserting that the medium of communication has the power to structure the society and to determine how people experience the world by restructuring their sense apparatus (*sensorium*). Without a doubt, Ellul and McLuhan's ruthless technological/ media determinism is highly unrealistic. The technological medium itself is embedded in a socio-cultural system and subjected to political control. The medium cannot *be* the message. Although it is many times a necessary condition for social change (it is hard to imagine that Luther's Reformation would have been successful without Gutenberg's print), it does not make it a sufficient condition for generating change (Luther's Reformation is not reducible to the printing press technological revolution, as the former does not ineluctably follow from the latter). "It is not part of our intention to revive the ridiculous thesis that the Reformation was the child of the printing press."[4] Nor it is ours. But, following again Lucien Febvre and Henri-Jean Martin, we share their belief that Gutenberg's revolution is the material, technological factor behind the Reformation's success. "For the first time in history, there developed a propaganda campaign conducted through the medium of the press. The capacity of the press to serve the interests of those who wished to influence thought and mould public opinion was revealed."[5]

The author of this study does not thicken the ranks of the McLuhanites, by uncritically taking for granted the catchphrases expressed by the media guru and prophet of technology, Marshall McLuhan, among whose most famous dicta the "medium is the message" phrase stands out in notoriety.[6] On the other hand, McLuhan's iconic status as intellectual celebrity in the "global [academic] village" – to use another one of his wildly popular terms – should not be turned against his theories as negative, refuting, evidence,

[1] Karl Marx, "Mizeria filozofiei. Răspuns la «Filozofia mizeriei» a d-lui Proudhon" [The Poverty of Philosophy. A Reply to "La Philosophie de la misère" of M. Proudhon] in *Opere. Vol. 4*, Karl Marx and Friedrich Engels (1847; Bucureşti: Editura Politică, 1958), 65–179, 130.
[2] Thorstein Veblen, *The Engineers and the Price System* (New York: B.W. Huebsch, 1921).
[3] Jacques Ellul, *The Technological Society* (New York: Vintage Books, 1964).
[4] Lucien Febvre and Henri-Jean Martin, *The Coming of the Book. The Impact of Printing 1450-1800* (London: NLB, 1976), 288.
[5] Ibid.
[6] Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: McGraw Hill, 1964), 7.

out of an oversized intellectual snobbism taking popular success as a sure indicator of cognitive vulgarity. McLuhan tends to be the intellectual victim of his own popular success, the latter seen by snobbish intellectuals well versed in the art of popular suspicion as a stigma discrediting *ipso facto* his intellectual honorability. Our position is that of a non-reductionistic, poly-causal, soft and sober media determinism. As we already pointed out, there are multiple "frames" acting simultaneously in shaping memory besides the technological one we are focusing on specifically in this study (political, economic, religious, etc.). Downgraded in this mild version, our soft and sober media determinism is in fact synonymous with Walter Ong's conception of technological/media "relationism." Cautioning about the dangers of reductionism, Ong points out that the "changes in social and noetic [cognitive] structures" identified after the introduction of a technology like writing in a non-literate society are not simply due to that technology. "Writing itself has social causes," says Ong,[1] and we can safely extend this conclusion to all other cultural technologies. "But if there is no warrant for reductionism, there is more than ample warrant for relationism. Once writing is introduced into a culture and grows to more than marginal status, it interacts with noetic and social structures and practices often in a bewildering variety of ways…"[2] Without attributing causal monopoly, nor even explanatory primacy, to technology at the expense of the other "frames" of memory, we limit our task in this study to explore this bewildering variety of ways in which technology interacted with memory.

**The second premise: the mediality of memory**

The second fulcrum underpinning our approach, adding to the first premise stating the historicity of memory, is that of the *mediality of memory*. Taking the brain itself to be a cerebral technology of memory, it follows that memory (individual and collective alike) is not only always intrinsically linked to a technological medium, but, indeed, made possible by it. If memory in general and collective memory in particular do have historicity, and if memory is inconceivable outside of its "technological frames," then the history of memory can be followed most clearly by examining the various material platforms, i.e. the mnemonic technologies, used for preserving its informational content. The history of humankind can be periodized, in terms of the prevailing technology of memory, as unfolding in a series of successive epochs. Walter Ong introduces a decisive demarcation line in the human history separating *orality* from *literacy*.[3] Working out a more refined periodization, Ong discriminates between:

a) oral culture, dominated by orality, in which the only available technology of memory is the human brain;
b) chirographic culture, dominated by the technology of writing;
c) typographic culture, dominated by the technology of the printing press with movable types invented by Johannes Gutenberg;
d) electronic culture, dominated by the digital technology of the computer.

[1] Walter J. Ong, "Writing is a Technology that Restructures Thought," in *The Written Word. Literacy in Transition*, ed. Gerd Baumann (Oxford: Clarion Press, 1986), 23–50, 35.
[2] Ibid., 36.
[3] Walter J. Ong, *Orality and Literacy. The Technologizing of the Word* (1982; London and New York: Routledge, 2002).

**Teodora Cosman**, *Overexposures I, negative*
50cm x 50cm, acrylic, gouache on tissue, 2014

Each type of culture produces its own anthropological "species":[1]

a) oral culture ("the age of speech" in Marshall Poe's terminology) is home to *Homo loquens* ("the talking man");
b) chirographic culture ("the age of manuscripts") is the nest for *Homo scriptor* ("the writing man");
c) typographic culture ("the age of print") is populated by *Homo lector* ("the reading man");
d) electronic culture ("the age of audiovisual media") is home to *Homo videns* ("the seeing man");
e) lastly, the "age of the internet," which can be considered to be the most recent embodiment of electronic culture, is the dwelling of *Homo somnians* ("the dreaming man," symbolizing humanity in the new virtual environment shaped by internet).

Needless to say, the mechanisms of transmitting the memory are specific to the technology available for storing it. In this sense, André Leroi-Gourhan distinguishes between five modes of transmission used to pass down collective memory:[2]

a) oral transmission, the only one available in a society alien to writing, in which "knowledge was buried in oral practices and in techniques";[3]

[1] Marshall T. Poe, *A History of Communications: Media and Society from the Evolution of Speech to the Internet* (Cambridge: Cambridge University Press, 2011).
[2] André Leroi-Gourhan, *Gesture and Speech* (Cambridge, MA and London: The MIT Press, 1993).
[3] Ibid., 261.

b) early written transmission, using tables and records for organizing the information;
c) written transmission, where the information is structured in index cards, which became necessary starting with 19th century, when "collective memory had expanded to such proportions that the individual memory could no longer be expected to store the contents of whole libraries";[1]
d) mechanographic transmission, made possible by the appearance of punched cards; the quality intrinsic to the punched cards to be organized and reorganized in terms of a quasi-infinity of criteria makes punched index cards operating like "memory-collecting machines."[2] Leroi-Gourhan even considers them to be a mechanical brain endowed with unlimited capacities to organize, reorganize, and correlate the data it stores;
e) serial electronic transmission, whose functioning is based upon the same principles of mechanographic transmission, the only exception being the exponential increase of speed; the mechanic brain processing punched cards is being replaced by the "electronic brain."

Each transition from one technology of memory to another, from one technological culture to another, produces specific types of collective memories. In this sense, Jacques Le Goff analyzes the transformations of collective memory determined by technological developments, detailing the following succession: a) ethnic memory; b) ancient memory; c) medieval memory; d) modern memory; e) contemporary memory.[3] An overview picture, integrating all the previous different typologies into a unified synoptic table, can be examined in a Table.

**Table: Technological regimes of memory as mnemonic matrixes[4]**

<table>
<tr><th>The general technological regime</th><th>Typology of culture (W.J. Ong)</th><th>Anthropological species (M.T. Poe)</th><th>Systems of transmission (A. Leroi-Gourhan)</th><th>Typology of memory (J. Le Goff)</th></tr>
<tr><td>Orality</td><td>Oral culture</td><td>Homo loquens</td><td>Oral transmission</td><td>Ethnic memory</td></tr>
<tr><td rowspan="5">Literacy</td><td rowspan="2">Chirographic culture</td><td rowspan="2">Homo scriptor</td><td rowspan="2">Textual transmission using tables and records</td><td>Ancient memory</td></tr>
<tr><td>Medieval memory</td></tr>
<tr><td rowspan="2">Typographic culture</td><td rowspan="2">Homo lector</td><td>Textual transmission using index cards</td><td rowspan="2">Modern memory</td></tr>
<tr><td>Mechanographic transmission</td></tr>
<tr><td rowspan="2">Electronic culture</td><td>Homo videns</td><td rowspan="2">Serial electronic transmission</td><td rowspan="2">Contemporary memory</td></tr>
<tr><td>Homo omnians</td></tr>
</table>

[1] Ibid., 263.
[2] Ibid., 264.
[3] Jacques Le Goff, *History and Memory* (New York: Columbia University Press, 1992).
[4] Author's own elaboration after Ong, *Orality and Literacy*, Poe, *A History of Communications*, Leroi-Gourhan, *Gesture and Speech*, and Le Goff, *History and Memory*.

Evidently, the Latin labels used to refer to the type of humans living in different cultures should not be absolutized as empirical descriptions. They are heuristic devises, linguistic shortcuts employed to abstract the dominating features of human beings in one cultural *milieu* or another. Without a doubt, they are simplifications of an infinitely more rich reality, a reason for which they should not be taken at face value. On the other hand, it is equally undeniable that similar terms, like *homo sociologicus* and *homo oeconomicus*, to say nothing about Karl Marx's *homo faber* and Johan Huizinga's *homo ludens*, have proved their conceptual worth by throwing light over one or another crucial feature of human beings. Social psychology alone has gathered an impressive collection of synthetic images depicting in a minimum of brushstrokes "what type of creatures people really are."[1] Taking stock of the state of the science, Roy Baumeister sums up the following portraits of human beings seen through the lenses of social psychology: the Consistency Seeker, the Self-esteem Maximizer, the Terror Manager, the Information Seeker, the Information Processor, the Foolish Mistake Maker, the Situational Responder, the Impression Manager, the Naturally Selected Animal, the Cultural Animal, the Group Member, and the Benighted Layperson. With the Cognitive Revolution that broke out in social psychology during the 1980s, the Behavioristic Super-Rat image of humankind was rapidly offcast from the collection. Careful enough, Baumeister readily admits that all these portraits of humankind are rather "caricatures" "with entertaining names," whose epistemic virtue lies in their capacity to describe some aspects of human beings in a lively manner, without claiming to exhaust all their inherent complexities. They are nothing more than "shorthand summaries," they are "heuristics; please treat them as such."[2] The same can be said in defence of Poe's anthropological species.

**Orality, homeostasis, structural amnesia**

Collective memory of oral societies that are foreign to writing (what Le Goff calls "ethnic memory") coagulates around three poles, represented by: a) myths of origins, from which the collective identity of the group is derived by highlighting the historical continuity tying the current order to the original moment; b) genealogies of the rulers, which are sources of symbolic power as prestige and bestow political legitimacy by emphasizing the rulers' historical pedigree; c) technical-pragmatic knowledge, whose transmission is made on a rather tacit way within apprenticeship.[3] The three stocks of knowledge make up the social knowledge of oral community, on whose preservation the socio-cultural survival of the community depends.

Knowledge is precious in any human society. Conserving social knowledge becomes thus a "functional imperative,"[4] in the sense that any society or collectivity confronts with the problem of developing solutions for managing and preserving the stock of accumulated knowledge. The problem becomes even more stringent in the case

[1] Roy F. Baumeister, "Social Psychologists and Thinking about People," in *Advanced Social Psychology. The State of the Science*, eds. Roy F. Baumeister and Eli J. Finkel (Oxford: Oxford University Press, 2010), 5–24, 6–7.
[2] Ibid., 7.
[3] Le Goff, *Memory and History*, 58.
[4] Talcott Parsons, *The Social System* (New York: The Free Press of Glencoe, 1951), 169.

of oral societies, where the lack of written texts makes the entire culture to be preserved in the "cerebral technology," i.e. in the brain. In lack of external devices for depositing information, social knowledge and memory in oral communities are largely dependent upon the smooth functioning of an inter-cerebral infrastructural network. Because the capacity of storing culture is restrained to the power of biological memory, a series of major constrains affect the process of thinking specific to oral cultures. In order to retain the stock of knowledge, the oral mind is forced to follow fix and formulaic thought patterns. The cognitive recipe for preserving knowledge in oral societies is to "think memorable thoughts," that is to say, thinking has to be cast in rhythmic patterns, based on repetitions and antitheses, expressed in conventional formulas and structured in mnemonic forms such as proverbs and maxims.[1] Mnemonic necessities arrest oral thinking in such cognitive patterns that increase the rate of preserving and the possibility of reproducing knowledge. Thinking outside these patterns, although possible, remains highly inefficient, simply because it cannot be later reproduced. Vagrant wanderings of thought outside the trodden cognitive paths, though tempting for any adventurous thinker, are daunting by the improbability of reconstructing the trails explored. Not being possible to fix them in writing, wandering thoughts reveal their inopportunity in the circumstances of oral culture. The imperative of memorability prevailing in these illiterate societies determines the oral mind to be conservative, traditional, patterning, and formulaic in nature. Only by thinking *inside the box* the heritage of knowledge can be preserved in oral cultures.

The conservatism of oral thinking does not imply, though, lack of innovation and change in representing the past. One of the most tenacious prejudices of modernity against traditional societies is their immobility in general and of their collective memory in particular. As Eric Hobsbawm points out, "The belief that 'traditional society' is static and unchanging is a myth of vulgar social science."[2] Change is ubiquitous in traditional social systems, even if it is not deliberately wanted. The stock of memories, even if it is highly formalized and patterned in standardized narratives about the past, is not kept in an integral fixity. Contrary to conventional wisdom, oral societies do not encourage rote memorization. Learning by heart, as a mnemonic practice, is a product of textual culture, where the memorized information can be at any time confronted against the written text. Or in illiterate societies, foreign to the technology of writing, the possibility of external comparison simply does not exist. Oral memory is reconstructive, based not on mechanic memorization but on creative reassembling of prefabricated materials. The reconstructive *modus operandi* of memory (individual and collective alike) in oral societies has been demonstrated by three sets of proofs: a) the analysis of Homer's *Iliad* and *Odyssey*, seen as both eposes and vehicles of collective memory of an oral culture; b) the study of contemporary bards from the area of the former Yugoslavia (Bosnia); c) the longitudinal study by anthropologists of genealogies in illiterate societies.

[1] Ong, *Orality and Literacy*, 34.
[2] Eric J. Hobsbawm, "The Social Function of the Past: Some Questions," *Past & Present* 55 (May 1972), 3–17, 5.

**Teodora Cosman**, *Overexposures I, positive*
50cm x 50cm, acrylic, gouache on tissue, 2014

Analyzing linguistically the works of Homer, Milman Parry was led to two controversial conclusions that went directly against the grain of the dominant consensus of the 1930s. The first intriguing conclusion that raised the brows of his peer classicists was that Homeric poems were products of an oral tradition, and not, as it was widely thought, of a written one. As if not enough, this paradigmatic seism that shattered the classical studies with this Oral Hypothesis was followed by an aftershock: Parry compellingly argued that far from being original creations springing out from the Homeric poetic genius, *Iliad* and *Odyssey* are the product of a process of reassembling some typical formulas inherited by Homer as poetic legacy from the bards that preceded him. In Ong's own words, what Parry claimed was that "Homer stitched together prefabricated parts. Instead of a creator, you had an assembly-line worker."[1] The hypothesis of Homeric orality, today fully accepted, shook the community of classicists, within which the ideas that the great epic poems were a) textual products b) of a single

[1] Ong, *Orality and Literacy*, 23.

author reached the status of self-evident, taken of granted beliefs. Linguistic analysis revealed that these poems belong to oral tradition, and that their stabilization in writing has occurred much later than the timespan lived by Homer (8th century B.C.). The second important conclusion consists in the idea that Homer was not the "author" of the poems (in the sense of the unique creator of them). The entire tradition of oral poems, to which *Iliad* and *Odyssey* belong, is characterized by creative improvisation, simultaneously constrained and facilitated by the rhythmic structure of the hexameter verse. Evidently, by operating in terms of a combinatorial logic (*ars combinatoria*), oral tradition is in a continuous change, since no single oral performance can be identical to the next. All of them are variations on the same theme, but the reconstructive logic underpinning oral performance is responsible for their individualization.

The second class of evidence supporting the thesis of the dynamic nature of oral memory comes from the study of contemporary South Slavic bards (narrative poets) from Yugoslavia. By recording and comparing successive oral performances of these modern rhapsodes, scholars revealed that their recitals are not perfectly identical. Numerous changes occur between two consecutive performances. What remain constant are the thematic structure, poetic formulas, and the metric of the verse. But the interaction between these three constant elements occurring within each oral performance produces a different outcome every time. In the case of South African bards, the elements remaining constant in the epic poets' memory are responsible for the verbatim reproduction of just 60 per cent of the content of prior narrations.[1] The considerable remainder consists of unconscious insertions, metric adaptations, and original improvisations. Thereby, far from being mentally memorized incantations that are verbally regurgitated in the same immutable form, the rhapsodies sung and re-sung by illiterate bards (as vehicles of oral collective memory) are flexible and dynamic poetic constructions, whose features are determined by the improvisatory creativity to which the oral mind is condemned. To wrap it up, we can conclude that within oral societies, collective memory operates on the principle of "generative reconstruction" rather than "mechanical memorization."[2]

Finally, the study of genealogies of illiterate communities and of how these codifications of kinship relations evolve in time confirms the thesis of the dynamic nature of oral collective memory. For instance, comparing the genealogies of Tiv people from Nigeria recorded by British authorities with the genealogies kept by the natives by way of oral transmission, anthropologists discovered major discrepancies. Confronted with these mismatches, natives sustained that the oral genealogies are the correct ones, and those that have been written down have been wrongly recorded. Without denigrating the epistemic status of native knowledge,[3] much more probable is the

[1] Jeffrey Opland, 1976, 114 *apud* Ong, *Orality and Literacy*, 60.

[2] Jack Goody, 1977, 34 *apud* Le Goff, 1992, 57.

[3] See Mihai Stelian Rusu, "Hermeneutics of Reason: The Principle of Common Rationality as Premise for Understanding the Other(s)," *Journal Of Comparative Research In Anthropology And Sociology* 4, 1 (2013): 63–83 for a praise of native knowledge. The paper argues that a minimally defined rationality is an anthropological constant, meaning that non-Western thinking patterns express a core rationality. Western thought does not monopolize rationality, although Western scientific thinking patterns are indeed epistemically superior to native ones, due to their unique self-correcting methodology.

explanation according to which the psychodynamics of oral memory "worked out" in time the genealogies, adapting them to the state of the social relationships existing in the present.[1] Genealogies fulfil a double functionality for the social order: a) as *vertical anchors* linking the community to its origins, genealogies legitimate the current state of kinship affairs by highlighting their historical continuity; b) as *social charters*, genealogies validate existing relationships between different families and social groups coexisting within the social system.[2] Precisely due to the power to legitimate the relationships between groups, genealogies "are manipulated to reflect the new [inter-group] relationships" whenever they change.[3] An anthropologist with a vast fieldwork experience gathered in Africa such as Jan Vansina could not help noticing the difficulties created by the introduction of writing in Somali oral community, since the textual codification of genealogies troubles the current practice of constantly adjusting them to fit the ever-changing structure of inter-group relationships.

Collective memory existing in oral societies is "homeostatic."[4] By "the homeostatic organization of the cultural tradition in non-literate society," Jack Goody and Ian Watt refer to the process by which in the cultural heritage of an oral society is retained only the information that continues to have relevance in the present. The homeostatic nature of oral memory screens out from its makeup the elements considered to be irrelevant for present time. Socially forgetting outdated information (i.e. knowledge without practical utility *hic et nunc*) is the natural and unplanned outcome of a "crucial process of social digestion and elimination"[5] by which the social organism continuously adjusts its past and present order in a harmonious relationship. The homeostasis of collective memory in oral societies means that "the tribal past is digested into the communal orientation of the present."[6] Homeostasis is, thus, a dynamic process whose outcome is the congruence between the socio-political order of the present and the existing traditions. However, the congruence between the past and the present can never be a perfect fit. Overemphasizing the modelling capacity of the present over the past, Goody forced this idea into the "sweeping thesis" of "total homeostasis."[7] A closer, critical look reveals that Goody's total homeostasis thesis is falsified by the proven persistence of archaisms in contemporary traditions. Although in its strong formulation, Goody and Watt's theory has to be amended by moderating its strength, even its challengers and critics acknowledge that there is a relative congruence between the concerns of the present and the contents of social representations of the past.[8]

Given that oral societies lack the institutions of memory existing in modern society (archives, museums, libraries, etc.), "structural amnesia"[9] emerges as a social

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[1] Ong, *Orality and Literacy*, 47.
[2] Jack Goody and Ian Watt, "The Consequences of Literacy," *Comparative Studies in Society and History* 5 (Apr. 1963), 304-345, 310; Jan Vansina, *Oral Tradition as History* (Oxford: James Currey Ltd, 1985), 182.
[3] Vansina, *Oral Tradition as History*, 182.
[4] Goody and Watt, "The Consequences of Literacy," 307.
[5] Ibid., 308.
[6] Ibid.
[7] Vansina, *Oral Tradition as History*, 121.
[8] Ibid.
[9] John Barnes, "The Collection of Genealogies," *Rhodes-Livingstone Journal: Human Problems*

law of oral collective memory. The operation of this law means that "the integrity of the past is subordinated to the integrity of the present" and, ultimately, that "the present imposes its own economy on past remembrances."[1]

**Literacy, exographic revolution, and the textualization of memory**

Memory – individual and collective alike – is irremediably affected by the appearance of writing. In the history of memory, periodized in successive stages, the critical breaking point, with the most consequential effects, is the invention of writing (followed by that of the alphabet). Ong insists that writing is a right-down technology, even if in our days, due to intimate familiarity with writing, its technological nature is being obscured. The cognitive impact of writing has been colossal: "writing restructures consciousness" and "domesticates the mind."[2] And its effects reverberate upon collective memory, which assumes significantly different shapes in a society completely alien to writing (characterized by "primary orality") than in a textual culture.

The appearance of writing (first as pictograms, then stylized in logograms, followed by the development of the Semitic alphabet in which only consonants are graphically represented, and finally perfected in the Greek alphabet) did not have an instantaneous effect on culture, memory, and consciousness. In Mesopotamian, Egyptian, or Akkadian civilizations, writing was an elitist and secret activity. As traditional lore was written down to become literature, these societies experience a "scribalization of wisdom."[3] Oral wisdom, previously circulating on a mouth-to-mouth basis, has thus become the hermetic affair, shrouded in secrecy, of the professional scribes. In societies that this scribalization of wisdom started to unfold, writing produced the strange effect of turning texts into secrets. When this process was gaining massive ground in Classical Greece, Plato expressed his worries concerning the publicity effect writing has in divulging hermetic knowledge to the masses. "The greatest safeguard is to avoid writing and to learn by heart; for it is not possible that what is written down should not get divulged."[4] Contrary to Plato's fear, in societies with a large rate of illiteracy, writing works not in favour of publicly disseminating knowledge, but as a highly effective intellectual device of encrypting information. In such societies where even kings themselves were illiterate, only a feeble percent of the total population was endowed with and mastered the skills of reading and/or writing. This is why these

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*in British Central Africa* 5 (1947), 48-55, 52. See also Henri H. Stahl, "Teoria amneziei sociale" (The Theory of Social Amnesia) in *Eseuri critice. Despre cultura populară românească* (Critical Essays. On Romanian Popular Culture) (Bucureşti: Editura Minerva, 1983), 260-263, where "social amnesia" is defined narrowly as the process occuring in popular cultures by which people remember forms but forget their substantial meaning. For instance, remembering old sayings or observing traditional rituals without understanding their original meaning.

[1] Ong, *Orality and Literacy*, 47, 48.

[2] Ibid., 77; Jack Goody, *The Domestication of the Savage Mind* (Cambridge: Cambridge University Press, 1977).

[3] Karel van der Toorn, "Why Wisdom Became a Secret: On Wisdom as a Written Genre," in *Wisdom Literature in Mesopotamia and Israel*, ed. Richard J. Clifford (Atlanta: Society of Biblical Literature, 2007), 21–29, 26.

[4] Ibid., 27., n18.

societies should be properly called "protoliterate" or "oligoliterate" societies.[1] Written text did not yet sweep-out orality as the depositary of memory, writing being used rather as additional buttress for oral memory. In the context of protoliterate societies, text was the handmaid of orality (*ancilla verbum*) rather than a rival medium of memory. The balance of power completely toppled down only in the first genuine civilization of writing – the Greek society –, in which oral memory has been thoroughly textualized, and by this, thinking and consciousness themselves have been restructured. Only starting with the 6th and 5th centuries B.C., in the case of the city-states of Greece and Ionia we can speak of *stricto sensu* "literate societies."[2] Although Greek alphabet was developed starting with 8th century B.C., its final form was adopted for being used in official documents only in 403 B.C., by the decree issued by Archon Euclides.[3] During this time span, writing infiltrated all of the social strata of Greek society, creating the first truly literate society in human history. The effects of this "popular literacy"[4] turned out to be highly consequential: by putting down events in words, writing divided the past from the present. Drawing a demarcation line between the past and the present, writing contributed decisively to the emergence of a new historical sensibility absent in oral societies, trapped as they were in a continuous present. Writing broke the circular pattern of cyclical time, unlocking the "terror of history" with its linear and irreversible time axis. With the textual recording of events, "the past has become a foreign country."[5] The cognitive borderline drawn between the present and the past allowed for distinguishing between myth and history (previously undistinguishable in oral consciousness), setting the stage for the coming into being of historical research (Herodotus and Thucydides are universally acclaimed as the first historical inquirers). The discrimination between history and myth encouraged the emergence of a sceptical attitude towards uncritically received traditions from the past. Instead, the empirical method of direct observation and first-hand testimonies from eyewitnesses were to be preferred to received traditions and vicarious testimonies.[6] Moreover, the restructuring of consciousness caused by writing is responsible for the codification of logical rules of thought, which in the lack of writing could not unfold in complicated chains of reasoning.

The invention of writing, which allowed knowledge to be discharged from biological memory on external supports without the risk of its irretrievable lost, has urged the completion of a genuine "exographic revolution" that started as early as The Upper Palaeolithic.[7] The exographic revolution consists in the transition from internal

[1] Goody and Watt, "The Consequences of Literacy," 313.
[2] Ibid., 317.
[3] Ibid., 319.
[4] Ibid., 304.
[5] David Lowenthal, *The Past is a Foreign Country* (Cambridge: Cambridge University Press, 1999.
[6] Thucydides' methodological injunctions, laid down in the first book of his masterful yet unfinished *History of the Peloponnesian War* (Book I, Chapter I, Sections 20-23), were specifically devised as critical tools for drawing the line between myth and history, separating the "region of legend" that falls "out of the reach of evidence" from the realm of reliable historical knowledge.
[7] Merlin Donald, "The Exographic Revolution: Neuropsychological Sequelae," in *Cognitive Life of Things: Recasting the Boundaries of the Mind*, eds. Colin Renfrew and Lambros Malafouris, (Cambridge: McDonald Institute Monographs, 2010), 71–79.

storage to external preservation of the contents of biological memory, a transition made possible by the invention of "external symbolic systems" (Merlin Donald calls them alternatively "exographic systems"). Building on the famous term of "engram" coined by Karl L. Lashley in the middle of the 20th century to denote the physical (neural) traces of memory existing in the biochemistry of the brain,[1] Donald developed the analogue notion of "exogram." Exogram is the external equivalent of engram, i.e. the record of entries of data into the external storage system. The most primitive exographic systems developed by the humans of Upper Palaeolithic consisted in material artefacts (amulets, totems, etc.) that were signified with symbolic meanings. Physical objects became thus depositories of information and meanings that could be retrieved at a later stage. Another example of a rudimentary "mnemonic devise" is the knotted cords, which are still in use in the Catholic world as rosaries. Much more sophisticated systems of exographic storage were later developed in the form of written records, official genealogies, literary and poetic works, mathematical notations and theorems, archives and libraries, and, in our contemporaneity, in the form of mechanical and electronic means of data storage.[2]

The appearance of external systems of data storage fully deserves the title of "exographic revolution" due to the structural transformation it triggered in both human cognition and social organization:[3] a) external memory introduced radical new properties in the systems of storing and retrieving knowledge used by humans. The possibility of storing knowledge as exograms opened new perspectives and enlarged the horizons in "the human representational universe." Introducing new retrieval possibilities, exograms set the stage for producing and retrieving radically new types of symbolic representations having no equivalent in oral societies, like the service manual for a rocket engine, the equations making up Pythagoras's theorem, or the libretto for Pushkin's *Eugene Onegin*;[4] b) the cognitive difficulties demanded by the use of the new exographic systems of data storage led to the restructuring of the cognitive architecture of the mind, determining the formation of modules specialized in the cognitive processing of textual information. Writing led to the development of the "literacy brain," leaving "neuropsychological sequelae" in the form of literacy-related circuits in the brain;[5] c) given the neural plasticity of the brain, the appearance of exographic systems altered the functioning of the individuals' long-term memory. This is due to the fact that individuals' mental operations now had access to resources located outside out the brain, being able to cognitively exploit the artificial "long-term memory" deposited in external systems of storage. Beyond the effect on individual cognition, the exographic revolution massively and irrevocably affected the structure of collective memory. What Goody and Watt have named as "the social digestion and elimination" of the past (structural amnesia),[6] so characteristic of homeostatic societies, suffers a "constipation" due to the

[1] Karl Spencer Lashley, "In Search of the Engram," *Society of Experimental Biology Symposium*, 4 (1950): *Psychological Mechanisms in Animal Behavior*, 454–482.
[2] Donald, "The Exographic Revolution…," 72.
[3] Merlin Donald, "*Précis* of Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition," *Behavioral and Brain Sciences* 16 (1993), 737–791, 745.
[4] Ibid.
[5] Donald, "The Exographic Revolution…," 73.
[6] Goody and Watt, "The Consequences of Literacy," 308.

residue materials kept in the exographic system of storage that hinder oblivion. Moreover, the deliberate management of exographic systems by agents of political power makes it possible to develop methods of producing collective memory as well as techniques of programming oblivion (for instance, by selective preservation of some information about the past, by planned production of artefacts of memory, or by deliberate destruction of memory).[1]

Writing, it has to be stressed, had produced the revolution within the exographic revolution. The transition from primitive devices of external storage (talismans, amulets, knotted cords) to the incomparably more sophisticated systems of storage based on writing has generated major effects on the structure of collective memory. By restructuring consciousness and abstracting thinking, the consequences of literacy and writing redound upon collective memory as well. Literacy and the emergence of literate societies led to the externalization of memory and to the discharge of memory from the cerebral archive to the written text. Le Goff points out the emergence of two forms of externalizing collective memory made possible by the spreading of writing:[2]

a) *written commemorative monuments*, inscribed with the purpose of marking in memory a historical event. Nowhere the impact of epigraphic inscriptions has reached such a density like in Greco-Roman world, which can be qualified without reservations as "a civilization of epigraphy."[3] Romans came to populate a written world, to live in a textual universe where physical materials serve rather as engravable objects. The excerpt in which the French historian captures this fact with distinguished elegance and brevity deserves to be quoted in extenso:

> In temples, cemeteries, public squares and avenues, along roads and even 'deep in the mountains, in the greatest solitude,' inscriptions accumulated and encumbered the Greco-Roman world with an extraordinary effort of commemoration and perpetuation of memory. Stone, usually marble, served as a support for an overload of memory. These 'stone archives' added to the function of archives proper the character of an insistent publicity, wagering on the ostentation and durability of this lapidary and marmoreal memory.[4]

b) *the document written on a support specially designed for writing* (papyrus, parchment, and paper, after previous experiments have been made on fixing text on bone, cloth, skin, clay, wax, birch bark, palm leaves, and even on tortoise shells). This textual memory, engraved on scriptic materials, was an urban and royal memory:[5] an urban memory, since the capital-city becomes the centre of the universe in the symbolic geography, "the pivot of the celestial world and of humanized space"; and a royal memory, since the king is the axial centre of the human universe, and from this position launched a "program of remembering of which he is the centre."[6] Kings were also

[1] Paul Connerton, "Seven Types of Forgetting," *Memory Studies* 1 (2008), 59–71.
[2] Le Goff, *History and Memory*, 58–60.
[3] Louis Robert, 1961, 454 *apud* Le Goff, *History and memory*, 59.
[4] Le Goff, *History and Memory*, 59.
[5] Ibid., 60.
[6] Ibid.

founders of the institutions of memory such as archives, libraries, and museums. Royal power over memory reaches its climax in what Paul Veyne has called "the confiscation of collective memory by the Roman emperors."[1] The means employed for carrying out this operation consisted in erecting public monuments scattered in all corners of the Imperium, "in a sort of delirium of the epigraphical memory."[2] The imperial power of memory-production through public monumentalization slammed into the senatorial power of memory-destruction expressed through the institution of *damnatio memoriae* established by the Senate of the Roman Empire, by which the memory of tyrant emperors was removed from all written documents and material monuments.[3]

**From scribal culture to the Gutenberg galaxy: the making of typographic memory**

In the European Middle Ages, collective memory suffered other significant mutations that affected both its contents and its formal structure. Le Goff highlighted three main influences on memory in the Middle Ages:[4]

a) the Christianization of collective memory, clearly visible in: i) the division of memory between a liturgical memory based on a cyclical temporality in the monastic-ecclesiastical culture on the one hand, and a less important, second order secular memory organized in accordance with the seasonal rhythm of the natural world; ii) the emergence of a funereal memory, as death becomes the subject of cultic reverence. This funereal turn in medieval culture is fully revealed by the gravity surrounding the memory of the dead, and especially the memory of dead saints. Death occupies the central stage in the ecclesiastical life and monastic culture of the Middle Ages.[5] The cult of death made up the core of the medieval collective memory, in which the saints' relics and reliquaries, as mnemonic objects, were the most precious riches owned by cathedrals and monasteries. The breakdown of the socio-political order established by the Roman Empire led to the emergence of an archipelago of monastic centres as *loci memoriae* and hotbeds of culture within the Dark Ages. With the configuration of this new institutional order made up of the network of monasteries, a new form of memory took shape: the monastic memory. The constitutive logic of the monastery, specifically to break away with the mundane as premise for committing to ascesis, has given distinctiveness to monastic memory. Organizationally programmed to operate as a "total institution," the monastery "mortifies the self" with its mandatory discipline and obedience.[6] The pre-monastic self of the monk is subjected to a process of systematic

[1] Ibid., 67-68.
[2] Ibid., 68.
[3] See Eric R. Varner's monography, *Mutilation and Transformation.* Damnatio Memoriae *and Roman Imperial Portraiture* (Leiden and Boston: Brill, 2004) for a very thorough analysis of the phenomenon of deliberately producing forgetting and destroying memory in Imperial Rome.
[4] Le Goff, *History and Memory*, 68.
[5] Catherine Cubitt, "Monastic memory and Identity in Early Anglo-Saxon England," in *Social Identity in Early Medieval Britain*, eds. William O. Frazer and Andrew Tyrrell (London and New York: Leicester University Press, 2000), 253-276, 271.
[6] Erving Goffman, "On the Characteristics of Total Institutions," in *Asylums. Essays on the Social Situation of Mental Patients and Other Inmates* (Garden City, NY: Anchor Books, 1961), 1–124.

annihilation, by which the memory of worldly things is destroyed and replaced by a scriptural stock of memories.

> …what [the monk] remembers is not the past or events in the extramural world. Rather he remembers the commandments of God and how hell will burn for their sins those who despise God. The monk's memory is filled only with the images of the eternal life which is prepared for those that fear God.[1]

Worldly memory, together with the pre-monastic part of the monk's self-conception, is abolished from the consciousness of the individual who lives into the total institution of the monastery. Obeying to the ascetic discipline of monastic life, the monk becomes a "walking thesaurus of biblical history."[2] But it is not only the individual memory that suffers substantial transformations. Collective memory too, as organized and cultivated by monastic life, is subject to profound modifications. Cutting itself off from the secular sphere of mundane life, monastic world establishes within its closed walls a liturgical temporality, defined by its own particular commemorative rituals having nothing to do with the rhythms of seasonal time in terms of which people organize their daily activities outside the walls of the monastery.

b) the elaboration of a "feudal memory" made up of documents, charts, and titles "produced" by feudal lords with the purpose of legitimating *de jure* their land rights and to secure the power differential working in their favour; this was coupled with the development of a "genealogic memory" by which feudal lords tried to legitimate the structure of vertical relationships established between individuals;

c) the development of mnemotechnology, or the "art of memory"[3] by the elaboration of a system of techniques of mental association to facilitate remembering. The developing of mnemotechniques, alongside the appearance of numerous memory treatises led to the centring of the educational system on rote memorization. Medieval professors demanded from their students to retain in memory all the knowledge they were receiving from books. Behind this pedagogical imperative to remember lay Augustine of Hippo's conception of memory, as a repository of knowledge from which information could be archived and was fully available to later retrieval.

Medieval memory in general and the monastic one in particular developed in a culture of writing, more precisely in the scribal culture of the manuscript (chirographic culture), in which the relationship between orality and literacy remains in equilibrium. The technology of writing, which allows knowledge to be discharged from internal biological memory in the external artificial memories of books, does not replace orality, but supports and facilitates it. The symbiosis between orality and literacy precipitated by the appearance of writing and the configuration of the scribal culture of the manuscript is given by the fact that manuscripts were written to be read aloud, both in the intimacy of solitude as in public contexts. The handwritten word, dried-up in the ink fixing it on

[1] Janet Coleman, 1991, 131 *apud* Cubitt, "Monastic memory…," 254.
[2] Cubitt, "Monastic memory…," 254.
[3] Frances Yates, *The Art of Memory* (1966; London and New York: Routledge, 1999).

parchment, was brought back to life by utterance. In a still auricular universe, voicing aloud the written word was an act of acoustic resurrection or phonetic vivification of a word buried in text. A critical turning point has been reached in the 11th and 12th centuries, with the rebirth of literacy in Western Europe. Until the year 1000, although orality and literacy coexisted and interacted, the scales were tipped in favour of the spoken word. After this conventional, quite arbitrary in fact but highly symbolic, chronological threshold, the pendulum swung decisively towards the supremacy of the written word. Text has tamed the spoken word, while literacy subordinated orality to its textual logic. As Brian Stock has pointed out in his masterful study of the cultural implications of literacy, during the first two centuries of the new millennium, a momentous shift with profound consequences started to gain momentum: "The written did not simply superseded the oral, although that happened in large measure: a new type of interdependence also arose between the two."[1] But it was an asymmetrical interdependence. Orality has been grounded in the universe of discourse governed by texts. As "textual communities" were coming into being as groups of literates socially organized around the reading of some common canonical books, texts emerged as "reference systems" structuring both people's daily activities and their thought patterns. The making of these textual communities by the institutionalization of reading and other text-based practices (like debating, for instance) not only gave rise to "unprecedented perceptual and cognitive possibilities; they promised, if they did not always delivered, a new technology of the mind."[2] Stock's conclusion, after examining the implications of literacy in mainly auricular societies, is that the written word, once introduced and institutionalized, permanently disrupts previous modes of thinking and being-in-the-world. Although the shift towards a textual culture is not irreversible, once texts are rooted down, major consequences are to follow, altering not only social organization, but also people's noetic structures. "Up to the eleventh century, western Europe could have returned to an essentially oral civilization. But by the 1100 the die was cast,"[3] concludes Stock.

The die was to be cast again in the same direction three and a half centuries later with the printing revolution that generated the "Gutenberg galaxy."[4] Just as the appearance of writing as cultural technology has restructured consciousness and memory, not instantaneously, but in the long duration, the invention of the printing press with movable types reverberated with some delay upon the mentality of the European man. The printing revolution has been, nonetheless, a major cultural breakthrough, even though it was rather a gradual revolution. Printing's effects on memory may not have been instantaneous, but have progressively deepened as time passed. Invented in the middle of 15th century, the technology of the printing press with movable types completed the restructuring of scribal medieval memory into a typographic memory in the course of a few centuries. The coming of the printed book, which has "arrived" in

[1] Brian Stock, *The Implications of Literacy. Written Language and Models of Interpretation in the Eleventh and Twelfth Centuries* (Princeton: Princeton University Press, 1983), 3.
[2] Ibid., 10.
[3] Ibid., 13.
[4] Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University of Toronto Press, 1962).

Western culture between 1500 and 1510, has produced a swift change in European *mentalité*, setting in motion "incalculable" cognitive, cultural, religious, and political consequences.[1] The quantitative aspects of book production, in contrast to their long-term consequences, are deemed calculable. Febvre and Martin estimate that between 15 to 20 million books – incunabula – were printed before 1500 in 30,000 to 35,000 different editions. The numbers are indeed highly surprising, given Europe's population of less than 100 million inhabitants in those countries where printing technology has developed.[2] In the 16th century, the book production intensified: about 150,000 to 200,000 different editions are estimated to have been printed, in 150 to 200 million copies. And "this is a conservative estimate and probably well below the actual figure."[3] Incalculable consequences flowed out of this massification of book production and of the written word. The emergence of official national languages as an outcome of development of national literatures in vernaculars was such an effect of printing. "Print-capitalism" was at the heart of the nationalizing process.[4] After the elite Latin-reading market reached the saturation point, book publishers following their commercial interests re-oriented towards the mass of vernacular reading public. There were, thus, powerful market forces at play that led towards the nationalization of book printing. What has brought the new "imagined communities" of the nation into being was "a half-fortuitous, but explosive, interaction between a system of production and productive relations (capitalism), a technology of communications (print), and the fatality of human linguistic diversity."[5] Print-capitalism was thus the driving force in the making of the nation. It did that by creating "monoglot mass reading publics."[6] Brian Stock's religious and monastic "textual communities" of the 11th century organized around the common reading of canonic Latin texts gave way to the textual community of the nation, organized around a common collection of texts written in the vernacular. National literatures emerge based on vernacular local languages, which were in need of standardization. Consequently, national languages have been subjected to an intense unifying process. Spelling became fixed, grammar was standardized and vocabularies were established. To this purpose, dictionaries and grammatical treatises were written to formalize and uniform languages. With the elevation of vernaculars to the status of official national languages, historical writings and, *ipso facto*, historical consciousness, were cast into national moulds. Later on, during the 18th to 19th centuries, as the nationalizing process gained momentum in the Western centralized states, the printed book has been the main medium of constructing national memories. History schoolbooks were not only "weapons of mass instruction"[7] by which the nation-states

[1] Febvre and Martin, *The Coming of the Book*, 262, 332.
[2] Ibid., 248–249.
[3] Ibid., 262.
[4] Benedict Anderson, *Imagined Communities. Reflection on the Origin and Spread of Nationalism* (London and New York: Verso, 1991).
[5] Ibid., 42–43.
[6] Ibid., 43.
[7] Charles Ingrao, "Weapons of Mass Instruction: Schoolbooks and Democratization in Multiethnic Central Europe," *Journal of Educational Media, Memory, and Society* 1 (Spring 2009), 180-189.

socialized their subjects into their common past, but also the very "textual building blocks" of national memory.

Summing up, by the 17th century, the acoustic universe of orality had been definitively replaced by the visual reality of textuality. The symbolic event epitomizing the complete triumph of typographic memory over scribal memory is the appearance of Denis Diderot and Jean le Rond d'Alembert's *Encyclopédie* in 28 volumes in the second half of the 18th century. The long transition from orality to literacy has finally been completed. With the publication of the *Encyclopédie*, human knowledge's long journey from brain to text has reached its destination. The end of the 18th century is also the time when a "commemorative era" erupts in the aftermath of the French Revolution of 1789. Le Goff thinks that the French Revolution set the tone for a truly "commemoration mania" that seized the entire Europe and had its apotheotical moment in the grand commemorative programmes staged by Nazi Germany and fascist Italy.[1] This had occurred because commemorating the revolution became a national duty, decreed in the first article of the Constitution issued in 1791, stipulating: "National celebrations will be established to preserve the memory of the French Revolution."[2] The commemorative febricity, or the "frenzy of historical liturgies,"[3] spread rapidly during the 19th century across entire Europe, instituting in the same time a new epigraphic civilization pulsating with "memory spams" in a "flurry of commemorations."[4] The mass production of public monuments[5] reaches a new height in the aftermath of the First World War, a period in which countless monuments were raised in the memory of the tragic war, especially to commemorate the memory of the Unknown Soldier. Paralleling the commemorative mania, other developments make this period one of maximal density and intensity of memory: the foundation of state archives, the inauguration of national museums, as well as the opening of public libraries, all of these as parts of the construction of an institutional infrastructure serving as platform for collective memory.

How are we to make sense of this frantic thrust of memorialization? What generated this commemorating zeal impelled by an unflinching will of memory? The answer lies in the rupture brought about by the revolution of modernity. Perceptive students of human affairs have noticed that whenever abrupt social change breaks the "wool of time" tying the present to the past, an acute consciousness of crisis is borne. Dislodged from the consecrated order of things sanctioned by tradition, people become overwhelmed by anxiety and react to the crisis by finding other wools of continuity by which to restore the link between the present and the past. The reaction to the anomie following the dislodging of the present from the womb of tradition is clinging, by way of memory and commemoration, to the lost past. The revolution of modernity, unbounded by the simultaneous conjugation of the Industrial and Democratic revolutions on the

[1] Le Goff, *History and Memory*, 87.
[2] Ibid., 86.
[3] Tzvetan Todorov, *Abuzurile memoriei* (The Abuses of Memory) (Timişoara: Amarcord, 1999).
[4] Peter Novick, *The Holocaust and Collective Memory: The American Experience* (London: Bloomsbury Publishing, 1999), 4.
[5] Eric J. Hobsbawm, "Mass-Producing Traditions: Europe, 1870-1914," in *The Invention of Tradition*, eds. Eric Hobsbawm and Terence Ranger (Cambridge: Cambridge University Press, 1983), 263-307, 271.

fertile ground already prepared by the Cognitive revolution of the Enlightenment, triggered such a mutation that morphed *Gemeinschaft* into *Gesellschaft* – traditional community into modern society. The commemorative overflow has its fountainhead precisely in this structural displacement produced by the outbreak of modernity. The mass production of commemorative rituals and artificial "sites of memory" (*lieux de mémoire*) comes to compensate precisely the irrecoverable loss of the traditional lifeworlds suffused with authentic memory (*milieux de mémoire*).[1] The commemorative upsurge is, if we can call it this way, a symbolic "palliative" by which communities ease their wounds inflicted by the fracture of the continuity between the past and the present. The periods when the sudden acceleration of history disrupts the consecrated order of things are not only sources of overproduction of memory, but also epochs when myth-making intensifies. Most often, a commemorative concern towards the past is accompanied by an increase in the emission of historical myths.[2] Instead of rushing to debunk them as "invented traditions," scholars should first try to understand them as defence mechanisms by which society, confronted with a situation disturbing its internal equilibrium, struggles to cope with the challenge by reaffirming its unbroken relation with its past.

**Media memory and the work of memory in the age of mass media production**

The 20th century does not lack nominal labels. One of the most used catchphrase for characterizing "the short twentieth century"[3] by two broad strokes is "the century of totalitarianism." Closely related to this denomination is the "century of genocide."[4] Seen from the perspective of social communication, the same interval has been named "the age of propaganda."[5] Changing the angle by a few degrees, the last hundred years could be just as legitimately called "the century of mass media," given the scope reached by mass communication in the last century.

The advent, followed by the institutionalization, of the newspaper, radio and television (the three media by which mass communication is propagated within industrial society) created new technological supports and informational vehicles for collective memory. Without doubt, mass media is the *locus* of production of most of the social discourse in modern society. Public sphere, conceived of in Jürgen Habermas' terms as the institutional space within which "something approaching public opinion can be formed" as a result of critical debates between private and equal individuals,[6] is inconceivable without the institution of mass media. Consequently, mass media plays a

[1] Pierre Nora, "Between Memory and History: Les Lieux de Mémoire," *Representations* 26 (Spring 1989), 7-24.

[2] Alexandru Zub, *Orizont închis. Istoriografia română sub dictatură* (Closed Horizon. Romanian Historiography under Dictatorship) (Iaşi: Institutul European, 2000), 102.

[3] Eric J. Hobsbawm, *The Age of Extremes: The Short Twentieth Century, 1914–1991* (Michael Joseph, 1994).

[4] Samuel Totten and William S. Parsons, *Century of Genocide: Critical Essays and Eyewitness Accounts* (New York: Routledge, 2009).

[5] Anthony R. Pratkanis and Elliot Aronson, *Age of Propaganda: The Everyday Use and Abuse of Persuasion* (New York: Henry Holt and Company, 2001).

[6] Jürgen Habermas, "The Public Sphere: An Encyclopedia Article," *New German Critique* 3 (Autumn 1964), 49–55, 49.

decisive part in "constructing public opinion."[1] Public opinion shares with collective memory their common condition of conceptual precarity, if not of *ontological* precarity, if we take seriously the celebrated manifesto article written by Pierre Bourdieu in which he sententiously asserted that "L'opinion publique n'existe pas."[2] In spite of the controversy surrounding the notion of public opinion (Harwood Childs catalogued no less than 50 different definitions of the term), the few core features of the phenomenon of public opinion can be discerned. The orientative definition advanced by Bernard Hennessy captures synthetically the constitutive elements of the phenomenon: "public opinion is the complex of preferences expressed by a significant number of people on an issue of general importance."[3] Subjecting this definition to an analytic dissection, four are the main vertebrae making up its definitional backbone: a) the existence of a current problem of general importance surrounded by controversy; b) the problem in cause has to affect the interests of a significant number of people; c) public opinion is a complex of views of different intensities and directions; d) these views are publicly expressed, either verbal (in writing or orally), iconic (by posters, banners, and other graphical representations or symbolic objects), or behavioral (through manifestations and demonstrations).[4]

Public opinion takes shape in reaction to some events and social developments, the public attention of the community being thus focused on current events. In modern societies where mass communication prevails, mass media is the institution that channels public attention towards some events. Public opinion is all about the realities of the present. But it should not be neglected that the public opinion of today will become the collective memory of tomorrow. And mass media, as the buffer between objective reality and individual receivers, has an instrumental contribution both in constructing public opinion and in organizing collective memory. It does these things through a series of operations and mechanisms by which mass media filters, edits, and semantically frames the information it communicates. Mass media research spotlighted two ways in which mass media influences directly public opinion: a) by *agenda-setting*; b) by *issue framing*. To which we have to add a mechanism operating within the system of information processing by which activities within newsrooms and editorial offices are regulated: *gatekeeping*.[5] The latter implies the existence of a set of criteria (objective and subjective, explicit and implicit) in terms of which the selection and treatment of information communicated by mass media are done. The filter set by gatekeepers screens in and out information defined as inadequate in terms of those criteria. Mass

[1] Septimiu Chelcea, *Opinia publică. Strategii de persuasiune şi manipulare* (Public Opinion. Strategies of Persuasion and Manipulation) (Bucureşti: Editura Economică, 2006), 85.
[2] Pierre Bourdieu, "Public Opinion Does Not Exist," in *Sociology in Question* (London: Sage Publications, 1993), 149–157.
[3] Bernard C. Hennessy, *Public Opinion*, 4th ed. (Monterey, CA: Brooks/Cole Publishing, 1981), 4.
[4] Petru Iluț, *Valori, atitudini şi comportamente sociale. Teme actuale de psihosociologie* (Social Values, Attitudes, and Behaviors. Current Themes in Psychosociology) (Iași: Polirom, 2000), 209–213.
[5] The idea of "gatekeeping" was first set in motion by Kurt Lewin, "Forces Behind Food Habits and Methods of Change," *Bulletin of the National Research Council* 108 (1943), 35–65, and further theorized by David Manning White, "The 'Gate Keeper': A Case Study in the Selection of News," *Journalism Quarterly* 27 (1950), 383–391.

media can be conceived of as a system of processing information endowed with a built-in sorting mechanism operating at both input and output. Consequently, the final product delivered by mass media is shaped by the criterial system used by the gatekeepers.

One of the most naïve illusions concerning mass media consists in the idea that mass media mirrors reality "as it really is." From the perspective of this naïve realism, mass media are nothing but mere drainage channels by which reality flows into people's houses. One does not have to be a master in the "art of mistrust" (Nietzsche), nor an initiate in the "hermeneutics of suspicion" (Ricoeur), in order to have serious reservations concerning the theory of mass media as mirror of reality. Mass media disseminates a worked out image of what it considers to be topics worthy of being conveyed to the general public. There is first the problem of selection. The continuous flow of happenings that makes up the superficial layer of reality (the "*événementielle*" level covering the profound subterraneous structures, as Fernand Braudel would have said[1]) is first split into distinct events, each endowed with a beginning, a course of action, and an end. Events are thus made into issues waiting to be thematized. Central to this process of turning reality into news is the selection of events that are to be broadcasted. Secondly, mass media resorts to classifying events and issues in terms of a value system. The issues and events communicated by mass media do not have the benefit of equal status. They are hierarchically discriminated and classified in a table of importance. By this differential attribution of importance, mass media fulfils what Maxwell E. McCombs and Donald L. Shaw had named as "the function of agenda-setting."[2] Central to the conception of McCombs and Shaw is the idea that mass media's agenda is taken over by the public and *ipso facto* becomes public agenda. By analyzing the salient issues on the mass media agenda (through content analysis of local newspapers and TV evening news broadcasts) and then comparing it with the public agenda (by interviewing 100 undecided voters from Chapel Hill, North Carolina about what they perceive to be the most pressing issues of the time), McCombs and Shaw were able to show the high degree of similarity between the two agendas. In fact, they found an extraordinarily high statistical correlation of 0.97 between the rank order of issues making up mass media agenda and the rank order of issues making up public agenda. Careful to avoid making causal inferences (unwarranted by correlation analysis which cannot establish causal relationship between variables), the authors interpret the results as "satisfactory as a first test of the agenda-setting hypothesis."[3] Subsequent research inspired by this seminal study was able to establish a methodologically warranted causal relationship between the mass media and the public's respective agendas. The hierarchy of the issues' importance established by mass media is transferred in the public sphere, and by this, mass media succeeds in imposing its own priority-order into the civic agenda.

The avalanche of researches triggered by the notion of "agenda-setting" (authoritative scholars estimate the sum of studies published in this research tradition as

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[1] Fernand Braudel, "History and the Social Sciences: The *Longue Durée*," in *On History* (Chicago: The University of Chicago Press, 1980), 25–54, 39.

[2] Maxwell E. McCombs and Donald L. Shaw, "The Agenda-Setting Function of Mass Media," *The Public Opinion Quarterly* 36 (Summer, 1972), 176–187.

[3] Ibid., 184.

exceeding 350[1]) has fulfilled the dream of any theorist: the *aggravating* revision of his or her theses by way of radicalizing the original ideas. Usually, the direction of theoretical revision follows a *mitigating* logic: the original theses are first stated in a bold manner. Later on, as empirical data continue to accumulate and a higher degree of conceptual refinement is gradually attained, the boldly stated original theses need to be mitigated by adjusting them to cope with conflictual evidence. Certainly, most of them end up by being plainly refuted. All scientific theories swim in a "permanent ocean of anomalies."[2] Sailing in this hostile environment, it is no wonder that most of them flounder. Without doubt, theorizing turns out to be a risky intellectual business. The reaction to refutation is not always that of unconditional acceptance of counter proofs, followed by the abandonment of one's own theory. The temptation of negation is always there, lurking in the shadows of counter-evidence. For some authors, the supreme act of ideational loyalty consists in the total embracement of the original theory. They engage in desperate efforts to rehabilitate intellectually the refuted theory. Inexorably, such attempts throw these authors in the academic periphery, becoming moral counter-examples and epistemic anti-heroes incarnating scientific malpractice. The case of Joseph Priestley, who defended tenaciously his phlogiston theory against the compelling evidence mounted by his rival Antoine Lavoisier, remains the paradigmatic model of the scientist unwilling to give up his beliefs and surrender intellectually to compelling criticism. Science is, ultimately, an *apostatic* endeavour, demanding from its members the mental disponibility to constantly revise their cognitive beliefs and intellectual commitments. The function of dogmatism in science has been fiercely debated in epistemological circles.[3] Thomas Kuhn was the one who dispelled the idealist-Popperian illusion of the scientist as *homo rationalis* and of the scientific community as embodiment of critical spirit. Approaching scientific activity with the analytical weapons of sociopsychology, Kuhn was able to show that as long as the epistemic community operates in the regime of "normal science," scientists uncritically embrace the fundamental postulates of the paradigm within which they perform their work. Far from exerting diligently the methodological doubt claimed by the Karl Popper's doctrine of critical rationalism, scientists take for granted the basic assumptions of the paradigm, calling them into question only in the moments of crisis when scientific community is being thrown in the mode of "extraordinary science." The conclusion that can be unfolded from Kuhn's exposition is that a form of cognitive dogmatism reigns supreme in the paradigm mentality of scientists. Even Popper, in the circumstances of a discussion with Kuhn, amongst others, although horrified by the idea of reducing

[1] James W. Dearing and Everett Rogers, *Agenda-Setting* (London: Sage Publications, 1996), x.

[2] Imre Lakatos, "Introduction: Science and Pseudoscience," in *The Methodology of Scientific Research Programmes. Philosophical Papers. Volume 1* (Cambridge: Cambridge University Press, 1978), 1–7, 6.

[3] The overture of the discussion has been played out by Thomas S. Kuhn's article, "The Function of Dogma in Scientific Research," in *Scientific Change*, ed. A.C. Crombie (New York and London: Basic Books and Heineman, 1961), 347–69, a paper anticipating the ideas fully articulated in the work of the same Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: Chicago University Press, 1962). The discussion prompted by these papers continued in *Criticism and the Growth of Knowledge*, eds. Imre Lakatos and Alan Musgrave (Cambridge: Cambridge University Press, 1970).

science to a special form of dogmatism, acknowledged the necessity for the author of a theory to believe dogmatically in his or her ideas: "I have always stressed the need for some dogmatism."[1] Only defended with (dogmatic) tenacity against the criticism mounted against it, can the theory reveal its true value. Prematurely abandoned, a promising theory will never blossom epistemically due to the lack of faith in its potential by its author. A moderate dosage of dogmatism is thus necessary, even if science remains, in Popper's view, an essentially critical enterprise. Searching for a convergence point between the two extreme views (Kuhnian dogmatism versus Popperian criticism), we think that there is a critical threshold up to which dogmatic attitude can go. "Scientific dogmatism," even if it is a cognitive reality in everyday scientific work, is nonetheless a limited one. Scientists are intellectually, and indeed, morally obliged (by the ethos of science) to review their beliefs in accordance to the results of research made within the parameters of a system of methodological norms and protocols established by collective rational consensus. Scientists who dogmatically resist changing their beliefs in spite of their being discredited by valid and reliable experimental results betray the epistemological and moral code of science. Against contrary evidence, apostasy becomes an institutional necessity and not a personal choice. Scientists' mindset can be thus described as *functional dogmatism with a built-in apostatic threshold*, neither blind obedience towards paradigmatic postulates, nor hyperbolic criticism permanently tormented by the demons of doubt. Dogmatism may be the path to salvation in communities of faith, but within the epistemic communities of science, dogmatic obstinacy ensures only intellectual damnation and a place in the annals of scientific infamy. Joseph Priestley's case is eloquent for exemplifying the intellectual tragedy experienced by the vainglorious scientist captive to his own ideational commitments.

Agenda-setting theory does not conform to this quasi-general pattern of mitigating revision until the original thesis' strength is brought in brink of dissolution, or even after the brink of refutation and abandonment. On the contrary, studies modelled on McCombs and Shaw's exemplary analysis have revealed a "second-level agenda-setting" which propelled towards the radicalization of the original statements. The second level of agenda-setting consists in the *framing effect* of information by mass media. Mass media does not just set the agenda of the importance of issues, but also sets the semantic agenda or the interpretive scheme used to make sense of these issues. Information is never conveyed raw and un-interpreted; it is wrapped up in interpretations given by mass media and delivered to the public in this form. The public receives information already interpretively framed by the mass media, messages already semantically coded. Taking stock of the research done in the field of agenda-setting theory after twenty-five years from the launch of the seminal idea, McCombs and Shaw point out that "agenda setting is considerably more than the classical assertion that the news tells us *what to think about*. The news also tells us how to *think about it*."[2]

[1] Karl R. Popper, "Normal Science and its Dangers," in *Criticism and the Growth of Knowledge*, eds. Imre Lakatos and Alan Musgrave (Cambridge: Cambridge University Press, 1970), 51–58, 55.

[2] Maxwell E. McCombs and Donald L. Shaw, "The Evolution of Agenda-Setting Research: Twenty-Five Years in the Marketplace of Ideas," *Journal of Communication* 43 (Spring 1993), 58–67, 62.

Accepting the principle that at least a part of public opinion converts in the course of time to become collective memory, the function of agenda-setting and its semantic framing redound eventually to shape the contents of collective memory too. Constructing public opinion, mass media moulds the brinks that will be used as building materials in constructing collective memory. The phrase saying that "news is the first draft of history" has become proverbial. It should quickly be added that news have become the rough drafts of collective memory too. Taken as a *sui generis* cultural memory system (i.e., a system of popular memory production increasingly rivalling the more conventional state-sponsored systems such as public education), mass media remembers the past to their publics in at least three ways of journalistic remembering:[1] i) by commemorating past events and persons through anniversaries of births and deaths of public historical figures and socially important historical moments, ii) by making historical analogies between contemporary happenings and past events stored in collective memory in order to make sense of the present through the lenses of the past, and iii) by historically contextualizing current events as a means of understanding the present in historical perspective. Bringing the past in the present by commemorations, historical analogies, and historical contextualization, mass media keeps the past alive in the public consciousness, constantly remembering the past roots of the present.

But mass media does more to shape collective memory than to just frame issues and set the agenda. It can set the *public memory-agenda*. This has been shown by Neta Kligler-Vilenchik's application of agenda-setting theory to the study of collective memory in an empirical study conducted in 2008 in Israel. Following the standard model of the agenda-setting research, Kligler-Vilenchik has first content analyzed the "media memory agenda," i.e. "the set of past events most salient in the media."[2] The second step was to establish the "public memory agenda," that is, the rank of past events considered as most important by ordinary individuals. In the final step of the analysis, a correlation was done in order to test the degree of consistency between the two. The results are fully supportive of the hypothesis: a significant correlation was found between the media memory agenda and the public memory agenda varying between r values of 0.61 ($p < 0.05$) and 0.83 ($p < 0.01$).[3] These results support the conclusion of the *memory-setting* function of mass media. In the light of these insights, paraphrasing the title of the celebrated essay of Walter Benjamin, we can conclude by asserting that the work of memory has entered in the age of mass media production.[4]

Bringing its instrumental contribution to the making of public opinion, mass media implicitly influences collective memory in the long run. But the effects of mass media on collective memory are not limited to just indirect influence. In the case of what

[1] Jill A. Edy, *Troubled Pasts. News and the Collective Memory of Social Unrest* (Philadelphia: Temple University Press, 2006), 93–94.
[2] Neta Kligler-Vilenchik, "Memory-Setting: Applying Agenda Setting Theory to the Study of Collective Memory," in *On Media Memory. Collective Memory in a New Media Age*, eds. Motti Neiger, Oran Meyers, and Eyal Zandberg (Basingstoke, UK: Palgrave Macmillan, 2011), 226–237, 226.
[3] Ibid., 234.
[4] Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations. Essays and Reflections* (1939; New York: Schocken Books, 1969), 217–251.

Daniel Dayan and Elihu Katz have called "media events," televised broadcastings directly affect both the substantial contents and the formal structure of collective memory. By "media events," Dayan and Katz refer to a special genre of broadcast particularized in the thematic repertoire of televised broadcastings by a series of specific elements. Media events are those "historic occasions – mostly occasions of state – that are televised as they take place and transfix a nation or the world."[1] Three classes of events of this scope form the typology of media events: Contests, Conquests, and Coronations.[2] The first class includes "epic contests," political and sportive in nature, the prototypical examples of this genre of media events coming in the guise of presidential campaigns, Watergate hearings, or Olympic Games. Conquests refer to "charismatic missions" such as the moon landing (1969) or Pope John Paul II's visit in Soviet Poland (1979) and Orthodox Romania (1999). The genre of Coronations includes "rites of passage of the great" exemplified by the global events created surrounding the royal weddings (of Prince Charles and Diana [1981], or of Prince William and Kate Middleton more recently [2011]).

In contrast to other genres of televised broadcastings (newscasts, documentaries, action movies, comedies, soap operas, etc.), media events are "the high holidays of mass communication."[3] Media events distinguish themselves within the spectrum of televised broadcasting genres by the following cluster of features:[4]

a) media events are *interruptions* of daily routine, soliciting the public's collective attention to be focused on the broadcasted event;
b) the interruption is *monopolistic*, i.e. all channels of mass communication divert their scheduled programs to broadcast the media event;
c) the media event is broadcasted *live*, ensuring by this the thrill given by the unpredictability inherent to any live broadcasting;
d) broadcasted events are *external* to mass media, in the double sense of spatially occurring outside of the studio and of not being created by mass media;
e) media events are *preplanned*, thus buying time for the broadcasters to promote the event, and also giving time to the public to prepare for watching it;
f) media events are presented in an auroreal light, treated with *reverence* and *ceremony* (as in the case of the media event of J.F. Kennedy's funerals);
g) behind the broadcasting of media event lies an agenda of *reconciliation*, the dominant message being one of ceasing the hostilities (again, J.F.K.'s funerals is an eloquent example); by this feature, "media events" distinguish themselves from "news events," the latter giving central stage to conflict instead of reconciliation;
h) media events celebrate *voluntary* actions from the part of the great personalities of history (e.g. Pope John Paul II's visits in diverse regions of

[1] Daniel Dayan and Elihu Katz, *Media Events: The Live Broadcast of History* (Cambridge, MA and London: Harvard University Press, 1992), 1.
[2] Ibid., capital letters in original.
[3] Ibid.
[4] Ibid., 5–9.

the world); due to the involvement of "the Great Men of History,"[1] media events are ratified as historic events;

i) not the least, media events *electrify very large audiences*; their emotional makeup, coupled with the sense of historic importance, succeeds in making entire nations or even the whole planet to vibrate in unison (as it is the case with global events such as The Olympic Games, for instance). The social consequence of this "electrifying" capacity of media events consists in promoting social integration by appealing to a "renewal of loyalty" towards the *status quo* and its legitimate authority.

An analysis inspired by linguistics reveals an internal architecture made up of three levels or dimensions. The first four features (a, b, c, d) – interruption, monopolization, live broadcasting, and exteriority – form the "syntax" of the broadcast. Historicity, ceremonial reverence, and the reconciliatory message impregnating media events make up the "semantics" of the broadcast, its ideological component. Lastly, the integrative effect of the social system and the legitimation function of the *status quo* form the "pragmatics" of televised broadcastings of media events.[2] Thanks to these features, the dissemination of these "television ceremonies" directly affects the makeup and structure of collective memory. Examining the effect of televised broadcasts of media events on collective memory, Dayan and Katz point out the following:[3]

a) media events are *electronic monuments*, meant to enter in the informational contents of collective memory; these form the media building blocks used later to construct the system of representations of the past making up collective memory;
b) media events *structure the temporal framework* of collective memory; they are taken as providing shared points of references, as temporal watersheds in making sense of the past (personal and collective);
c) closely linked with the previous point, media events *carve historic epochs* in the flow of time, marking the beginning and the end of these "eras";
d) by all these effects, media events *edit and reedit collective memory*.

The media of storing collective memory have been revolutionized, once again, with the development of electronic technology, especially with the appearance of electronic computers that allowed for the creation of data banks, virtually unlimited in their storing capacity. Another major shift in the structure of memory occurred as technological developments made possible for people to save their experiences as… digital memories.[4] The digital revolution has brought to an end the "broadcasting era" dominated by mass media, setting the stage for the emergence of a "post-broadcast age" centred on new digital media.[5] With the digitalization of media, memory entered into a

[1] Thomas Carlyle, *On Heroes, Hero-Worship, & The Heroic* (New York: D. Appleton & Co., 1841), 1.
[2] Dayan and Katz, *Media Events*, 10–11.
[3] Ibid., 211–213.
[4] Joanne Garde-Hansen, Andrew Hoskins and Anna Reading, *Save As... Digital Memories* (Basingstoke, UK: Palgrave Macmillan, 2009).
[5] Andrew Hoskins, *The Mediatization of Memory: Media and the End of Collective Memory* (Cambridge, MA: The MIT Press, 2011).

new mode of existence; there are analysts proclaiming the "end of collective memory" and its superseding by "connected memory."[1] Internet and new media forming today's digital network society have become not only the largest archive built up by humanity, but an ever-expanding archive of the continuous present. The present is recorded and stored in real time, as it unfolds in time, this archival voraciousness making the internet a digital archive of the eternal present. The advent of new media overthrown the asymmetric and unilateral transmitter-receiver paradigm of traditional mass media, replacing it with a decentred site of memory-work in which everyone can involve in the collective businesses of memory-production and memory-dissemination. The "socio-technical practices of memory-making and memory-retrieval"[2] have changed dramatically in the post-broadcasting era, also known as "self-broadcasting era," in which anyone equipped with a digital device can become a creative agent of memory.

The total effects of new digital media of storage on collective memory are still to be fully determined. What is increasingly clear even from the midst of the events is that we are witnessing yet another reconfiguration of memory as the digitalization of media gains more and more momentum. The digitalization of the mediascape is an ongoing process, and for the time being, no critical mass of relevant studies has accumulated in order to throw light on how the new media technologies reshape collective memory. The forays done this far barely scratched the surface of a phenomenon announcing itself as having the magnitude of yet another technological revolution of massive proportions. In these circumstances, drawing some definitive conclusions at this time would turn out to be not only premature, but also a hasty decision. Even brought into contemporaneity, as pleaded by the *Annales School*'s members when they pleaded for a "History, science of the past, science of the present,"[3] historiography cannot launch itself into the middle of the events without taking an extra epistemological precaution, and still less can it step foreshadowing into the future. Only the past is there to be caught in the historian's epistemic nets. If a history of the present is already flirting with paradox, a prophetic history of the future enters flagrantly under the sign of contradiction. Feeling that we do not possess sufficient data that would allow us to make scientific prediction, and even less endowed with the grace of divination that would prophetically open to us the book of the future, we put an end *hic et nunc* to the media-history of memory, leaving it in the brink of its digital transformation.[4]

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[1] Ibid.

[2] Nancy Van House and Elizabeth F. Churchill, "Technologies of Memory: Key Issues and Critical Perspectives," *Memory Studies* 1 (2008), 295–310, 296.

[3] Lucien Febvre *apud* Fernand Braudel, "History and Sociology," in *On History* (Chicago: The University of Chicago Press, 1980), 64–82, 69.

[4] Referring especially to the *poverty of historicism* in its Marxist version, Karl Popper pointed out the fundamental distinction between "scientific prediction" and "historical prophecy." In this paper we will refrain from any of these two forms of anticipatory projections, contenting with tracing the history of memory in the light of its storing media until the moment of the digitalization of memory. (See Karl R. Popper, "Prediction and Prophecy in the Social Sciences," in *Conjectures and Refutations. The Growth of Scientific Knowledge*, New York and London: Basic Books, 1962, 336–346.)

**Conclusions: technological regimes of memory**

Revealing the historicity of memory in terms of its different technological media, we have shown how these technological supports on which memory is engraved in order to gain temporal durability condition the syntax (the structural conditions), the semantics (the meanings circulated within collective memory), and the pragmatics (the ritual usage) of collective memory. By making a wide historical excursion through the history of the ways in which human societies conserved their cultural heritage, we have shown that "collective memory is an inherently mediated phenomenon."[1] The brain, as bio-support of oral memory; the manuscript, as support of scribal memory; the print, as support of textualized memory; electronic storage, as support of digital memory, are all not only technologies of memory, but also the bases of *mnemonic matrixes* constituting the cultural nests of some "anthropological species" distinct in terms of their cognitive makeup, in the prototypical persons of *Homo loquens*, *Homo scriptor*, *Homo lector*, *Homo videns*, or *Homo somnians*. Introducing the term "mnemonic matrix," we pay conceptual tribute to Lucian Blaga's seductive idea of "stylistic matrix."[2] Conceptually growing out of the seminal idea of the stylistic matrix, our derivative notion semantically detaches itself from its ideational source through a decisive difference. Blaga's stylistic matrix is made up of a cluster of structures of the collective unconsciousness, that by way of "personance" pierce through from the vaults of the unconsciousness "to the domes of the consciousness,"[3] imprinting themselves upon all spiritual expressions of the culture residing in that stylistic matrix. By contrast, the mnemonic matrix is made up from technological structures, bio-cultural in nature, with which collective memory is inextricably pervaded. Indeed, these mnemonic matrixes rooted on diverse material supports that give permanence to the cultural dowry of social communities are "technological regimes of memory," that could be defined as "socio-technical systems" in which the cultural technologies of storing knowledge and the social practices of remembrance and commemoration thread into each other to determine the formal structure of collective memory that, as a consequence, will condition its substantial makeup.

[1] Oren Meyers, Motti Neiger, Eyal Zandberg, Andrew Hoskins, and John Sutton, "On Media Memory: Editors' Introduction," in *On Media Memory: Collective Memory in a New Media Age* (Basingstoke, UK: Palgrave Macmillan, 2011), 1–24, 3.

[2] Lucian Blaga, "Orizont şi stil," (Horizon and Style) in *Trilogia culturii* (The Trilogy of Culture) (1935; Bucureşti: Editura pentru Literatură Universală, 1969), 3–118.

[3] Ibid., 31.