Forward Backward: The Odyssey as a design interface

Epic Tales of the Real and the Imaginary: The Odyssey as an Interface

by

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ABSTRACT:

The Odyssey, one of the two Homeric poems, the other being the Iliad, stands as an exemplary invention of the ancient Greek oral tradition. Odysseus's nostos, his returning journey to his homeland, Ithaca, still echoes today, as an inexhaustible source of imagination and creativity. This project postulates that in the instance of the Odyssey, Homer blends imagination with reality, history with myth, the humans with the gods, and the living with the dead. In doing so, he offers us, an affective experience of the known and the unknown territories of the Cosmos; a poetic world of sounds, images, tastes and emotions; a 'synesthetic' experience that puts into question the platonic modes of thinking that supplemented the Homeric period.

This work wishes to explore the Odyssey as interface for contemporary design, looking into significant shifts in epochs, such as the one from orality to literacy and further on to what the cultural theorist Gregory Ulmer coins as electracy which describes the technological, ideological and institutional apparatus of the contemporary digital epoch.

As such, what specifically interests me in the myth of Odysseus, as a creative invention of the oral tradition, are the underlying logics and characteristics of this interface, which not only allow insight into the shift from an oral to a literate ontology, but are also suggestive as we look into contemporary digital design thinking, making and doing. My exploration in this project, takes the form of a 'forward-backward' exploration between Ulmer's theories and the interface of the Odyssey, as well as a 'forward-backward' oscillation between different epochs, aspired to creatively engage with the myth of Odysseus in search of latent design intelligences for the contemporary epoch.

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To my brother, *Hector*

with whom we are by family ties related to our parents
and by denomination to Homer.

Contents

Some Versions of Homer

AS I WRITE THIS PREFACE FOR MY WORK, I strive to trace the circumstances and conjectures that have fueled it. When in August 2016, I left Greece to come to the United States, my departure coincided with a recent publication of a new translation of the *Odyssey* by Manolis Xatzigiakoumis,[1] an acclaimed Greek philologist and one of my earliest teachers of ancient Greek; he had been working on the Homeric epic for more than ten years before he published what he calls his "life's project". As I was strolling between on-line reviews of this much-awaited translation and Manolis's text and hermeneutic comments, I was struck by a simple question: Why do we still translate the *Odyssey*, a myth that is almost 2,500 years old? In the short essay *Some Versions of Homer*, Jorge Luis Borges, the renown Argentinian essayist, responds, to some extent, to my question:

> "The main cause is the impossibility of knowing what belonged to the poet and what belonged to the language. To this fortunate impossibility we owe so many possible versions, all of them sincere, genuine, and divergent. [...] The notion of a "definitive text" belongs to religion or perhaps merely to exhaustion".[2]

Borges's diverging excerpts from Buckley's translation of the *Odyssey*, Butcher's and Lang's, Pope's, Cowper's, Chapman's and Butler's, seem to bolster his claim; these rich, diverse and often contradictory conjectures, Borges holds, are a natural outcome of the *Odyssey* for "we cannot separate what belongs to the author from what belongs to the language".[3] However, my design intuition refuses to put faith exclusively on the linguistic challenges that the Homeric language presents. For me, it seems like Homer himself wanted us to endlessly meander within the suggestive and elusive language that he devised, between what belongs

1. Χατζηγιακουμής, Μανόλης Κ. Ομήρου Οδύσσεια: Εισαγωγή, Κείμενο, Μετάφραση, Σχόλια, Ραψωδίες Α-Ω. ΚΕΡΕ (Κέντρο Ερευνών και Εκδόσεων), 2015.

2. Borges, Jorge Luis, and Suzanne Jill Levine. "Some Versions of Homer." *Pmla*, vol. 107, no. 5, 1992, p. 1134.

3. Ibid.

to him, the Muses, Odysseus, and us, the contemporary readers. In that sense, it looks like it was Homer's design decision, so-to-speak, that the myth of Odysseus remains until today an open-ended project. As such, the *Odyssey* resembles more to a *design project*, or to what Borges describes as "a complex equation that delineates precise relations among unknown quantities",[4] rather than a linguistic mystery of the ancient Greek language.

My preoccupation with the *Odyssey* was set aside for a while and did not resurrect, until my second semester at MIT, on the occasion of Hashim Sarkis's and Roi Salgueiro's seminar, "*Ways of world-making*". Their prompt was: "how can urban planning, architecture, design and the arts play a role in improving and expressing a *world* given to us by globalization?".[5] It was under these circumstances, that the *Odyssey* reappeared again, this time as an example of a global project. The paper I wrote for the class, held that the *Odyssey* was conceived as an *ecumenical* project, and tried to grappled with the precise characteristics of the myth that rendered it as such. This initial exploration was further developed, altered, and tailored in the form of this current work. My questions have changed drastically in respect to the world-making prompt; they were gradually imbrued by my own personal design questions and academic interests, but my fascination towards the Homeric myth remained animated throughout this time.

Thus, the questions I am exploring in this project have taken a different form: What lessons does the *Odyssey* hold for us, the digital designers? What are those 'versions' of the *Odyssey* that can help us frame afresh the contemporary epoch in design thinking, making and doing? What constitutes the affective-ness of the *Odyssey* today? And through this

quest, hopefully my exploration will ultimately answer to why we still translate the *Odyssey* today.

4. Ibid.

5. From the course's description. "MIT Department of Urban Studies and Planning." *World-Making | MIT Department of Urban Studies and Planning*, dusp. mit.edu/subject/ spring-2017-11s944-0. Please note that unless otherwise indicated, all websites were verified as active as of May, 18, 2018.

NOH Nekyia, 2015
Book 11, Odysseus's descent into Hades

Ancient Theatre of Epidaurus, Greece
Michael Marmarinos, Rokuro Gensho Umewaka

Source: *http://greekfestival.gr/en/events/view/noh---nekyia-1899*

Forward–Backward

THE CONTEMPORARY OPERATIONAL FRAMEWORK is irrefutable dominated by the ubiquitous use of digital technologies. They have inundated every aspect of our lives. They monitor and affect our health, habits, movements, work, social interactions, and perhaps eventually will even 'compute' our brains. We can now salute the predominance of the digital age! In design, digital technologies have imbrued all instances and instantiations of contemporary design, from the 'computation' design processes to the digital fabrication methods and practices.

The tendency, that I have identified in current approaches, is to assume that these technologies merely enhance, augment, or improve our former aptitudes. The computer-aided-design (CAD) processes assist, as the term 'aided' insinuates, our capacity to design in three-dimensions, the rapid prototyping (RP) fabrication methods enhance our ability to fabricate quickly physical models, the Rhino interface improves the former interface of the drafting table. However, in reality I argue, these technologies open up new dimensions of thinking, making, and doing. For instance, the rapid prototyping (RP) technologies summon new additive, excavating, rotating, manufacturing design logics, they are responsible for the inauguration of the lab (RPL) as an equally important institutional formulation in parallel to the traditional design-studio, and ultimately perhaps they might be accountable for the transmutation of the very identity of the contemporary designer, who today seems to reclaim a new form of craftsmanship and hand-on practice.

In that sense, digital technology's ramifications extend beyond their immediate technical affordances. They are *devices* that open up and sustain new operational, but also ontological frameworks. For such an

understanding of *technology* the theories of the cultural theorist Gregory Ulmer, have proven, for me, to be insightful. For him all devices, including of course the digital ones, operate on three levels: *technology*, *institutions* and modes of *identity*. Shifts in technological mediums, such as the contemporary shift towards the integration of digital technologies in design, usher broader shifts in the intellection (patterns of thought, creativity, memory, behavior), the personal identity formations, and the institutions that support those new aptitudes. All three registries for Ulmer, need to be *invented* within each epoch shift, they don't merely 'happen' by means of our interaction with technological innovations, as the example of the rapid prototyping insinuates.

The emerging question then is: what are those new forms of intelligence and aptitudes that the digital epoch yields for contemporary design? On this base of speculation, I hold that significant shifts in epochs, such as the one from *orality* to *literacy* and further on to the *digital age*, framed through Ulmer's tripartite scheme of *technology, institution, identity*, are constructive; not only because they exhibit how each shift in the technological mediums affects simultaneously thinking and being, but also because they illustrate what aspects of each epoch are maintained, transformed or augmented within each shift, harvesting, I argue, a fertile ground for the development of alternative digital design intelligences.

In this quest, my fascination with the *Odyssey* becomes an armature of exploration. As such, what specifically interests me in the myth of Odysseus, as a creative invention of the oral tradition, are the very creative logics and characteristics of this invention, which not only allow insight into the shift from an oral to a literate ontology, but are also suggestive as we look into contemporary digital design thinking,

making and doing. Thus, my exploration in this project, takes the form of a forward-backward[6] exploration between Ulmer's theories and the interface of the *Odyssey*, as well as a forward-backward oscillation between different epochs, aspired to creatively use the myth of Odysseus as a design metaphor, and eventually offer, perhaps, a new design 'translation' of the *Odyssey* for the digital age.

6. I borrow the *forward-backward* term from the forward–backward algorithm which "is an inference algorithm for hidden Markov models. The algorithm makes use of the principle of dynamic programming to efficiently compute the values that are required to obtain the posterior marginal distributions in two passes. The first pass goes forward in time while the second goes backward in time; hence the name forward–backward algorithm". See: "Forward–Backward Algorithm." *Wikipedia*, Wikimedia Foundation, 2 May 2018, en.wikipedia.org/wiki/Forward–backward_algorithm.

The Myth of Odysseus

TEN YEARS AFTER THE FALL OF TROY in the hands of the Achaeans (Greeks), and while most of them had already returned to their homelands, Odysseus finds himself still in Ogygia (Book 5), the island of the goddess Calypso, who wants to keep him there forever, despite his lust to return to Ithaca. Benefiting from the absence of the god Poseidon, who defers Odysseus's return as a punishment for blinding his favorite son, the cyclops Polyphemus (Book 9), the gods meet on Mount Olympus (Book 1) in order to decide on the fate of Odysseus and his comrades. During this meeting, the goddess Athena, Odysseus's protector, persuades Zeus to consent to the return of Odysseus to Ithaca, making sure that Calypso will not object to his homecoming.

He will return home after a journey that lasts approximately forty days.[7] His final stop before reaching his destination is the country of the Phaeacians (Book 6,7 and 8) where Odysseus narrates his story (*nostos*) in first person to Alkinous, the Phaeacians's king. Odysseus's wanderings occur in the sphere of the real (Troy, Cape Malea, Ithaca, Ciconians); they also occur in the realm of fantasy, in a mythical world of monsters, the Lotus-Eaters, the Cyclops, the Laestrygones, Circe and the Sirens, Scylla and Charybdis, the Helius's island and the reign of Hades (the Underworld); and also in the realm of the imaginary, in the utopian society of the Phaeacians. Odysseus's returning journey to Ithaca, unfolds in the context of a cosmic *ecumene* that oscillates between real and imaginary worlds and reflects both Homer's contemporary perception of what the 'global' world was at the time, as much as Homer's imaginary alternative of what this world should be.[8]

According to the historians, the myths of the *Iliad* and the *Odyssey* took their final form possibly around the end of 8th century B.C., or in the

7. This time refers to the duration of the journey. However, the narrative time in the *Odyssey* is not linear. This means that the Books do not succeed one another in a chronological sequence. Instead Odysseus narrates his wanderings to Alcinous in as a flash-back of his journey.

8. Throughout the paper, I have used the translation of the *Odyssey* in modern Greek from Manolis Xatzigiakoumis. Χατζηγιακουμής, Μανόλης Κ. Ομήρου Οδύσσεια: Εισαγωγή, Κείμενο, Μετάφραση, Σχόλια, Ραψωδίες Α-Ω. ΚΕΡΕ (Κέντρο Ερευνών και Εκδόσεων), 2015. For English, I use A.T. Murray's translation. Homerus, *The Iliad*. Translated by A.T. Murray. Harvard University Press, 1954. Also see: "HOMER, ODYSSEY 1." *IRENE (Eirene) - Greek Goddess* *Hora of Peace (Roman Pax)*, www.theoi.com/Text/HomerOdyssey1.html. When necessary other translations are quoted. Mostly, Homer, *The Odyssey*. Translated by Emily R. Wilson. W.W. Norton et Company, 2018. The *Odyssey* is organized in 24 Books that correspond to the 24 letters of the Greek alphabet. The [number] refers to the specific verses.

9. The genus of 'archaic epic poetry' refers to autonomous narrative units commemorating the mythical past of epic heroes and gods, and were performed by bards (aedoi from the word aede or ode) with the entourage of musical instruments. Those early versions, were composed partially through

improvisation. For more on the archaic epic poetry see: Μαρωνίτης Δ.Ν. και Πόλκας Λ. Αρχαϊκή Επική Ποίηση: από την Ιλιάδα στην Οδύσσεια. Ινστιτούτο Νεοελληνικών Σπουδών, 2007.

10. Χατζηγιακουμής, Μανόλης Κ., Ανθολόγιο Οδύσσειας: Σχόλια και Αναλύσεις,

Επίμετρο, Κέντρο Ερευνών και Εκδόσεων (ΚΕΡΕ), 2016, pp. 160-3.

beginning of the 7th. The narrative core of the *Odyssey* corresponds to a pre-Homeric epic tradition of storytelling through poems (*archaic epic poetry*) .[9] The first textual registry of the poem was conducted in the years of Peisistratus in Athens around the 6th century B.C. After that, the poem was constantly edited until it took its final form by the Alexandrian philologists of the 3rd and 2nd century B.C. The world that the Homeric poems describe, the thematic core of the epic cycle, is considered pre-Homeric and refers approximately to the 13th century B.C., while incorporating elements from Homer's contemporary era. The incidents of the *Iliad* and the *Odyssey* refer to approximately 500 years before they were actually narrated by Homer. The centuries that correspond between Agamemnon, one of the main characters of the *Iliad*, and Homer remain historically obscure. It is the era that corresponds to the Dorian invasion from the north of Greece, which resulted in the eradication of the great Mycenaean civilization that the epics commemorate, and the emergence of the mysterious Sea Peoples in the Mediterranean basin.

This historical relay is important to the extent that it illustrates the epic's primary role for ancient Greeks. The *Iliad* and the *Odyssey* are testimonies of the glory past of the Mycenaean period and played a fundamental role in preserving the historic consciousness among the ancient Greeks. At the same time, the *Odyssey* should be perceived as the precursor of a new reality yet to come. I argue, the reality of literacy, the formation of the *polis* (the democratic state) and most importantly the forming of a common Greek identity.[10] In that sense, the myth of Odysseus was not conceived primarily to foretell the future, but in commemorating a common past and in imagining alternatives, the epic ultimately pathed the way towards the Golden Age of ancient Greece:

The Classical period of the 5th century B.C.

Thus, the *Odyssey* for my purposes, stands as a creative invention of the oral tradition. To put it differently, I hold that the epic did not result inevitably from Homer's contemporary cultural, technical and intellectual framework, but instead it should be understood as a *design project* carried by a counter-cultural thinker: Homer. As such, what interests me in the myth of Odysseus are the very creative logics and characteristics of this design invention, which not only allow insight into the shift from an oral to a literate ontology, but are also suggestive as we look into contemporary digital design thinking, making and doing. On this basis, I argue that Homer is an heuretic inventor, a creative designer who in contrasting past cultural tropes, he discovered new ones. This is the premise upon which my endeavor to unpack *Odyssey's* design capacities today, unfolds.
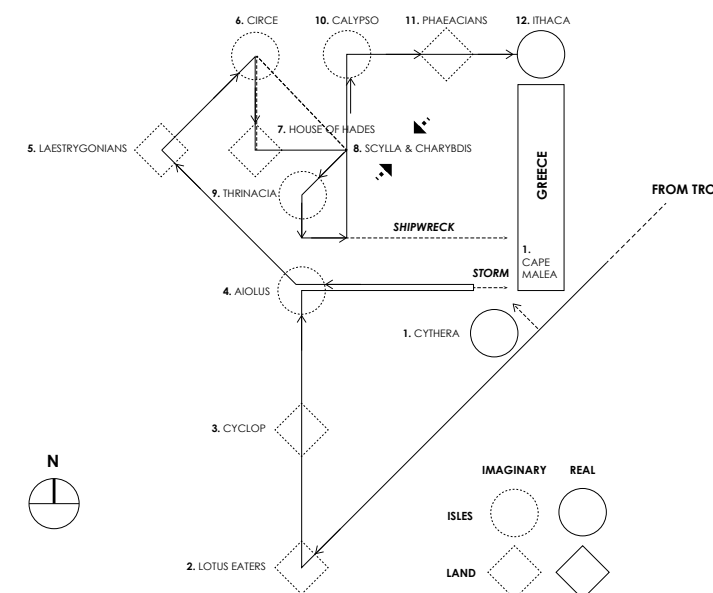
Homer's ways of Odysseus, 1990
Armin and Hans-Helmut Wolf

Source: Wolf, Armin. *Mapping Homer's Odyssey.* Eastern Mediterranean Cartographies. Institute for neohellenic Research N.H.R.F. Tetradia Ergasias 25/26. 2004. pp. 309-334.

The Odyssey as an Interface

MYTHS ARE CONTAINERS. They contain all the various 'meanings' that have been attributed to them. The contemporary users of these myths internalize the long history of a supplementation process, which starts from the period of formation of each myth, and continues with their first written registry when that is available, the circulation of them which often includes significant alterations on the part of new authors, the myriad mutations of myths resulting from the various different 'readings' of them, and of course the influence of the contemporary framework which inadvertently 'slips' into every attempt for a new reading of ancient mythologies.

Therefore today, the Homeric myth internalizes aspects of its original oral capacities, witnessed for instance in the poetic and metric form of the epic. The *Odyssey* also internalizes aspects of the literary epoch, which come into play through the various translations and secondary analyses of the ancient myth, such as Adorno's reading of the dialectic of Enlightenment in the epic.[11] Similarly, the myth is contained in the numerous cultural projects that it nurtured, like James Joyce's *Ulysses* first published in 1922, or the 1968 film *2001: Space Odyssey,* written by Stanley Kubrick and Arthur C. Clarke. These bifurcated postmortem versions of Odysseus create a supplementing and intertwining thread that constitutes today's 'meaning' of the myth and opens up a matrix of potential avenues of speculation.

To frame this *supplementation* process, which negotiates my encounter with the Homeric myth, I have addressed the *Odyssey* as an interactive *interface* instead of a confined *object* of study. From the stance of a designer, and not a literary criticist, the attitude that my attempt endorses is not one of certainty, verification or corroboration, but rather one of inquiry,

11. Adorno, Theodor W. , and Max Horkheimer. "Odysseus or Myth and Enlightenment" in *Dialectic of Enlightenment*. Verso, 2016.

curiosity and wondering in respect to how the myth of Odysseus can help frame afresh the contemporary design thought and practices. The prompt that I wish to respond to, is not what the *Odyssey* is in its historical context of orality, as much as what aspects of it can act today as potent design metaphors. This quest distances itself from a critical, problem-solution examination of the myth, and instead entertains an iterative and interactive wandering and wondering, based on oscillation and plurality, that is ultimately aspired to contaminate and intersect with contemporary design thinking, making and doing.

The Oxford dictionary defines *interface* in English, as "a point where two systems, subjects, organizations, etc. meet and interact".[12] In the digital era of ubiquitous computing, *interface* refers to "a device or program enabling a user to communicate with a computer".[13] Interfaces, for example, are the mouse and the keyboard of the computer, an interface is a message that the messenger communicates to the receptor, a pen that allows one to interact with a sheet of paper, a door that enables the entry to a room. Even philosophy can be perceived as interface between abstract ideas and the world. Hence, this definition doesn't say much about what an *interface* is, for it says too much! Almost anything can potentially be a mediating 'device'. The question that follows is: what do I mean by claiming to address the *Odyssey* as an *interface*? In the context of my approach, the term *interface* refers to the *apparatus theory* developed by the cultural theorist Gregory L. Ulmer, who in the instance of my project serves as the theoretical substructure of my thinking. Ulmer's *apparatus theory* has its roots in the French deconstructionist tradition, the Toronto School of Communication (Marshall McLuhan, Eric Havelock, Northrop Frye) and others (Walter Ong, Jack Goody).[14]

In 1967, the philosopher Jacques Derrida used the concept to support that writing in not the mere reproduction of speech, but instead it is an *apparatus, a dispositif*, in which the way the thoughts are recorded affects the very nature of knowledge.[15] Writing in the Derridean sense, is not a simple recreation of speech as much as it is a mediating 'device' that produces a certain ontology. The media studies of the Toronto school will extend this logic to the relation between new electronic media of recording of the world, and the way we view it. Similarly, I argue, the oral apparatus as devised by Homer, fosters a specific ontology and worldview that can be witnessed in the interface of the *Odyssey*.

In design, this understanding of an *apparatus* applies among others, to design's devices of recording and communication (for example the drawings, models, maps, renders, images, sketches but also to design tools such as the drafting table or the blueprint machine, as well as their digital equivalents), which arguably affect the nature of architectural knowledge. Take for instance the invention of linear perspective by Leon Battista Alberti. No further clarification is needed, as regards to the chain-reactions that this device triggered: the scientification of architectural space, the formulation of the identity of the 'architect-author' versus the prior 'tekton-craftsman', the institutionalization, and the overall solidification of Architecture as a discipline within the Fine Arts, ontological aspects of design that still endure today. In more contemporary terms, Derrida's theories imbrue for instance, Peter Eisenman's axonometric drawings of his 'eleven houses'. Produced in the late 1960s and 1970s, those drawings further showcase the augmented role of design apparatuses. The inherent ambiguity of the axonometric, is deployed by Eisenman as a creative agent for the development of his conceptual architecture and diagrammatic design thinking.

12. "Interface | Definition of Interface in English by Oxford Dictionaries." *Oxford Dictionaries | English*, Oxford Dictionaries, en.oxforddictionaries.com/definition/interface.

13. Ibid.

14. For the shift from orality to literacy see: Havelock, Eric Alfred. *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present*. Yale University Press, 2005. Ong, Walter J. *Orality and Literacy: the Technologizing of the Word*. Routledge, 1988. Goody, Jack. *The Domestication of the Savage Mind*. Cambridge University Press, 2011. McLuhan, Marshall. *The Gutenberg Galaxy: the Making of Typographic Man*. University of Toronto Press, 2011. Frye, Northrop. *Anatomy of Criticism: Four Essays*. University of Toronto Press, 2006.

15. Derrida, Jacques, *Of Grammatology*. Translated by Spivak Chakravorty Gayatri. Introduction by Judith Butler. John Hopkins University Press, 2016.

16. Here I refer to Derrida's claim "*il n'y a pas de hors-texte*" (There is no outside-text). It has been mistranslated by some (opponents to his theories), as "There is nothing outside the text", to suggest that Derrida is claiming that nothing exists beyond language. Derrida, Jacques, *Of Grammatology*. Translated by Spivak Chakravorty Gayatri. Introduction by Judith Butler. John Hopkins University Press, 2016.

17. McLuhan, Marshall. *Understanding media: the extensions of man*. The MIT Press, 1994. Originally published in 1964.

18. MacLuhan, Marshall, and Quentin Fiore. *The medium is the massage: an Inventory of Effects*. Penguin Books, 1967.

Nevertheless, the aforementioned approaches of apparatuses can lead to claims such as the Derridean notorious mistranslation: "There is nothing outside the text"[16] or McLuhan's tenet: "The medium is the message".[17] Yes, the medium is the message but as McLuhan himself admits, the medium is also the massage, as a later version of the original text holds. [18] My point with this observation is that such approaches enfold the hazard of focusing extensively, if not exclusively, on the specific technical characteristics of the medium of communication (whether oral, literate or digital), leaving aside other facilities that are opened up to exhibit an equally important role, which would be akin to reducing the understanding of the Homeric myth to matters of linguistic signification of the ancient text.

Alternatively, in design, such deterministic, techno-driven approaches would be akin to reducing the design capacities of the digital *apparatus* to the technical affordances of contemporary technologies. For instance, the aptitude of rapid prototyping (RP) is not exhausted in its technical ability to fabricate quickly physical models by means of three-dimensional computer-aided design (CAD). It lies, as I mentioned earlier, in the overall ontological framework that it summons: the additive, excavating, rotating, abrasive, manufacturing design logics, the inauguration of the lab (RPL) as an equally important institutional formulation in parallel to the traditional design-studio, and ultimately perhaps the very transmutation of designer's identity, who today seems to reclaim a new form of pre-Albertian craftsmanship and hand-on practice.
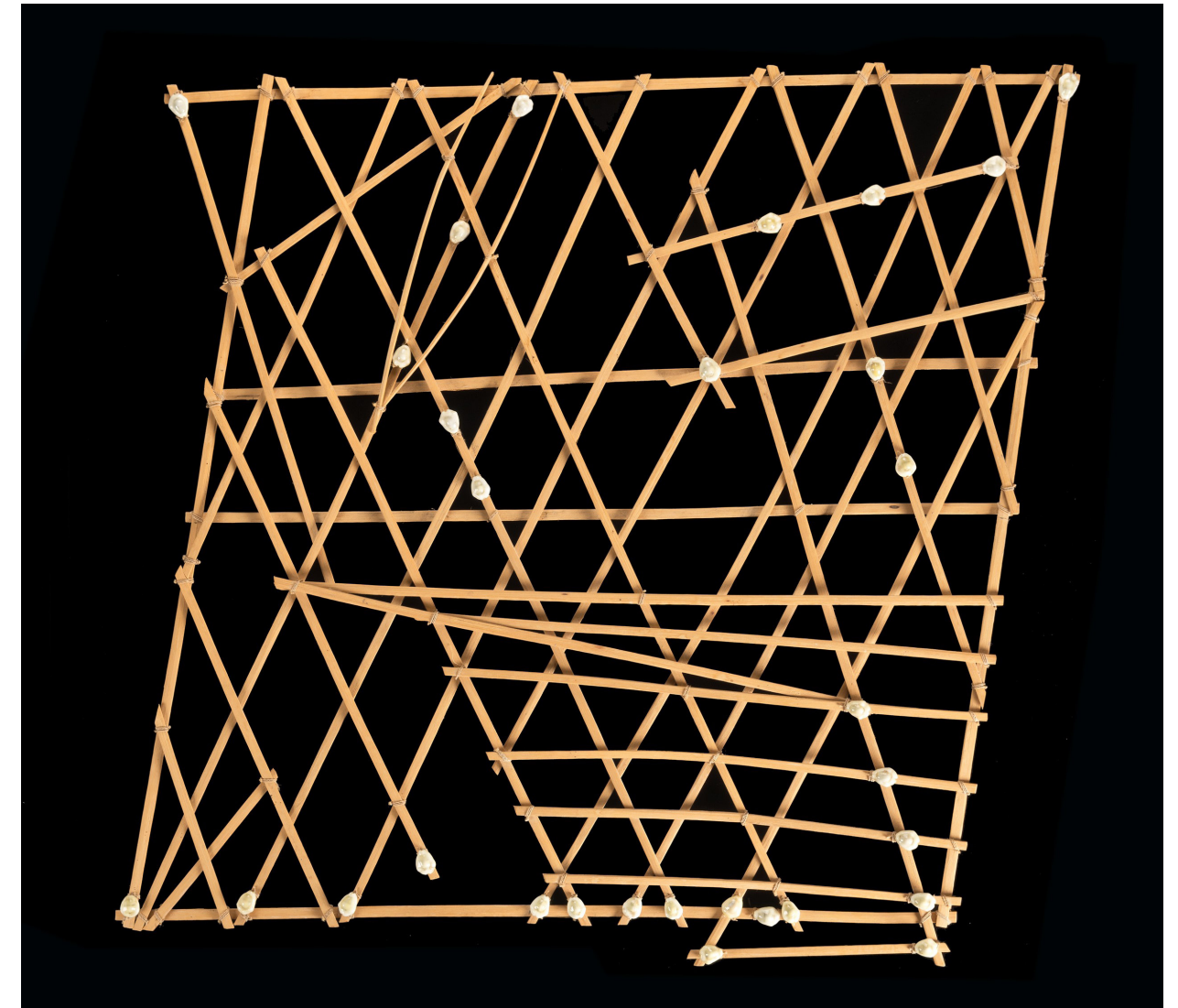
STICK CHART from the Marshall Islands (*Rebbelib*)
Stick Charts as an affective interface of orientation. The sticks represent ocean currents, wind patterns, and wave swells and were inteded to be memorized.
Source: *https://www.sapiens.org/column/curiosities/stick-chart-marshall-islands/*

Ulmer's Apparatus Theory

THE RISK OF TECHNICAL MYOPIA I have tried to mitigate by considering Ulmer's perception, which holds that "an apparatus *includes* technology, an institution inventing the operating logics of the technology, and individual and collective identity formation", i.e. an apparatus operates on three levels.[19] Ulmer argues that the contemplation of an *apparatus* presupposes not only the technology of communication (i.e. speech, writing or digital devices) but also the institutional learning and the subject identities. New metaphysics have to be re-invented within the context of changing technical, technological and institutional formations. Ulmer uses the *apparatus theory* to explain historical apparatus shifts from orality to literacy and from literacy to what he coins 'electracy', which is "to digital technologies what literacy is to alphabetic technologies".[20]

Specifically, Ulmer uses the *apparatus theory* to frame oral thinking in ancient Greece and literate thinking and reasoning in classical Greece. According to Ulmer, when Greeks invented the alphabet (by re-appropriating the Phoenician alphabet), they invented not just alphabetic writing, but also a new institution (School) within which the practices of writing were devised. This new technology of communication eventually fostered new ways of reasoning and being (selfhood), which are the *apparatus* of literacy. Thinking in a literate way means among other thinking in concepts. Alphanumeric logic, invented along with writing, is a logic of categorization and classification by means of properties, similarities and oppositions.

This understanding of an *apparatus* is clearly illustrated in Plato's dialogues, which for Ulmer serve as the transitional medium from orality to literacy. When Plato attempts to identify by means of

19. "Apparatus." *Theopraxesis*, theopraxesis. blogspot.com/p/ apparatus.html. Also see: Ulmer, Gregory L. *Applied Grammatology: Post(e)- Pedagogy from Jacques Derrida to Joseph Beuys*. The John Hopkins University Press, 1992. Ulmer, Gregory L. *Heuretics: the Logic of Invention*. John Hopkins University Press, 1994. Ulmer, Gregory L. *Teletheory*. Atropos, 2004.

20. "Apparatus." *Theopraxesis*, theopraxesis. blogspot.com/p/ apparatus.html.

Socratic dialogues, what, say, 'justice' *is* in its essence (i.e. to identify the *idea* of justice), he turns this new medium from a mere recording device of a previous practice (the oral) into a creative invention that precipitates a new way of thinking (*ideation*). Plato's Academy becomes the institutional formation within which the practices of alphanumeric logic would be learned and a new kind of selfhood emerges: individual selfhood within a now democratic state.

Similarly, in *Applied Grammatology* (1985) and *Teletheory* (1989), Ulmer uses *apparatus theory* within the framework of *electracy*. For Ulmer, electracy, which started in the Industrial revolution, is "an apparatus, a social machine, partly technological, partly institutional". Electracy describes the skills and faculties necessary to exploit the full potential of the photo, phono, filmic, now, digital era. The term, a portmanteau world, combines 'electricity' and 'trace',[21] the latter being a key concept in Jacques Derrida's theories regarding the relational spacing that enables and delimits any signification in any medium. Ulmer further explains:

> "What literacy is to the analytical mind, electracy is to the affective body: a prosthesis that enhances and augments a natural or organic human potential. Alphabetic writing is an artificial memory that supports long complex chains of reasoning impossible to sustain within the organic mind. Digital imaging similarly supports extensive complexes of mood atmospheres beyond organic capacity. Electrate logic proposes to design these atmospheres into affective group intelligence. Literacy and electracy in collaboration produce a civilizational left-brain right-brain integration. If literacy

focused on universally valid methodologies of knowledge (sciences), electracy focuses on the individual state of mind within which knowing takes place (arts)".[22]

Orality according to Marshall McLuhan, who has been influential for Ulmer, is associated with the right-brain, the seemingly intuitive, subjective, associated with emotions, all the while literacy is related to the left-brain, the logical, analytical, objective part of our brains. Ulmer extends this thought to the digital epoch, and suggests a left-brain, right-brain integration within the *apparatus* of electracy.

Thus, when Luc Besson in 2014 writes and directs the film *Lucy*, he is captivated by the same hypothesis: a woman that manages to use a hundred per cent of her brain capacity (an integrated use of her brain power) when a nootropic drug is absorbed into her bloodstream. The subsequent rise of an omniscience and omnipotence, portrays a woman with psychokinetic abilities at the borders of human-ness. By the end of the film, when Lucy actually reaches the desirable 100% of her cerebral activity, she transfers her acquired knowledge to a supercomputer and then vanishes. Where does she go? -I am everywhere, is Lucy's final line suggesting that the advanced knowledge of electracy is to be found everywhere. This reference is not aspired to open up a discussion on the neurological or cognitive development of our brains as we shift from orality to literacy and electracy, but wishes instead to highlight that *Lucy*, as a contemporary cultural reference, tries to grapple with the various biological, philosophical and metaphysical riddles that the contemporary epoch poses, as well as the seemingly infinite possibilities/ capacities/aptitudes that contemporary technologies hasten; questions that preoccupy me as well, as I attempt to frame contemporary design
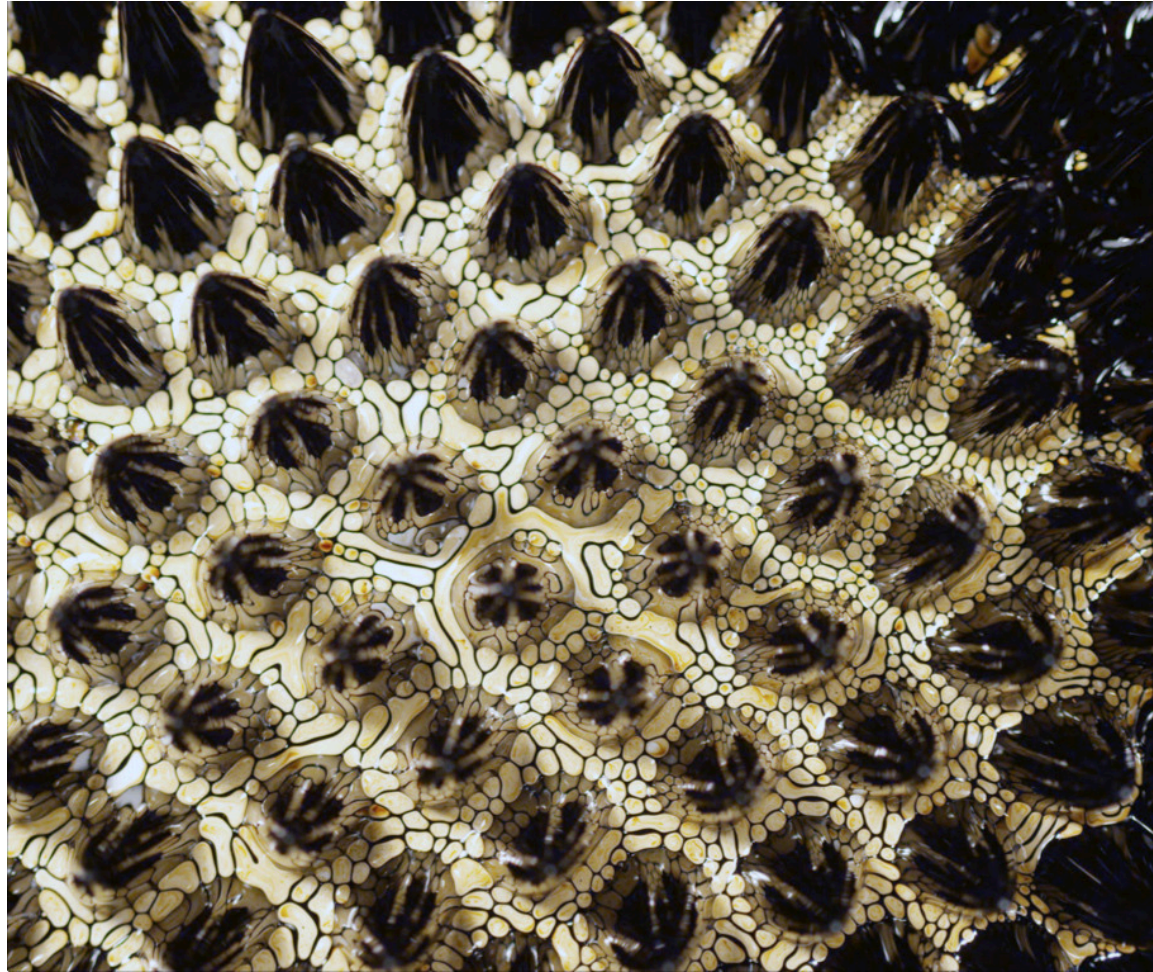
PAINTING ARRAY, Perry Hall, 2012

Oil, acrylic and various paints filmed live.
10:00 loop / Silent
From 5K resolution master
Collection Centre FRAC, Orleans, France
Perry Hall did the artwork for actress Scarlett Johansson's eyes in director Luc Besson's motion picture *Lucy*.
Source: *http://www.perryhallstudio.com/livepaintings30*

thinking, making and doing, through the interface of the *Odyssey*.

For Ulmer, the electrate culture engages the affective body, supports complexes of affective atmospheres and focuses on the individual state of mind, as his quote suggests. Electrate logic, proposes to design these atmospheres into affective group intelligence. This design avenue is more than evident today within the relatively recent field of experience design (XD), whose object of study is the very design of user's experience. Despite the fact that architecture has arguably always been a matter of experience design -as it cannot be conceived without the necessary condition of inhabitation-, the emergence of experience design as a meta-discipline, further elucidates the extent to which Ulmer's "complexes of affective atmospheres" are currently a matter of design *per se*, stretching from cognitive psychology and architecture, to environmental, product, strategic, information design, and also marketing, gaming, brand strategies and many more disciplinary fields.

Departing from these observations, what requires further exploration are precisely the ways the contemporary digital apparatus affects the nature of knowledge in design. On this base of speculation, significant shifts in epochs, such as the one from orality to literacy and further on to electracy, framed through Ulmer's tripartite scheme of technology, institution, identity, are insightful; not only because they exhibit how each *apparatus* affects thinking and being (from an experience-based culture of orality, we switch into a concept-based alphanumeric culture, and currently into an affective electrate culture), but also because they illustrate what aspects of each epoch are maintained, transformed or augmented within each shift, marking, I argue, the ground for the development of alternative digital design intelligences.

First and Second Orders of Augmentation

ULMER IN HIS WRITINGS prefers the term *apparatus* or *dispositif*, rather than technology, as a way to account for the full range of influence on culture: intellection (patterns of thinking/creativity/memory), personal identity formation, and the invention of institutions to support those new aptitudes (school, democracy, internet, etc.). Ulmer uses the term *apparatus* to eschew the technical determinism that the term *technology* might occasionally imply. His *apparatus theory* in my study of the *Odyssey,* brings to the fore these three registries: technology, behavior and institution. Ulmerian *grammatology* speaks to the different faculties, aptitudes, virtues of the Homeric myth; from the oral and performative aspects of the Homeric narration, to the models of selfhood and mind that dominated the Homeric epoch, as well as the social 'institutions', religious celebrations, sports events and others, within which the epics thrived.[23] Similarly, Ulmer's theory provides a methodological framework, the *Theory* in his CATTt device,[24] with which I can explore the oral as well as the post-literate, contemporary potentiality of myth which is inextricably linked to the literate tradition of the text (that it has supplemented).

Therefore, Ulmer's *apparatus theory* shifts the focus from an *interpretation* of the Homeric myth, to the very creative processes and logics of its invention. Ulmer's *grammatology*, a concept traditionally linked to the literary tradition of writing, in my case, takes the notion of *gramma-* (letter) away from that which is written (the very words or the textual version of the *Odyssey*), and focuses into the 'traces' that the process of writing leaves behind. As such, Ulmer's *grammatology* becomes, within the task that I have undertaken, an *ichnology* (ichnos (ίχνος) meaning trace in Greek) of the creative operations behind the epic.

23. For the oral tradition of Homer see: Parry, Milman, and Adam Parry. *The Making of Homeric Verse: the Collected Papers of Milman Parry*. Oxford University Press, 1987. Mackie, C. J. *Oral Performance and Its Context*. Brill, 2004. For the Homeric models of mind see Long, A. A. *Greek Models of Mind and Self*. Harvard University Press, 2015. Snell, Bruno. *The Discovery of the Mind in Greek Philosophy and Literature*. Dover, 1982. Claus, David B., and David B. Claus. *Toward the Soul: an Inquiry into the Meaning of Psyche before Plato*. Yale Univ. Press, 1982. For the institutional framework of the epic tradition see: Havelock, Eric A. *Preface to Plato*. The Belknap Press of Harvard University Press, 1963. Fowler, R. L. *The Cambridge Companion to Homer*. Cambridge University Press, 2004. West, Martin Litchfield. *The Making of the Odyssey*. Oxford University Press, 2017.

24. The CATTt includes the following operations: Contrast (opposition, inversion, differentiation), Analogy (figuration, displacement), Theory (repetition, literalization), Target (application, purpose), tale (secondary elaboration, representability). Ulmer, Gregory L. *Heuretics: the Logic of Invention*. John Hopkins University Press, 1994, pp. 8-15.

Most importantly, Ulmer's theories hold that electracy is being invented not to replace religion and science (i.e. orality and literacy), but to supplement them with a third dimension of thought, practice, and identity (a tri-partite augmented dimensionality). Therefore, what I am framing is not a process of *substitution* but precisely a process of *supplementation*, i.e. in my project one deals with *orders of augmentation*. The first of these orders, will explore the *Odyssey* within the framework of oral tradition through Ulmer's three registries: technology, institution, identity (Part I), and the second within a contemporary era that has supplemented the literate apperception (Part II). "This historical relay helps us understand the dynamics, or economy, of the institutional forces at work in our own time",[25] Ulmer points out, and weaves, I would add, an augmented fabric that envelops my exploration of the *Odyssey* as an interface for digital design.

The very invention of an *interface* according to Ulmer, "has been organized around the problem of finding an appropriate metaphor, something from the world familiar to the users, that functions as a model of the system, mediating and giving the user an intuitive feel for how to interact with the equipment".[26] The pages and folders of the computer epitomize this metaphorical condition that interfaces yield. In our field, three-dimensional printing for example, appeals to the Gutenbergian metaphor of ink-imprinting on pages, possibly due to the fact that 3D printing (also called additive manufacturing) prints in layers of material similar to the stacks of paper. However, the emerging question today is whether those metaphors suppress the inherent aptitudes of the very interfaces, which in the case of 3D printing imply processes of aggregation, granulation and solidification instead of processes of imprinting, engraving or inscribing.

25. "Introduction: Electracy." *Ulmer The Learning Screen RSS*, ulmer. networkedbook. org/the-learning-screen-introduction-electracy/ paragraph 10.

26. Ulmer, Gregory L. *Heuretics: the Logic of Invention*. John Hopkins University Press, 1994, pp. 28.

In order to undertake such a challenge, Ulmer calls to reconsider the *interfaces* not as black-boxes, but instead as synthetic structures that are flexible, adaptable and open to creative re-appropriations. Ulmer holds that "the new metaphor, which is replacing the book or desktop" (that can equally be a bed-top) "in recent design theory, is that of navigating an ocean of information".[27] In the disorienting and arguably overwhelming digital era, Odysseus's wanderings in the erratic archipelago, seem to serve as a great analogy for the quest of new digital design metaphors.

27. Ibid, pp. 30.

Ulmer's Apparatus
Courtesy of Gregory Ulmer

Epoch	Technology	Institution	Identity
Orality	Language	Religion/Ritual	Tribe/Spirit
Literacy	Alphabetic	School/Method	Nation/Self
Electracy	Digital	Entertainment/Style	Fifth Estate

Ulmer's Apparatus-2
Courtesy of Gregory Ulmer

Apparatus	Orality	Literacy	Electracy
Practice	Religion	Science	Entertainment
Procedure	Ritual	Method	Style
Institution	Church	School	Internet
State of Mind	Faith	Knowledge	Fantasy
Behavior	Worship	Experiment	Play
Philosophy	Mythology	Epistemology	Aesthetics
Ground	God	Reason	Body
Ontology	Totem	Category	Chora
Mode	Narrative	Argument	Figure
Axis	Right/Wrong	True/False	Joy/Sadness

PART I

The oral affective-ness of the Odyssey

The Odyssey within the context of orality

A GOOD STARTING POINT to situate the myth of Odysseus within the context of orality, is to examine how 'mythical' people talked about myths. Where does the word *myth* derive from? When did we start talking about myths? The term comes from the Greek root μυώ (the same root of the Greek word μυστήριο meaning mystery). The very word μυώ can be translated in English as initiate, introduce, inaugurate. Linguistically thus, this etymology relates myths to rituals of inauguration (i.e. to institutional formations). Additionally, it points to the fact that myths introduced codified information (myths included information about hunting, navigation, agriculture, geography etc.). In the Homeric vocabulary, 'myth' acquires the meaning of advice, mandate, suggestion, or opinion as expressed by Homer's heroes. In the *Iliad*, for instance, Antenor warns the Trojans that they ought to listen, to his 'myth', meaning his advice.[28] In this sense, *myth* for Homer does not express a universally objective truth, but rather points to a suggestive and indeterminate attitude.

Similarly, the English adoption of the French word 'raconteur' describes "a person who is skilled in relating stories and anecdotes interestingly".[29] A raconteur is a common storyteller. Nevertheless, what is revealing in the term is its French origins. Raconteur derives from the French root 'aconter' which means to *tell* but also to *count*. The term raconteur links myths to the aptitudes of the oral medium of communication. In the Homeric tradition, myths assumed features such as rhythm, meter and musicality which facilitated oral performance. The raconteur had to count, so-to-speak, in order to recite. How else would he remember the notably long myths: the 15,693 verses of the *Iliad* and the 12,110 of the *Odyssey*? At the same time, the Homeric term rhapsodist (ραψωδός), the professional performer of the Homeric epics, stems from the roots

28. Homerus, *The Iliad*. Translated by A.T. Murray. Harvard University Press, 1954. Book 7, [355-359]. "HOMER, ILIAD 7." *IRENE (Eirene) - Greek Goddess Hora of Peace (Roman Pax)*, www.theoi.com/Text/HomerIliad7.html.

29. "Raconteur | Definition of Raconteur in English by Oxford Dictionaries." *Oxford Dictionaries | English*, Oxford Dictionaries, en.oxforddictionaries.com/definition/raconteur.

rháptein (ράπτειν) which means to stitch, and *ode* (οδή) meaning a lyric poem, a song. Bards were stitching words and myths, into novel compositions that took the form of metric songs.

Hence, myths are not 'myths', in that sense, or fabled constructions, but instead they are 'design projects' with specific characteristics and underlying logics. The myth of the *Odyssey* is, in fact, a rhythmic narration of a poem, conceived, composed and performed as such. From the outset, the words pertaining to the oral device hint the underlying aptitudes of the very apparatus, suggesting notions of weaving, stitching, counting, tracing, as well as attitudes of suggestiveness, open-endless, impreciseness, and pointing to the overall facilities of orality that I will further explore in the following chapters.

STARGATE SEQUENCES from 2001: A Space Odyssey
by Stanley Kubrick, Arthur C. Clarke, 1968

Source: *https://www.youtube.com/watch?v=ou6JNQwPWE0*

First Order: The Oral Apparatus

PUBLISHED IN 1967, *The medium is the massage*[30] remains one of Marshall McLuhan's best sellers. Within his 'inventory of effects', McLuhan contends:

> "Homer's *Iliad* was the cultural encyclopedia of pre-literate Greece, the didactic vehicle that provided men with guidance for the management of their spiritual, ethical, and social lives. All the persuasive skills of the poetic and the dramatic idiom were marshaled to insure the faithful transmission of the tradition from generation to generation".[31]

In the two pages McLuhan devotes to Homer, he points to the poetized form of these bardic songs (technology) as a vehicle of knowledge, the collective models of *psyche* and *mind* (identity*)*, the psychological response to the performance on the part of the listener (institution). In other words, McLuhan invokes all three registers of Ulmer's *apparatus theory*. Prior to *The medium is the massage,* Eric. A. Havelock, another harbinger of the Toronto School, publishes the *Preface to Plato* (1963),[32] where he scrutinizes pre-platonic education in Greece. Specifically, he strives to answer how the Greeks educated themselves before the adoption of writing from the Phoenicians. Havelock moves along the same line as McLuhan, contending that the Greek Oral tradition of poets such as Homer, provided people with models of perception and behavior, i.e. with educational paradigms. He names this pedagogical mode of learning the 'tribal encyclopedia', all the while concluding that with the coming of writing, education shifted from being memory-based into being concept-based, ushering then, 'the necessity of Platonism'. Havelock entitles the Homeric epoch the 'Image Thinkers', while McLuhan makes the elusive claim that "there was no ear illiteracy

30. MacLuhan, Marshall, and Quentin Fiore. *The medium is the massage: an Inventory of Effects*. Penguin Books, 1967.

31. Ibid, pp. 113-4.

32. Havelock, Eric A. *Preface to Plato*. The Belknap Press of Harvard University Press, 1963.

in the pre-literate Greece", implying that pre-platonic Greeks had developed another type of education/ learning/ erudition or, to put it simply, another type of knowledge organization and transmission: the oral. Even Plato, despite his fervent criticism of poetry in the *Republic*, ratifies Homer as the great educator of Greece.[33]

However, I would like to extend McLuhan's thought and take his argument in a 'literate' way: there was no ear illiteracy in pre-literate Greece, but the question remains whether there was some kind of *earacy*. The point I am making here is that the very idea of knowledge organization stems from a writing tradition. By addressing the *Odyssey* merely as a vehicle of knowledge, Homer's myths are assigned a value and function that possibly had not yet been established at the time. It would require thorough knowledge of an historic framework which remains to a large extent abstruse, to unravel the precise characteristics of the pre-Homeric educational modes that doubtlessly extended beyond the epics. To some extent, this observation speaks to the criticism that Havelock has occasionally raised, according to which Havelock's account of orality is based primarily on the Homeric text, the history of which is not known (or to be more precise, the prehistory of the text is not known meaning its pre-*textual* format); a fact that endorses Havelock to make claims based on assumptions that cannot be attested.

From the stance of a designer and not an historian, with this note I am pointing to the fact that Homer might not have been, what we (literate people) want him to be: an educator within a knowledge-based tradition. Similarly, with this note, I wish to pinpoint the primary and fundamental role of the epics, which is as much to *entertain* as to *educate* (or educate within the literate tropes). The myths that comprise the *Odyssey* were

33. "Praisers of Homer who say that this poet educated Greece, and that in the management and education of human affairs it is worthwhile to take him up for study and for living, by arranging one's whole life according to this poet". Book 9, 606e. Griswold, Charles L. "Plato on Rhetoric and Poetry." *Stanford Encyclopedia of Philosophy*, Stanford University, 22 Dec. 2003, plato. stanford.edu/ archives/fall2016/ entries/plato-rhet-oric/.

already known to the audience: Homer's creative genius then lies in the emotional and experiential affects that he invoked through narration, the unity through which he synthesized and presented earlier myths, and of course the linguistic value of his recitation.

Despite the literary dispute that certain ideas of Havelock and McLuhan have raised, the *Odyssey* as an *educative model* interests me as it introduces the idea of an integrated mode of education and entertainment, as well as of learning and delight; a mode that electracy seems to retrieve. Learning *per se* within orality involves the sensory experience of listening, on the part of the audience, to the stories that comprised the epics. Homer suggests an experiential mode of learning that is deeply associated with the listener's personal disposition, emotions and memories (which I will further argue is a general characteristic of the oral device). We can all recognize this type of affective learning, in the stories that our grandfathers told us while kids: the tone of their voice, our excitement at moments of pause, as well as the numerous times that we might have asked to be repeated the same story (which was never the same). Developed on the basis of emotional association rather than objective reasoning, such type of learning works somehow according to psychological circuits, and should be evaluated in terms of its *affective-ness*, or as Ulmer suggests on the axis of right/wrong, and not in terms of its *effectiveness* which pertains to literary ideas of observation, rational analysis and verification by establishing linear and causal linkages, and builds on the axis of truth/falsehood. The potential question for design then is: What educational models do we adopt today and how do we organize and disseminate design knowledge?

To a large extent, today's educational modes develop upon the legacy of

literate tradition of institutionalized knowledge categorized into discrete disciplines. Our understanding of the very concept of education rests on the heavy baggage of literacy, that infiltrates even those who wish to resist it: McLuhan and Havelock. Nevertheless, Homer's affective modes of learning suggest that the educational tropes of literacy are not univocal, nor, as Ulmer adds, can they account for the full potency of electrate learning. The University, as an institution, falls short in addressing the digital apparatus. This deficiency, is witnessed in the growing role corporations like Autodesk (3D Design, Engineering & Entertainment) or Rhino (design, model, present, analyze, realize -according to their logo), play within contemporary learning curriculums. Similarly, Homer's tribal pedagogy is insightful in relation to what I call, the rise of a tribe of *autodidactic* students in design, who are increasingly expected to become self-apt in various dexterities and skills that design programs cannot cover, and who are ultimately required to self-select and self-discard from the unfathomable availability of information. This new cult of digital design learning extends beyond the Schools of Architecture, the studio, the libraries, into the Internet, the Pinterest, the on-line tutorials, the cracked software, etc. Therefore, if the epic of the *Odyssey* is indeed, among others, a didactic vehicle, as Havelock and McLuhan suggest, what remains for us to invent is the equivalent of the epic for digital learning. With this open question in mind, I will explore the technology of the oral apparatus.
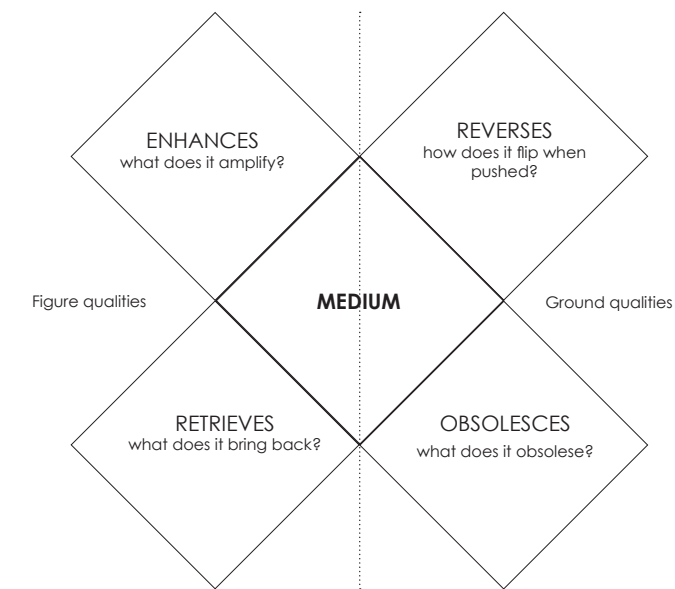
McLuhan's Tetrad of Media Effect
Source: Laws of Media (1988) and The Global Village (1989)

Technology

THE SCHOLARSHIP REGARDING THE ORAL MEDIUM IS SO VAST, that renders it impossible to cover within the extent of a thesis. Therefore, for reasons of consistency, I will further elaborate on the sting of the Toronto school, specifically on Eric Havelock's work on Homer which is useful for the study of the transition from an oral culture into a literary one. Havelock draws from Milman Parry,[34] professor at Harvard University, whose work on orality is widely acknowledged to be insightful.[35] Parry contended that the Homeric oral tradition is founded on extensive use of fixed expressions (lingual patterns including the vast use of epithets, the question and answer format, repeated and regular phrases), adapted to communicate ideas within the metrical conditions of the epic.[36] These repetitive chunks of language or formulas were inherited by the singer-poet (aoidos) from their predecessors and were crucial to the composition. In his work on *structure* and *vocabulary* in the *Iliad* and the *Odyssey*, Parry crystallized the Oral-Formulaic Hypothesis, the so-called Parry-Lord thesis, which postulates that the formulaic structure of epics should be perceived as a fundamental feature of oral composition in general (and by extension I argue, as a general feature of the oral apparatus). Parry's fixed expressions used by the bards to remember and perform the poems, interpreted by Havelock as mnemonic devices, were then constitutional for the overall institutional and cultural practices during the shift from Homeric to Platonic Greece. Not only were the oral-formulas a product of oral tradition, but they served as a potent agent for ancient Greeks to preserve cultural knowledge across generations.

Parry's student Albert Lord, professor of Slavic and Comparative literature at Harvard University, continued his mentor's work on the formulaic substructure of the epics. In *The Singer of Tales* (1960),[37] Lord

34. In the Bibliography of the *Preface to Plato*, Havelock quotes: Adam Parry, *The language of Achilles*, TAPA 87 (1956) 1-7, Milman Parry, *L'Épithète Tradition- nelle dans Homère*, Paris 1928. Albert Lord, *A singer of Tales*, Cambridge (Mass), 1960, Albert Lord, Homer Parry and Huso, AJA 52 (1948) 34-44.

35. Parry's dissertation for his PhD in Sorbonne University, were first published in French in 1928, while his collected papers were published posthumously by his son Adam Parry, in 1971. Parry, Milman, and Adam Parry. *The Making of Homeric Verse: the Collected Papers of Milman Parry*. Oxford University Press, 1987.

37. Lord, Albert Bates. *The Singer of Tales*. Edited by Stephen Mitchel and Gregory Nagy. Harvard University Press, 2000.

36. In *Rhythm and Regularity in Homeric Composition: Questions in the Odyssey*, Elizabeth Minchin examines the formulaic structures of the *Odyssey,* specifically the role of questions. in the epic. Minchin identifies 176 questions in the *Odyssey*, and classifies them as following: the exchange structure of question and answer, the inclusion of explanatory material, repetitive rhythms in double and alternate questions and question-strings (under which fall the sub-categories double questions, alternate questions, question strings), the generation of answers: rhythm, repetition and memory. Minchin, Elizabeth. "Rhythm and Regularity in Homeric Composition: Questions in the Odyssey" in Mackie, C. J. *Oral Performance and Its Context*. Brill, 2004, pp. 22-48.

couples the ancient epics to a broader oral tradition that extends from the *composition* to the *performance* of epics as well. Lord brought the attention to the performative aspect of the epic (i.e. to the institutional formations of the oral apparatus in Ulmer's tri-partite scheme). For him, Homeric myth in its initial form consisted of innumerable *variants* that the poet re-composed while performing within a system of *variations*. The performer drew from a library of verbal formulas, thematic axes, and narrative scenes; improvisation played a significant role in narration, and poets within oral tradition created and modified their tales while performing, which should have been different from one performance to another.

Parry's formulaic expressions as compositional features resemble for example today, to the logics of shape-grammar in parametric design. They act as the underlying set of rules, upon which form is developed, not as an ideal and definite object, but rather as a set of different instantiations that conform to the formulaic requirements or commonly parameters. These formulas also remind me of the great jazz pianist of the second half of the 20th century, Bill Evans. In the *Universal Mind of Bill Evans* (1966), he discusses with his brother Harry, also musician and teacher of music, the creative process of jazz improvisation, the art of musical composition and the importance of knowing the rules (or the formulas in Parry's thesis). He argues:

> "When I'm playing – I'm playing everything I play against the strict square-ness of the original form […] Now the whole process of learning the facility to play jazz, is to take these problems from the outer level in, one by one, and to stay with it at a very intense conscience concentration level, until that

process becomes secondary and subconscious. Now, when that becomes subconscious, then you can begin concentrating on that next problem, which will allow you to do a little bit more, and so on, and so on."[38]

Parry's formulaic substructures can be understood as what Evans calls the "strict square-ness of the original form", as references or clues, that allow the poet (or the jazz musician) to act upon and improvise with. The very creative process of jazz improvisation for Evans, and of oral improvisation for the case of the *Odyssey*, can then be encapsulated in the identification of creative problems (ordered by these principles), that the performer is called to internalize (or inherit in Parry's thesis), before being able to externalize in the form of creative action. The latent agency of this creative process is, I argue, what generates the system of *variants* and *variations* that Lord invokes. Inventiveness then, is suggested to stem from a reciprocal relation between the rational level of immediate consciousness, and the spontaneous stratum of the subconscious, implying a creative logic of representative indeterminacy.

It appears thus, that what is particularly interesting in the technological medium of orality, is precisely its *malleability*. Scholars can endlessly speculate on the mnemonic devices of Homer and the rhapsodists, but my account shifts attention to the very logics that govern the oral medium, which is evasive, affective and dynamic. My interest to the medium of the oral device, is best described by Bill Evans:

> "Jazz has resurrected the 'Jazz Process'. Jazz is not so much a style as it is a process of making music. A very intense, active process. It's about making 1 minute of music in 1 minute of time, versus 1 minute of music in 3 months' time. The art of

38. *Universal Mind of Bill Evans*, 1966, Documentary, Director: Louis Cavrell, featuring: Steve Allen, Bill Evans, Harry Evans. See: "Universal Mind of Bill Evans." *YouTube*, YouTube, 23 Apr. 2014, www.youtube.com/watch?v=6EqY-JuE-vpE.

music is the art of speaking with this spontaneous quality. You cannot go back and erase in jazz".[39]

39. Ibid.

The same applies for the oral performance: it is one minute of speech in one minute of time, a time activated by performative action (or reaction). You cannot go back and erase oral performance nor repeat it, "there is no way to try to do that, you can't try to recapture it. All you can do is look forward and sometimes it happens".[40] To put it differently: just as it is very hard to repeat exactly what one might say when thinking out loud, in order for someone else to write it down; in the same way, we should expect that the textual format of the epic could not but, have been different from its oral formats, which also differed themselves from performance to performance. Gregory Nagy verifies such hypothesis in the first page of *Poetry as Performance*: "From such evidence, it appears that a song cannot be fixed as a final written text so long as the oral poetic tradition in which it was created stays alive, potentially re-creating ever new versions of the 'same' song".[41] The problem in focusing on recording a person's thoughts, is that one might eventually dismiss them, under the security of a later retrieval.

40. Ibid.

41. Nagy, Gregory. *Poetry as Performance: Homer and Beyond*. University Press, 1996.

Contrary to the typographical guarantee that writing technology warrants, the technological medium of orality requires our kinetic attention: the attentive, active, kinesthetic experience of listening. The oral medium is transferrable, conveyable, exchangeable; but it is not duplicable, copy-able, indistinguishable, repeat-able. Even if the rhapsodist was able to repeat word by word and for numerous times the epics, the oral apparatus itself, in its inherent logics, has not developed the criteria to verify this identical-ity. Speech dissolves into time and space, or as McLuhan points out, "a speech which, like a

prism, refracts much meaning to a single point".[42] This is the converting point of an exteriorized and interiorized experience of both the performer and the audience, and also the converting point where the conscious internalization of external problems meets the subconscious externalization of internal creativity, as Evans suggests, or simply what he calls an "act of naiveté".

42. MacLuhan, Marshall and Fiore, Quentin. *The medium is the massage*. Penguin Books, 1967.

The most immediate design prompt of the oral medium is the idea of *acoustic* space, whose implications extend beyond the immediate aural stimuli that oral performance conjures, into the innermost 'naïve' and 'spontaneous' sphere of subconscious. The lack of visual references regarding the story narrated, requires from the user to fill up the gaps with his own memories, bringing to the core of the creative process, the personal disposition and primary memories of the listener, whether that be the audience or the performer. The acoustic space, in that sense, is a staging of that which is absent. This absence of immediate assimilation (predominantly in the oral performance the lack of visual references) is then expressed through the struggle of mind to account for what is absent. The creative logic of this process is implied by the means of the resultant affects that it produces, and works by reestablishing emotional and affective linkages, a sort of creative working with primary memory as it attempts to recover to consciousness.

The awarded performance *The Encounter* (2015-2018) by Complicite,[43] a theatre company led by Simon McBurney, plays upon this idea. In his solo performance, McBurney traces the National Geographic photographer Loren McIntyre's journey into the depths of the Amazon rainforest, in an almost empty stage that is occupied only by McBurney and the head of a doll equipped with sensors. Using binaural sound technologies,

43. "Making The Encounter." *Complicité - The Company*, www.complicite.org/encounterresource. Also see: Complicite. "The Encounter." *Complicité - The Company*, www.complicite.org/productions/theencounter.Complicite Company. "The Encounter Simon McBurney | Complicité." *YouTube*, YouTube, 12 Apr. 2016, www.youtube.com/watch?v=2cx-nzcsHuKM.

Txukahamei Indians clear the forest for a new settlement. Photograph by Loren McIntyre for National Geographic.

Source: *https://sorendreier.com/a-forgotten-adventure-with-a-telepathic-tribe/*

In 1971, Loren McIntyre travels into the Amazon basin searching for the Mayoruna, the fabled 'cat people'.

Source: *http://www.complicite.org/encounterresource/*

In 2013, Simon McBurbey travelled to Brazil to meet the descendants of the Mayoruna people. In the photo, Simon is being painted with natural dye from crushed seeds of the annatto tree. A traditional Matsés practice.

Source: *http://www.complicite.org/encounterresource/*

this contemporary equivalent of the Homeric performance, builds a shifting world of sounds from the heart of the Amazon, often paused by McBurney's life in the UK: phone calls from his daughter that add an additional layer of spatiality to McIntyre's journey. However, what is specifically interesting in this acoustic environment is, that individually and collectively, the audience of the performance finds itself 'stitching' visual images of Amazon encountered within the material that one has come across (images from National Geographic, a documentary in BBC, Google images from tropical forests, my summers at Greece). The same applies for the performer; as McBurney explains: "when you tell a story, you chose those things that are interesting, in other words you're revealing something about you, yourself, the storyteller, what you are interested in […] I was bringing my own life into it".[44] This idea of *acoustic* space opens-up a kind of space that is not objectified, but instead it is subject-ified and constantly reconstituted by the myriad different memories, interests, emotions that users internalize. This logic does not delineate space in terms of confinement, but liberates a space to be filled and feel-ed.

For McLuhan, acoustic space is associated with the right-brain, as I mentioned in my introductory chapters, the intuitive, subjective, emotional part of our brains. Terrence Gordon, in the introduction of McLuhan's *Gutenberg Galaxy*, further elaborates:

> "Before writing, mankind lived in acoustic space, the space of the spoken word, which is boundless, directionless, horizon less, and charged with emotion. Writing transformed space into something bounded, linear, ordered, structured, and rational. The written page, with its edges, margins, and sharply

44. Complicite Company. "The Encounter Simon McBurney | Complicité." *You-Tube*, YouTube, 12 Apr. 2016, www. youtube.com/ watch?v=2cx-nzcsHuKM.

defined letters in row after row, inevitably brought in a new way of thinking about space".[45]

Thus, acoustic space for McLuhan is boundless, yet it bounces though the physical bodies of the performer and the audience. It is a dynamic, animated, lively, elastic space. For us the designers, the bouncing of sonic waves invokes here the bouncing of photons in the digital rendering machines such as Maxwell. Glitches in the imagery that give away the energetic nature of light. A design question then might be: what are the implications for creative design of a metaphysically *acoustic* space?

This question does not imply necessarily that *acoustic* space, is an auditory or sonic space. An anechoic chamber can be equally acoustic in its inherent affective logics, invoking a personal and solitary experience by bringing the user closer to the sounds of his/her own body, as people who have experienced such spaces attest. A metaphysically acoustic space hints a *precisely indeterminate* space. What I mean with this, is a space that is not necessarily conceptually understood at a mindful, immediate level, but instead develops on the basis of precisely calibrated forms of disorientation, within a framework of representative indeterminacy, that requires the user to experience and apperceive it through the uncertain sphere of the self. Such space, creates precise (or imprecise) enough conditions of experience that subsequently determinate it by triggering a bodily/sensual form of spatial awareness, an intense 'sampling' of experiences that one internalizes.

My call for an exploration of a metaphysically *acoustic* space in design, is only one potential avenue in respect to a broader question which regards the space that digital technologies open up. This question can be then translated into: what kind of spatiality does electracy opens up

45. McLuhan, Marshall. *The Gutenberg Galaxy: The Making of Typographic Man,* with new essays by W. Terrence Gordon, Elena Lamberti and Dominique Scheffel- Dunand. University of Toronto Press, 2011, pp. 21.

for design? The space of the *Odyssey* is flowing, dynamic, tidal, it lingers between real and imaginary worlds. Today digital space is dynamic too. It is a space liberated of gravitational forces. The digital space is an infinite, a-scalar, multi-rotational space. Contrary to the rigid, limited, confined, insular, linear, visual space of the paper, the digital space seems to resemble more to the acoustic and pelagic space of the *Odyssey*. The new digital dynamo suggests spaces that are open-ended, and subjected to continual revisions, alterations, and editions. The notion of *acoustic* space offers an armature for the reconsideration of alternative (to literate) models of space (for example a reevaluation of Cartesian geometry or metric scale by means of the dynamic bouncing of waves) but it is a not the only. As a potential avenue, acoustic space marks the *terra-incognita* of our epoch, an uncharted territory for further exploration.

The artwork of James Turrell launches in such a quest. I encountered *Open Field* (2000) in the Chichu Art Museum in Naoshima, Japan in 2015.[46] The description of the piece states that Turrell attempts to create an experience of *Ganzfeld*: a German word that describes the phenomenon of total loss of depth perception as in the experience of a white-out. I think his space does more than that: at first the viewer faces a work which looks like it's hanging from the wall. The stairs that lead to the frame give away the fact that what one is gazing at, is not solid, or even material. The frame acts as a threshold (conceptually and physically) through which one passes into an irrefutably disorienting experience, an augmented dimensionality ushered by Turrell's unique use of light. The scale and size of the room are seemingly incomprehensible but for the relative positions of the bodies of the viewers, which themselves are in flux. Turrell creates indeed an open field, with specific enough conditions for unexpected and indeterminate personal experiences to

take place and an open field that transforms the emptiness of the room (in its absence of conceptual references) into a temporal condensation and a heightening of sensory affects. Personally, I was transported to my childhood, when I was chasing my bother with closed eyes and I was called to discover him by virtue of my other bodily senses, assisted by the almost automated navigating capacities that I had acquired from growing up in our house. Perhaps, we can claim that Turell's room retrieves the inherent logics of a metaphysically *acoustic* space, in its precisely indeterminate latency and in its displacement of conceptual registration. If this claim makes you uneasy, Turrell's *Open Fields*, is certainly a contemporary attempt to creatively engage with the spatial potencies of electracy.

46. "Chichu Art Museum | Art." *Benesse Art Site Naoshima*, benesse-artsite.jp/en/art/chichu.html.

Top: Robert Irwin and James Turrell with Garrett Corporation psychologist Ed. Wortz. Wortz, who focused on human-factors engineering for NASA missions, was instrumental in introducing the artists to the concept of "ganzfeld".

Right: Robert Irwin and James Turrell in the anechoic chamber at UCLA, as part of the Art and Technology program, LACMA (1967).

Their collaborative iteration of the Ganzfeld project that involved an anechoic chamber and aerospace technology with Garett Corporation failed. 40 years later, LACMA hosts a major retrospective for James Turrell, featuring the execution of the ideas that stemmed from this pairing.

Photographs: Malcolm Lubliner

Source: *http://www.flaunt.com/content/place/begin-possibilities-material*

Institutions

ANOTHER EQUALLY IMPORTANT aptitude of the oral apparatus are the institutions where its logics were devised. In its original *asmatic* (poetic) version, the *Odyssey* was performed publicly, as a social event, in the official royal courts, each of them hosting its own poet-singer. Homer in the lines of the *Odyssey* mentions the example of Demodocus, a poet of the court of Alcinous, king of the Phaeacians at Scherie. Poet-singers also performed in sports events (Demodocus at the athletic games in Scherie), marketplaces and religious feasts.[47] Additionally, the *Odyssey* was performed in new cities during the Greek colonization period.[48] There, the poets sang the tales of the great old heroes, associating those myths with new legends about seafaring, abound during that period. In its rhapsodic version, the *Odyssey* was also recited during the feast of the Great Panathenaia in Athens every four years, in honor of the goddess Athena. This feast included religious ceremonies, athletic competitions, and cultural events. The preference for the *Odyssey* during Panathenaia is attributed to the dominant presence of the goddess Athena (Athena was the protector of Odysseus and protector of the city of Athens as well). During this period, rhapsodists do not live any longer in palaces, but instead start to assemble in professional associations, travelling from place to place to perform the epics for monetary compensation, during the great Greek celebrations where rhapsodic competitions took place. Thus, the epics were heard everywhere that there were Greeks.

In Plato's dialogues, Socrates discusses the epic tradition with Ion, a professional rhapsodist. Within this dialogue, Ion gives an account of the number of the audience: more than twenty thousand. We can therefore conclude that the institutional formations where the *Odyssey* was performed gathered almost all citizens of a city. The equivalent of those 'popular' institutions today may be the World Cup, the Olympic

47. Μαρωνίτης Δ.Ν. και Πόλκας Λ. Αρχαϊκή Επική Ποίηση: από την Ιλιάδα στην Οδύσσεια. Ινστιτούτο Νεοελληνικών Σπουδών, 2007. Χατζηγιακουμής, Μανόλης Κ, Ανθολόγιο Οδύσσειας: Σχόλια και Αναλύσεις, Επίμετρο, Κέντρο Ερευνών και Εκδόσεων (ΚΕΡΕ), 2016, σελ. 160-3.

48. There were two main periods of colonization, to which I refer here. The first one, occurred during the 11th and 10th century B.C. on the west coast of Minor Asia and the islands of the Aegean archipelagos, while the second during the 9th until the mid 8th century B.C. extending to the shores of the Mediterranean and the Black Sea.

Games, or the Academy Awards.

In the same dialogue, Socrates asks Ion whether the rhapsodist gives his narrative performance on account of his skills and knowledge, or by virtue of divine possession (attributed by the Muses). Ion replies to Socrates: "when I relate a tale of woe, my eyes are filled with tears; and when it is of fear or awe, my hair stands on end with terror, and my heart leaps".[49] This Socratic Dialogue, the shortest among those in *Phaedrus*, shifts our attention from the events and places as institutions, to the very *performance* as an institutional device of the oral apparatus. Gregory Nagy in *Poetry as Performance, Homer and Beyond* argues:

> "Just as every performance becomes a potential re-creation in mimesis, that is, a virtual re-composition so also the very identity of the performer stands to be re-created, recomposed. When the performer re-enacts an identity formerly enacted by previous performers, he or she is re-creating his or her own identity for the moment. That is to say, a performer's identity is recomposed".[50]

Similar to Lord, who extended Parry's formulaic substructure of the epics from their composition to their performance, Nagy, following Plato's hypothesis, extends the institutional formations of the epics from the social events and celebrations to the very performative act, through which "the re-performed composer becomes the recomposed performer".[51] Thus, it is within the institutional framework of *performance* that the logics of the oral apparatus were devised. What are these logics? As I already explored in the previous chapter, oral logic is associative, emotional, subjective, affective. It relates to experience and personal disposition by triggering a chain of involuntary reactions associated with

one's internalized memories and experiences. Creative invention within orality, Nagy suggests, takes place at the sphere of the self in the form of a 'play' of re-enacting and re-composition of the performer's identity. In that sense, McBurney's telling of McIntyre's story in the *Encounter* is, in essence, a telling/ re-enacting of his own story. McBurney himself verifies: "The story itself is a document, but I put another document along the side of this document, and so I was sort of documenting what was happening to me as I was reading the book".

This form of inventiveness which is tied to one's own memories, contrasts the scientific tropes of literacy, which presuppose that inventiveness derives from the evidences, laid out for scientific inspection, meticulous and distant analysis, as well as, objective and disassociated verification within a framework of universally accepted scientific truths. The oral tropes on the other hand, remind me here of the cytogeneticist Barbara McClintock, whom everyone within her (predominately male) scientific environment considered nonsensical when she contended that she had a feeling for organisms;[52] that she internalized the way maize chromosomes feel and act, and that it was precisely this affective form of apperception of the maize chromosomes that eventually led her to the discovery of genetic transposition, ensuring her the 1983 Nobel Prize in Physiology or Medicine.

Yet further than that, in the Homeric device, the institutionalized facility of *performance* acts in parallel and along, the social events where the epics were performed. The fostering of a community that these events enabled, adds an additional layer to the understanding of the institutions of orality, which is that of an outer collective reality (if performance represents the inner-reality). Thom Mayne, one of

49. "When you give a good recitation [...] are you then in your senses, or are you carried out of yourself, and does your soul in an ecstasy suppose herself to be among the scenes you are describing?" [535b] "Plato, Ion." *Hercules' Twelfth Labor: Cerberus*, www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.01.0180:-text=Ion:section=535b.

50. Nagy, Gregory. *Poetry as performance: Homer and Beyond*. Cambridge University Press, 1996, pp. 214.

51. Ibid, pp. 214.

52. Keller, Evelyn Fox. *A Feeling for the Organism: the Life and Work of Barbara McClintock*. Henry Holt, 2003.

the few examples within the field of architecture who has arguably reinvented the creative process of design, makes a similar claim in a TED lecture when he describes his creative process as following: "there has been a continual relationship between inventions which are private, and reality" , the collective and shared outer reality.[53] Mayne, living with his models, surrounded in his office with the detritus of his own creative process within a sort of claustrophobia of creativity, recalls here Plato's question towards Ion, through the voice of Socrates: whether rhapsodists while reciting find themselves within a state of divine possession, a performative nirvana or an hallucinating ecstasy, a very personal and personified inventive process which is in the limits of rationality, hallucination and hypnosis. Mayne's creative approach extends to his very design devises. I am referring here, to his series of *drawdels*, a hybrid invention of drawings and models each measuring six feet by six feet, that according to Lebbeus Woods become "a vehicle for the expansion of human possibilities, both inwardly and outwardly", and imply an architecture that is "free of deterministic typologies, emerging instead from each person's or their community's shared and ever-changing necessities of body and spirit".[54]

Thus, if literacy opened up the state of scientific mind: the analytical, hermeneutic, rational thinking, then according to Ulmer, electracy opens up the realm of fantasy that moves along the lines of desire and repulsion (i.e. along our appetite). The contemporary ontology then, hints to a suppression of reasoning for the shake of an intensification of the visceral. My references entertain this creative logic by focusing on the individual state of mind within widespread collective institutions, rather than scientifically accepted truths within hermetic or confined disciplinary communities. Therefore, the institutional question for

electracy is whether contemporary pedagogy will embrace those shifts or instead act as the Church once operated in respect to the rational ordains of Science.

53. TEDtalksDirector. "Thom Mayne: Architecture Is a New Way to Connect to the World." *YouTube*, YouTube, 17 May 2007, www. youtube.com/ watch?v=7-on-Vz1D_uc.

54. "THOM MAYNE'S MIND." *LEBBEUSWOODS*, 27 Nov. 2010, lebbeuswoods. wordpress. com/2010/11/25/ thom-maynes-mind/.

Left: COMPOSITE 2, 2013

by Thom Mayne with Mike Nesbit
and Paul Cambon

Combinatorial Form series
25 1/4" X 18 3/4"
Lithograph and Silkscreen on Paper
El Nopal Press
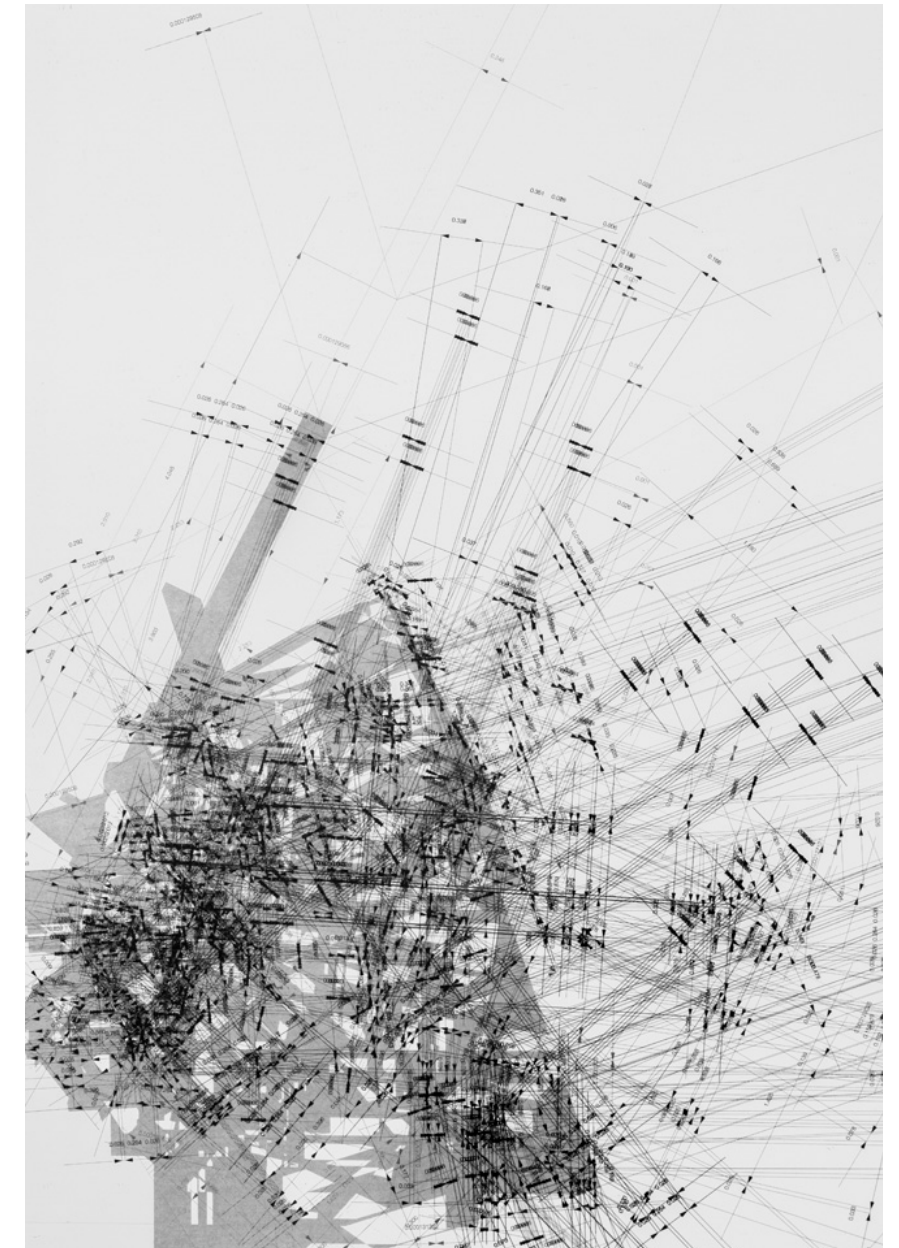Edition of 10

Source: *http://thommayne.com/
work-prints/*

**Right: TOWARDS PHLATNESS,
2014**

Mike Nesbit

Series of 20 Lithographic Prints
23" X 31"
El Nopal Press

Source: *https://www.jainjai.com/
towards-phlatness-by-michael-nesbit/*

Identity

IN THE *GREEK MODELS OF MIND AND SELF* (2015) A.A Long, professor of Literature at the University of California, Berkeley, states: "Homer's psychology is implicit rather than explicit; the models that it betokens are there for us to detect rather than laid out for inspection".[55] The latent models of mind and self in the *Odyssey* seem to avert Platonic conceptual registration, they are rather implied within an embodied experience that starts with Homer's heroes, extends to the performer, the audience that listens to those tales, and eventually imbues the overall identity-formation of the pre-platonic Greeks. As Long suggests, the issue at stake here is not the facts, the biochemical structure of our brain (as in the case of the nootropic drug in Luc Besson's film *Lucy*) but the very "linguistic and conceptual attempts to identify and understand the threads of our emotional, reflective, and purposive life, in order for us to make sense of living in the world".[56]

Homer draws no binary distinction between body and mind or between body and soul. The human identity, as composed within the epic is rather bodily and physical. Homer's oral apparatus saw no need to carve people into distinct entities or dimensions. This inherent bodily and visceral acumen is described by Long as the model of "psychosomatic identity":

> "Homer, aiming to delight his listeners with tales of epic grandeur, describes thought and action with incomparable immediacy. This literary genius enables us to know in our hearts what his characters feel in theirs, and that, by itself, is enough to tell us that Homer was a sophisticated psychologist".[57]

The Homeric epics are intended to appeal primarily to our emotions, not of our intellect alone; thus, they are mainly vehicles of affective-

55. Long, A. A. *Greek Models of Mind and Self*. Harvard University Press, 2015, pp. 3.

56. Ibid, pp. 4.

57. Ibid, pp. 47.

ness and not effective-ness, as I argued before. Homer's "language is magnificently designed to enable us to enter and share fictive experiences".[58] For instance, Homer describes in the following words the episode when Odysseus, after his return to Ithaca, finds out that his maids had been consorting with the suitors of Penelope in his absence:

> "But the heart was stirred in his breast, and much he debated in *mind* and *heart*, whether he should rush after them and deal death to each, or suffer them to lie with the insolent wooers for the last and latest time; and his heart growled within him. And as a bitch stands over her tender whelps growling, when she sees a man she does not know, and is eager to fight, so his heart growled within him in his wrath at their evil deeds; but he smote his breast, and rebuked his heart, saying: "Endure, my heart; a worse thing even than this didst thou once endure on that day when the Cyclops, unrestrained in daring, devoured my mighty comrades; but thou didst endure until craft got thee forth from the cave where thou thoughtest to die". So he spoke, chiding the heart in his breast, and his heart remained bound within him to endure steadfastly".[59]

In this mental conflict of Odysseus (this internal intellectual and emotional debate), his mind, heart and body are presented in a unity. He feels his rage in his chest, and rebukes his heart. This vibrant representation of the union between mind and body extends to the audience that is immersed in this psychosomatic experience of Odysseus. Ion in the Socratic dialogue verifies the fact that himself cries when his heroes cry and observes the audience crying as well. This notion of *immersion*, is best expressed by the ancient concept of

enargeia, that describes precisely the experience of one vividly seeing in front of his/her eyes the stories that he/she is told.[60] Therefore, the epic doesn't aim to *simulate* its heroes' experiences in the format of an *auditory* reality (instead of a *virtual* reality), but rather to *stimulate* the audience's own reflective emotions and thoughts. Similar to Pavlov's famous dogs experiment, where a biological potent stimulus (food) is paired to a previously neutral stimulus (bell) and eventually elicits a reflexive response on the part of the dogs (their saliva), the Homeric language conditions the audience's inadvertent responses to the hero's experiences. The audience then, becomes part of a performative feedback loop, in which the myth's outputs are fed back into the system through the audience's inputs, rendering an open-ended and transformative process of creation.

The intensely physical experience of the Homeric heroes, will be completely and irrevocably over when they die. The binary relation of mind and soul, later adopted by philosophy, in the case of Homer takes the form of an antithetical distinction between mortals (*brotoi*) and immortals (*athanatoi*), meaning gods.[61] Something persists after life that Homer calls *psyche*, but it is not the platonic psyche, nor Plotinus's amphibious or bifurcated identity; it is the *ghost* of someone who has lived a specific embodied physical life. Long argues:

> "The difference between taking the disembodied soul or spirit to be only a ghostly replica of the living person, and the platonic conception that the soul outlives the body because it, and not the body, is the true seat of the person not only in embodied life, but even before and after death".[62]

Thus, in the subsequent platonic model of self, that supplemented the

58. Ibid, pp. 32.

59. Homerus, *The Iliad*. Translated by A.T. Murray. Harvard University Press, 1954. Book 20, [10-22]. "HOMER, ODYSSEY 20." *IRENE (Eirene) - Greek Goddess Hora of Peace (Roman Pax)*, www.theoi.com/Text/HomerOdyssey20.html.

60. The ancient concept of *enargeia* refers primarily to the occasions during which gods presented themselves to mortals, and thus, more broadly to the vividness of representation. See: Grethlein, Jonas. "Vision and Reflexivity in The Odyssey and Early Vase-Painting." *Word & Image*, vol. 31, no. 3, Mar. 2015, pp. 197–212., doi:10.1080/02666286.2015.1013273.

61. Long, A.A. *Greek models of mind and self*. Harvard University Press, 2015, pp. 17.

62. Ibid, pp. 55.

Homeric one, human identity is not *psychosomatic* but essentially *psychic*. This platonic model is primarily mental and moral, rather than vibrantly emotional, physical and visceral. It is represented through Plato's dualistic conception of human beings as mindful souls inhabiting mortal bodies. The Homeric *psyche*, however, is no "ghost in the machine", à la Cartesian sense, Homeric man does not have a self-ruling mind inhabiting a physical body, as Plato suggested, rather than "his thought and consciousness are as inseparable a part of his bodily and emotional life as are movement and metabolism".[63]

Up until Homer life is experienced by means of bodily senses and human's animalistic instincts. Like a bitch Odysseus rebukes his growling heart, reminding us of how little mental control he has over the brute reactions of his heart. Circe transforms Odysseus's companions into pigs, not any other animal, but the very same animal that Greeks sacrificed to their Gods. The Lotus Eaters offer Odysseus's companions their notorious lotus fruits, causing them to sleep in peaceful apathy, pointing to hallucinogenic states of mind, centuries before Aldous Huxley embarks in *The Doors of Perception* (1954) into a description of his experiences when talking mescaline. Within the Homeric sensorium, sight, hearing, taste, smell, touch, augmented by senses of pain, sexual stimulation, hunger, chemical incitement, play an equally important role towards an embodied, instinctual, impulsive and multisensorial form of apperception. Yet, what is interesting in the gustatory sense, for instance, is that I don't know why my mom's food tastes so good, but it does. Likewise, I cannot describe the smell of her perfume, but I can recognize it among hundreds of similar smells. What I am trying to frame here is that similarly to the acoustic logics of the oral medium that are related to primary memories and personal

63. Clarke, Michael. *Flesh and Spirit in the Songs of Homer: a Study of Words and Myths*. Clarendon Press, 2002, pp. 115.

disposition, senses like the gustatory, smell, or touch, unfold of the same basis of sensual association, rather than conceptual registration. Those suppressed by literacy, I argue, senses do not succumb to immediate or effortless memorization, yet they are memorable by triggering a chain of metonymic and unexpected associations that are highly evocative. It is an oozing, flowing, billowing, dynamic mental and physical model that is described within the *Odyssey* and which follows the overall logics of orality. Thus, the model of self or identity of the oral apparatus, that I am exploring in this chapter, is not an ideal and distant concept, but instead a dynamic system of variations, put forth by emotional and bodily associations, in which the body is heightened to a cognitive level of conceptual registration.

With the advent of literacy life starts to be thought of. The opening up of a literate thinking, displaces and flattens this form of embodied experience or registration, and supplements the Homeric multisensorial model with the primacy and prioritization of vision, the so-called (by the literary mandates) noble sense. The vivid comparative capability, the excellent recall of visual memory, the spatial projection, the distancing and disassociation, are some of the aptitudes of the optic sense that served to model an entire conceptual logic: the literate logic of the platonic mind and the body. A logic which unfolds, among others, upon the visual affordance to compare the work in front of us to prior works (by means of properties and similarities as mentioned earlier); yielding thus, a referential and representative form of conceptual registration. The principle creative modality of sight is one of adaptive re-use and re-working of prior elements: it lends itself to incremental refinement and renders a linear simple-to-complex methodology. On the contrary, the logics of the oral apparatus, resemble more to jazz improvisation,

they unfold on the basis of a complex-to-complex, almost trippy or hallucinatory, creative process that stems from the subconscious. Hence, not only 'things' started to be seen in a distance, but also concepts, ideas, emotions and eventually life itself! The virtues of sight, both capable of active memory and comparison, are as complicit as the very technology of alphabetic writing in the base definition of the cultural tropes of literacy.

The direction for electracy that these observations open up, does not wish to take the form of a crusade in the name of a new-age-human animalism for the digital epoch. Let's be honest: the contemporary sensibility has been dedicated to eradicating any reminder of our animal attributes (perfect teeth, zero body hair, disgust towards any kind of smell or dirt, are just few of the symptoms of this syndrome). What my observations wish to open up, is the ground for further creative thinking, doing and making, beyond the limitations of a representational culture summoned by the virtues of literacy, whose logics of creation and reception rely upon traits that are inimical to the distancing, hegemonic and idealizing sense of vision. What does it mean then, to redesign on the basis of those other neglected, by literacy, senses? Derrida embarks on such an exploration in his experimental writings (*Glas*),[64] where he tries to develop logics based on the bodily or contact senses, the gustatory, touching, smelling, chemical. Similar to the *acoustic* space that my exploration of oral medium opened up, my question in this case, is not a prompt towards spaces that smell, like Anicka Yi's world of smells.[65] It implies an exploration of the intrinsic and potent logics of smell, taste, touch, etc. looking for coherent and intelligent new methods of creating and receiving that are more akin to the non-memorialized senses.[66]

Forsythe's dancing piece, *One Flat Thing, Reproduced* (2000) embarks on such a direction. "As usual, the best advice for looking at Mr. Forsythe's concept-riddled choreography is to forget the theories and watch the movement", suggests Anna Kisselgoff of *The New York* Times.[67] Swaying by the rumbling sound composition of the choreographer's frequent collaborator, composer Thom Willems, and performed by fourteen dancers on and around twenty metal tables, *One Flat Thing* plunges the audience in a heightened state of bodily awareness, that thrills some and frustrates others. Forsythe's work triggers personal memory in the impossibility of reading it as a series of referential clues: one cannot 'read' Forsythe's ballet relative to previous masters such as George Ballachine (the father of American Ballet) or Sergei Diaghilev (founder of the Ballets Russes). His creative process is not built on a modified resemblance to prior forms of dance, instead Forsythe creates a *precisely indeterminate* choreographic framework, in which the dancers individually and collectively embark on a seemingly spontaneous choreographic action (the framework of which is well calibrated by Forsythe). Individually and collectively Forsythe's dancers develop a circuitous and drifting choreographic-dialogue which unfolds on clues they give to each other. Like Evans's jazz compositions, Forsythe's dancers built a one minute of dance in one minute of time. *One Flat Thing* thus, hints the shift from a dominant audio-visual culture to an imminent genera(c)tive, momentary, fleeting culture, which is a sort of brew of its endlessly-boiled-off residue of its own internal processes, and "runs like the thread of a stocking", in Barthes sense, generating a chain of metonymic associations and rushes of unexpected semantic contagion.

If to the former choreographic approach, we add Ulmer's observation

64. Derrida, Jacques. *Glas*. University of Nebraska Press, 1986.

65. "The Hugo Boss Prize 2016: Anicka Yi, Life Is Cheap." *Guggenheim*, 17 Oct. 2017, www.guggenheim.org/exhibition/the-hugo-boss-prize-2016.

66. Irigaray, student of Derrida, takes the issue of occularcentrism right back into Plato's allegory of the cave, to question whether he might have founded western thinking otherwise – not as a stepping away from the hystera (cave/womb) into the clear light of day, but exploring the formless, rhythmic, circular, bodily logics of the contagion senses, and she extends this into a Mechanics of Fluids, which looks to ushering in a new creative/receptive paradigm. In this she's following through on Derrida's interrogation of the digital apparatus, where he asks whether the base logic of computation isn't in fact more like taste and smell than sight and hearing. See: Irigaray, Luce. *Speculum of the Other Woman*. Cornell Univ. Press, 2010.
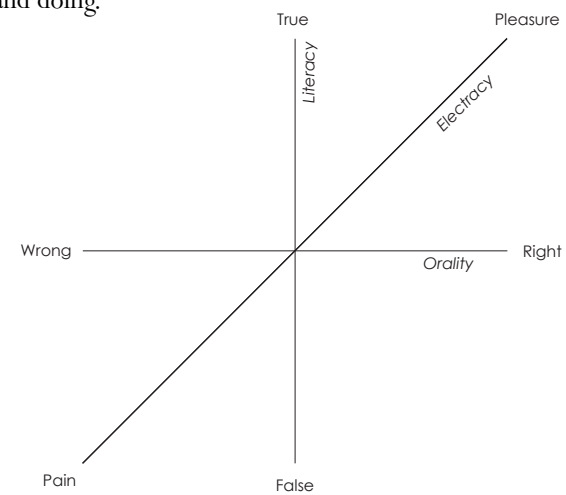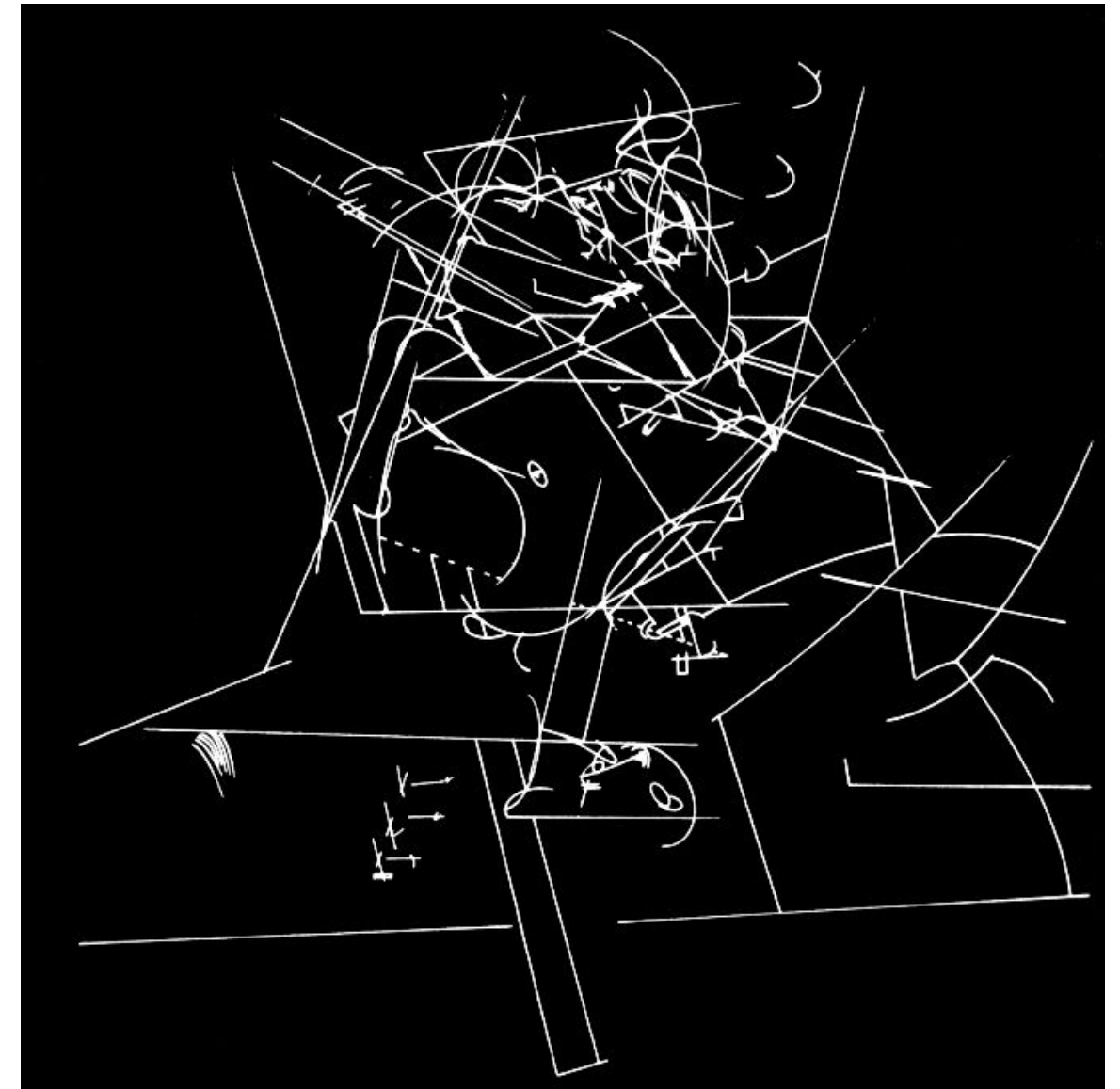
67. Kisselgoff, Anna. "DANCE REVIEW; Loud Tables, but Not a Restaurant." *The New York Times*, The New York Times, 2 Oct. 2003, www.nytimes.com/2003/10/02/arts/dance-review-loud-tables-but-not-a-restaurant.html. Also see: "Synchronous Objects." *Synchronous Objects*, synchronousobjects.osu.edu/.

that within electracy we've swung from a True/False axis of scientific reasoning to a Pleasure/Pain drift (in other words to forms of affective intelligence), then certainly our sensorial experience expands today within the culinary gastronomism, so-to-speak, of the present, or the need to be entertained constantly. It is precisely this augmented electrate multi-sensorium that can interrogate, if not agitate, literacy's positions of certainty. Just as Forsythe suggests that "a choreographic object is not a substitute for the body, but rather an alternative site for the understanding of potential instigation and organization of action to reside",[68] in the same way, a design object is not a substitute of a physical building, but a terrain that can draw an attentive, diverse, affective readership and might eventually understand and, hopefully champion the innumerable latent manifestations of choreographic (in the case of Forsythe),choragraphic ((in the case of Ulmer) or chorographic (choros (χώρος) meaning space in Greek, in the case of design), thinking, making and doing.

68. Forsythe, William, *Choreographic Objects,* 2009. Available at: *https://synchronous-objects.osu.edu/assets/objects/conceptThreadsAnimation/William-Forsythe-ChoreoagraphicObjects.pdf.*

Gregory Ulmer's electracy transversal
Courtesy of Gregory Ulmer

SKETCH OF 'LOSS OF SMALL DETAIL', 1991 from William Forsythe's notebook
Source: *https://gr.pinterest.com/pin/176273772891385909/*

PART II

The post-literate affective-ness of the Odyssey

The notion of Slippages in the Odyssey

I HAVE SO FAR EXPLORED what constitutes Homeric myth's *affectiveness* within the oral apparatus, as well as what aspects of this apparatus exhibit design potentials today. The question that I wish to explore in this second part, is what renders *Odyssey*'s *affectiveness* within the post-literate digital epoch, that for which Ulmer coin's the term *electracy*, and further illuminate additional design opportunities.

Let us return to Marshall McLuhan's *The medium is the Massage* (1967). He argues regarding the status of myths within the (his) contemporary framework:

> "Precision is sacrificed for a greater degree of suggestion. Myth is the mode of simultaneous awareness of a complex group of causes and effects. Electric circuitry confers a mythic dimension on our ordinary individual and group actions. Our technology forces us to live mythically, but we continue to think fragmentarily, and on single, separate planes. Myth means putting on the audience, putting on one's environment".[69]

The question I am exploring is structured by McLuhan within the lines of *living* ("Our technology forces us to *live* mythically") and *thinking* ("but we continue to *think* fragmentarily"). Myth itself is framed anew as a *mode*, a machine, a device, an apparatus, a *dispositif* of awareness, an interface in my project. Myth's *effectiveness* for McLuhan, is held to stem from its suggestiveness, its indeterminacy. I argue, it's *affectiveness* and not *effectiveness* (because the epic focuses on the affects and not the effects it produces) arises precisely from the inherent slippages, mistranslations and mis-readings that the myth endorses. This characteristic of Homeric myths is what inextricably links them to the 'environment' (the listener in the oral context, the reader in the literate and the user in the digital

69. McLuhan, Marshall, and Fiore, Quentin. *The medium is the massage*. Penguin Books, 1967.

era). It does so in a *mutual* and *dependent* relation, where myth acquires its *affectiveness* only through one's personal engagement with it.

Those slippages abound in Odysseus's nostos. In the first place, his journey unfolds when Odysseus blinds the cyclops Polyphemus, Poseidon's favorite son, by tricking him that he is the *Noman*.[70] This mistranslation of Odysseus's name is the *necessary* and *sufficient* condition for the journey to unfold in the first place. Without this slippage in terms of plot, Poseidon would have never opposed Odysseus's return to Ithaca. The suggestiveness of the myth extends to the very vocabulary Homer adopts. The most characteristic example of this case being the term *polytropos,* the most used among the adjectives that Homer assigns to Odysseus. Emily Wilson, whose translation of the *Odyssey* was published in 2018, argues regarding her effort to 'unpack' *polytropos*:

> "One of the things I struggled with, is of course this whole question of whether he (Odysseus) is passive -the 'much turning' or 'much turned' […] The prefix poly, means 'many' or 'multiple'. Tropos means 'turn'. 'Many' or 'multiple' could suggest that he's much turned, as if he is the one who has been put in the situation of having been to Troy, and back, and all around, gods and goddesses and monsters turning him off the straight course that, ideally, he'd like to be on. Or, it could be that he's this untrustworthy kind of guy who is always going to get out of any situation by turning it to his advantage. It could be that he's the turner".[71]

Homer's *polytropos*, the man of *many turns*, indicates the evasiveness of the Homeric linguistic choices. *Polytropos* Odysseus is simultaneously the turner and the turned, both active and passive. Yet, at the same time,

the word *polytropos* also relates to the ancient *Metis:* the mythological representation of wisdom and cunning, the first wife of Zeus, who is by family ties related to *Mnemosyne*, *Metis's* sister, the goddess of *mneme* (memory) and essential building block of oral tradition. This mythical scaffolding of the adjective *polytropos,* exhibits the various levels that Homer's suggestiveness impregnates. Turner and turned are illustrated afresh in a conceptual union sub-structured by the mythical relations with *Metis* and *Mnemosyne*. The hyper-textual character of the word *polytropos* interests me for another reason as well. Contrary to the literate tradition where conceptual ideas are often juxtaposed by means of similarity and opposition (i.e. by means of properties), in the case of the Homer ideas are related by family ties. *Metis* and *Mneme,* and subsequently cunning and memory, are emotionally and affectively, but not necessarily intellectually, akin. Within a broad and indeterminate spectrum of brotherly feelings, which might range from love and tenderness to hate and rivalry, the conceptual relation between ideas, in the Homeric device, is urged beyond the binary oppositions of analytical thinking.

Similarly, precision in Odysseus's myth is sacrificed on the altar of the physical geography within which the myth unfolds, a geography that is presented in a constant state of flux. Odysseus's maritime journey is, in fact, a play of *detours,* of continual deviations from the course of Odysseus's destination, Ithaca, that illustrate an extended deferment of what is initially presented as the end-goal. Those *detours* are indicated in the numerous instructions, suggestions and scripts that the heroes receive throughout the epic; for instance, Circe's instructions to Odysseus for his journey to the Underworld (Book 10), Theresia's prophecy (Book 11), Aeolus's mandates when he accorded to Odysseus

70. "Cyclops, thou askest me of my glorious name, and I will tell it thee; and do thou give me a stranger's gift, even as thou didst promise. No-man is my name, Noman do they call me -my mother and my father, and all my comrades as well". Homerus, *The Iliad.* Translated by A.T. Murray. Harvard University Press, 1954. Book 9, [360-368]. "HO-MER, ODYSSEY 9." *IRENE (Eirene) - Greek Goddess Hora of Peace (Roman Pax)*, www.theoi.com/Text/HomerOdyssey9.html.

71. Mason, Wyatt. "The First Woman to Translate the 'Odyssey' Into English." *The New York Times*, The New York Times, 2 Nov. 2017, www.nytimes.com/2017/11/02/magazine/the-first-woman-to-translate-the-odyssey-into-english.html. Also see: Homer, *The Odyssey.* Translated by Emily R. Wilson. W.W. Norton et Company, 2018.

the bag that confined the unfavorable winds (Book 10).

Therefore, I argue that we, the contemporary users of the myth, are not here *lost* in translation, to quote Sofia Coppola's famous film, but we are rather *found* in translation. The post-literate *affectiveness* of the myth of Odysseus lies in the allusive, indeterminate conditions that it generates, witnessed in the various moments of seeming incomprehension or the inability of immediate conceptual registry. This is precisely the aptitude of the Homeric myth that allows further translations. My argument is, that this is not a mere outcome of the linguistic challenges that the ancient Greek text presents (i.e. a result of technical determinism), but rather results from the *logotechnekes* (from logos (speech) and techne (art)) translations, the poetic, inventive, creative, artistic re-appropriations of the epic.

The slippages in the *Odyssey* are design decisions: well calibrated forms of disorientation, so-to-speak, of Homer. They illustrate a metonymic attitude indicated in the metaphorical conditions that he devises, as in the case of *polytropos*, a term that simultaneously represents the turned and the turned but in parallel refers to *Metis* and *Mneme,* making it impossible to unequivocally define Odysseus. To put it differently, Homer design-decisions are not *prescriptively precise*, but again they are *precisely indeterminate,* a general virtue of the epic that is responsible of triggering of a chain of personal interpretations, associations and reconfigurations.

Thus, *Odyssey*'s contemporary potency can be summarized in its *polysemy*, to follow Homer's inclination towards the prefix *poly-* (polytropos, Polyphemus), a multiplicity or an excess of meanings implied by the prefix *poly* (meaning many or multiple). The necessary set for this

polysemy to unravel, or the "formulas to put on the universe" in McLuhan's words, is the participation of the *audience* (as an institutional formation of both orality and electracy). The yielding of such a community is the myth's *mystique*. What is different today, in respect to the Homeric epoch, is that this participation does not seem to require any longer our physical, embodied experience at least as described in the previous Part (and as we have come to perceive the concepts of *body* and *experience* within the literary tropes).

Slippages as Différances

HOMER'S POLYSEMANTIC ATTITUDE ties my approach back to Jacques Derrida's theories, which are highly influential for the development of Ulmer's thinking, specifically to the notion of *différance*[72] as it relates to the '*features*'[73] that govern the production of textual meaning. In *Writing and Difference* (1967), the translator Alan Bass clarifies in his introduction:

> "Wherever Derrida uses *différance* as a neologism I have left it untranslated. Its meanings are too multiple to be explained here fully, but we may note briefly that the word combines in neither the active nor the passive voice the coincidence of meanings in the verb *différer*: to differ (in space) and to defer (to put off in time, to postpone presence). Thus, it does not function simply either as *difference* (difference) or as *différance* in the usual sense (deferral), and plays on both meanings at once".[74]

Therefore, textual meaning develops, as Bass indicates, on this double nuance (I would add, the inherent polysemy) of the French word *differ*. On the one hand, it relates to *difference* as deferral, the notion that words and thus texts, can never fully summon forth what they mean, but can only be defined by appealing to additional words or texts. In this way, meaning is forever "deferred" or postponed (in a *diachronal* relation that disperses meaning in time like Odysseus's perpetual delay in the reaching of his destination). On the other hand, textual meaning relates to d*ifference* (from *dif-* and *-ferre* meaning to bear) that points to what differentiates elements (words for example) from one-another, within a hierarchical and oppositional framework that underpins textual meaning itself. The Derridean *différance* contextualizes theoretically the notion of

72. Derrida first uses the term *différance* in the lecture, *Cogito et histoire de la folie,* delivered 4 March 1963 at the College Philosophique. The term was then elaborated in various other works. Here I draw from: Derrida, Jacques, *Writing and Difference*, translated by Alan Bass. Routledge Classics, 2001 and Derrida, Jacques, *Of Grammatology*. Translated by Spivak Chakravorty Gayatri. Introduction by Judith Butler. Fortieth anniversary edition. John Hopkins University Press 2016.

73. "*Différance* produces what it interdicts, makes possible the very thing that it makes impossible". Derrida, Jacques, *Of Grammatology*. Translated by Spivak Chakravorty Gayatri. Introduction by Judith Butler. Fortieth anniversary edition. John Hopkins University Press 2016, pp. 156.

74. Derrida, Jacques, *Writing and Difference*. Translated by Alan Bass. Routledge Classics, 2001, pp. xvii.

slippages that I presented previously. *Différance,* as "an economic concept" that designates the production of differing/deferring, points directly to the idea of mistranslations, mis-readings and slippages condensed in the notion of polysemy.

Judith Butler in the Introduction of the 40th anniversary edition of the *Of Grammatology*, further elaborates:

> "But this term, this coinage, is neither a kind of being nor a concept…As a term, it seeks to account for what permits articulation, for whatever is "different from" the binary notion of difference contained by a dialectical unity, a difference that differentiates internal elements that belong to a greater whole".[75]

Therefore, *difference* as an operational ontology[76] frames simultaneously both McLuhan's *living* (when he argues "our technology forces us to *live* mythically") as "a kind of being", and at the same time McLuhann's *thinking* (when he claims, "but we continue to *think* fragmentarily") as a fragmented reasoning. *Difference* is both living and thinking, both being and reasoning. It reminds us of the double implication of *polytropos*, both active and passive, both turner and turned. Alan Bass argues that "différance often functions as an aporia"[77] (aporia in Greek meaning question or inquiry), in other words "an excess which cannot be construed within the rules of logic, for the excess can only be conceived as neither this nor that, or both at the same time - a departure from all rules of logic".[78] Derrida's *differance(s)*, express the excessiveness that asks us to broach the possibility of thinking beyond binary oppositions such as mind/body, inside/outside, nature/culture, present/past, and also real/imaginary, gods/humans, living/dead as in the case

of the *Odyssey*. Bass's aporia, marks the Latin *excessus*, the departure, the digression from the 'totalitarian' and hierarchical framework of the platonic necessity.[79] A rambling excess, which in the *Odyssey*, scatters in the tangential relations of the erratic archipelagos in which Odysseus wonders /wanders. In that sense, the notion of *differance*, opens up my endeavor for a post-literate reading of the *Odyssey* to a probabilistic, polysemantic, exploratory, intuitive, heuretic direction that counterbalances analytic, hermeneutic, interpretative approaches of the myth that abound in literacy, and shifts the question at stake, from mere *What,* to *What If*?

In 1983, Zaha Hadid asked the same question: What if the world of 90 degrees digresses one degree from the vertical? Produced within the time she spent at the Architectural Association (AA), Hadid's painting *89 degrees*, serves as a *testing field* for three-dimensional creative experimentation where she imagines (or better put, invents) a world without straight angles. 'I made this painting to have a record of what I was thinking at the time. That's why I decided to call it 'The World', because that's what it was for me – a world of projects I had designed by 1983", states Hadid. Within this world, the horizon is not a single straight line, but instead an expanded curve that incorporates adjacent spaces above and below. It is an animated world comprised of acute yet dynamic forms that relate to each other in many different ways. Predating the ubiquitous use of computer technology in design practices, Hadid's work, analogue in its means, foretells (like the *Odyssey* did for the imminent emergence of literacy) "the significance of technology's rapid development and our ever-changing lifestyles in creating a new and exhilarating backdrop for architecture" and predates, I argue, the limitless digital horizon that contemporary design interfaces 'rendered'.

75. Derrida, Jacques, *Of Grammatology*. Translated by Spivak Chakravorty Gayatri. Introduction by Judith Butler. Fortieth anniversary edition. John Hopkins University Press 2016, pp. xi.

76. Ibid, pp. 342. Derrida makes clear that "the supplement (another term related to *différance*) is neither presence not absence. No ontology can think of its operation".

77. Derrida, Jacques, *Writing and Difference*. Translated by Alan Bass, Routledge Classics, 2001, pp. xviii.

78. Ibid.

79. "*Différance* and identity. *Différance* within the economy of the same. The necessity of withdrawing the concepts of trace and of *différance* from all classical conceptual oppositions. Necessity of the concept of archi-trace and the erasure of the archia. This erasure, which maintains the legibility of the archia, signifies a *conceived* relationship of belonging to the history of metaphysics". Derrida, Jacques, *Writing and Difference*. Translated by Alan Bass, Routledge Classics, 2001, pp. 249.

As such, Hadid's painting is an apparatus, a creative invention, though which she developed the logics that she further devised in her architecture (at least in her early work, before the idea of a curvature or fluidity became a matter of formal instantiations of curved geometries). It is the testing-field of her curved logics, curved not as curvy, but curved as dynamic, suspended, hyperbolic, circuitous. *89 degrees*, plays upon the paradox of the Derridean *differance*, in creating a world that is ever-changing within a matrix of possibilities; and scatters and reassembles within a complex system of rearrangements, beyond the prescriptive, hierarchical modalities and norms, such as horizontal/vertical, 0/90 degrees, up/down, in/out or the modernistic necessity for the obliteration of the existing context.[80]

Yet further than that, Hadid's early works (such as the *89 Degrees* or the *Malevich's Tektonik* (1976-1977) or *The Hong Kong Peak* project (1982-1983)) also relate to the Derridean *differance* as deferral, to the *diachronal* spacing that activates time in "a dialectical relationship of the new and what came before it",[81] and signifies the mutual and dependent relation between the original and its transformations (or between the formulas and the epic compositions, or the strict square-ness of the original form and Evans's jazz improvisations, or further on, between what is actually represented and what could be potentially represented within a matrix of representational possibilities). Hadid acclaims that the postmodernist framework led her to "how ideas of rupture and fragmentation could liberate the plan, which led to ideas of abstraction and fluidity and a kind of oscillational process in which one could move back and forth in time".[82] I argue, that it is precisely the spacing and temporization that the Deriddean *traces* denote; that inevitably lead to the introduction of this interval, a delay or gap that compromises the process by which

the new is produced and innovation is achieved; and ushers a fluid and dynamic model of representation that is constantly subject to change by oscillating between the past and the ambition of the new. This raises an architecture as a frame of chance, as a probabilistic (and polysemantic) framework within which sensible intuition seems to be the operating logic in the attempt to grasp the exact, the Derridean difference. The drawing in this instance of architecture, is not a frozen moment, an objectified thing, or a fixed image; but represents movement, opening up a new kind of spatiality that takes the form of an explosive logic of fragmentation, anti-gravitational tectonics and organizational fluidity, a "kind of archeology that allows for many layers occurring simultaneously".[83] In Hadid's words: "The organization of the plan and the idea of the projection and its distortions began to be framed in one moment that became like a storyboard, in which many sequences over a period of time are compressed into one image. Fluidity and compression were possible in the same place",[84] this is the place of the Derridean *differance*, that yields moments of difference within repetitive or diachronal patterns and points to a processu(r)al design model that is open-ended.

80. "ZAHA HAD-ID'S DRAW-INGS 1." *LEB-BEUSWOODS*, 23 Mar. 2009, lebbeuswoods.wordpress.com/2009/03/23/zaha-hadids-draw-ings-1/. Also see: "Zaha Hadid Virtu-al Reality Experi-ences: The World (89 Degrees), 1983 - Google Arts & Culture." *Google*, Google, artsandcul-ture.google.com/exhibit/FAKy-Sb-Mi8xsIA

81. Hadid, Zaha, "The Ambition of Time" in Davidson, Cynthia C. *Anytime*. Anyone Corpo-ration, 1999, pp. 90-7 and106-11.

82. Ibid.

83. Ibid.

84. Ibid.

**THE LAST FUTURIST EXHIBITION
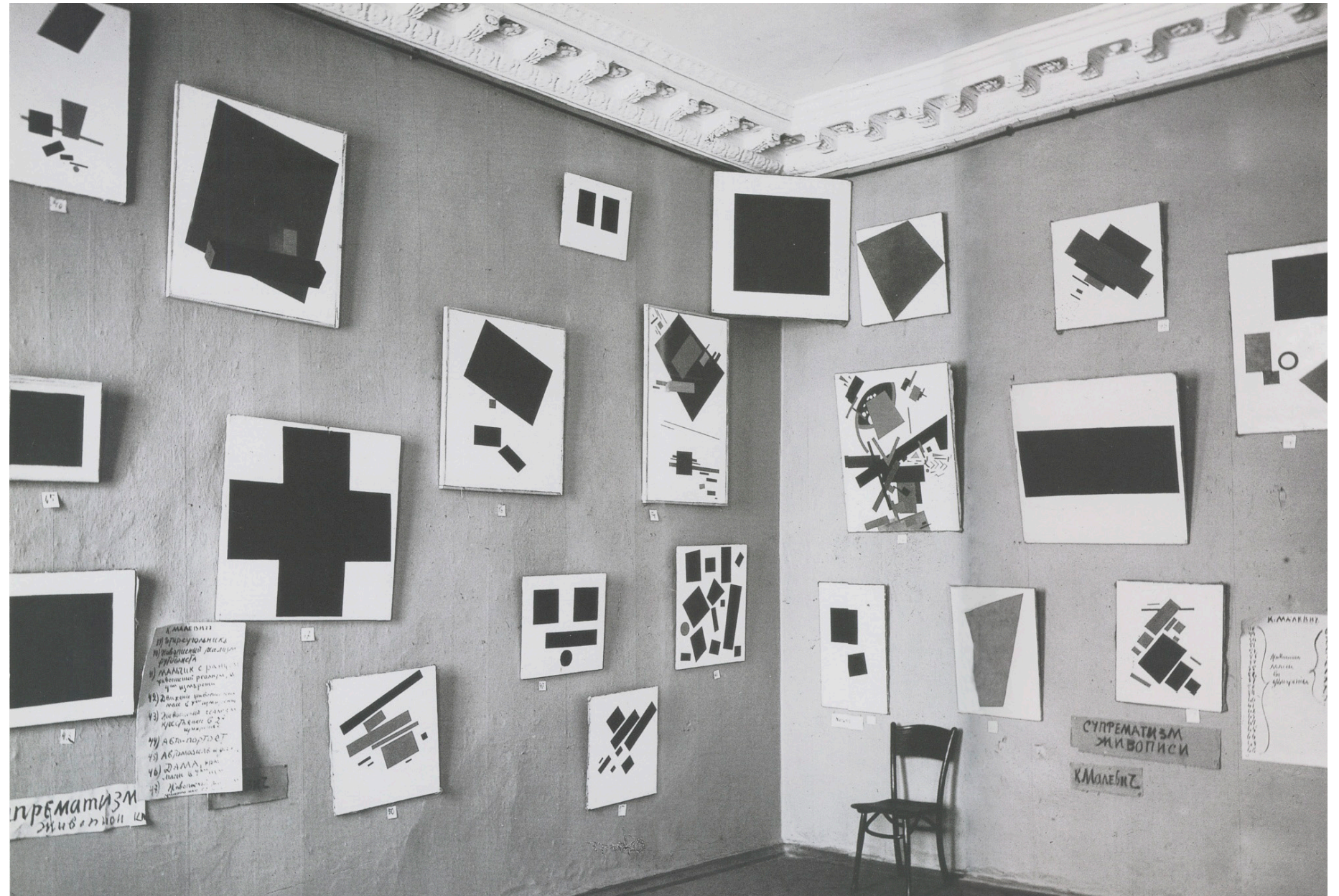OF PAINTINGS 0,10**

Petrograd, December 1915- January 1916.

View of the room with the Suprematist
works of Kazimir Malevich.

Malevich's Black Square hungs in a corner
where Ordothox families would typically
place a religious icon.

Russian State Archive for Literature and
Art, Moscow

Source: *https://en.wikipedia.org/
wiki/0,10_Exhibition*

Second Order: The Electrate Apparatus

THE DERRIDEAN IDEAS CONCEARNING TEXT AND MEANING contribute to my task at another level as well, one that connects texts to the rhapsodic form of epics. Specifically, Derrida's understanding of text as *text-ile*. Derrida, in *Of Gammatology,* explains about Jean Jacques Rousseau:

> "It is not so little a matter of looking for a *truth signified* by these writings (metaphysical or psychological truth: Jean-Jacque's life behind his work) that if the texts that interest us *want to say* something, it is the engagement and the appurtenance that catches existence and writing in the same *fabric,* the same *text.* The same is here called supplement, another name of *difference*".[85]

Gayatri Chakravorty Spivak, clarifies that "this is Derrida's first statement that the text is text-ile, a fabric, that life and work, even worldly work, are both woven, that the European word "text" comes from the Latin *textere* (=to weave), that the verbal text is a second-degree metaphor".[86] Under this light, Derrida's textual weaving and Homer's rhapsodic stitching (I remind here that the term *rhapsodist* derives etymologically from the verb *rhaptein* which means to stitch or sew), come into play as *fabricating* operations. Derrida's *différances* and Homer's *slippages,* in that sense, are filaments of meaning weaved within the *interface* of the text and the epic, the thread-counts of which correspond to their various *traces* creating a supplementing fabric of meanings.

This *fabricated, intertwined*, *textile*, *sutured* understanding of epics and texts, brings us directly to the digital apparatus, actualized in (the technology of) the Internet. Derrida's and Homer's *netting* is sublimated in the networks of the World Wide Web, "an information space where

85. Derrida, Jacques, *Of Grammatology*. Translated by Spivak Chakravorty Gayatri. Introduction by Judith Butler. Fortieth anniversary edition. John Hopkins University Press 2016, pp. 163.

86. Ibid, pp. 356.

documents and other web resources are identified by Uniform Resource Locators (URLs), interlinked by hypertext links, and can be accessed via the Internet".[87]

In his 1965 seminal essay *A File Structure for the Complex, the Changing, and the Indeterminate*,[88] Theodor Nelson coins the term *hypertext* that refers to "a body of written or pictorial material interconnected in such a complex way that it could not conveniently be presented or represented on paper [. . .] Such a system could grow indefinitely, gradually including more and more of the world's written knowledge". Anticipating the World Wide Web by nearly twenty years, Nelson calls his invention the *Evolutionary List File,* an interconnected, interlinked, open-ended, non-linear, hypermedia information system that can grow and proliferate ad infinitum. Remind you of something?

In the diluted materiality of the Internet, Homer's *polysemy* and the Derridean *differances* take the form of Nelson's *hyper-structures*, which in their articulation work "on psychologistic and positivistic reductions of the ideas of text, recovery, memory, access, and, especially, interaction".[89] Words and ideas within the digital apparatus become nodes netted in *hyper*, *super* and *poly* structures, *thinking* takes the form of navigating, and *living* the form of *detours*, constituent aspects of the interaction between the user and the digital mediums. However, Internet as an apparatus, in my approach, does not merely enhance previous logics, it creates, or to be more precise, it invents new ones. The apparatus of the Internet, for example, does not solely open ubiquitous and instantaneous access to every library and database at a global scale, only accelerating the previous literate library, but instead opens up the opportunity to serve as a newly real-time extension. In fact, the apparatus of the Internet

seems to subvert the library as the cradle of academism, the altar of veracity that proclaims to account for the totality of literate knowledge. This new extension, allowing for feedback of data that no longer needs to be conceptualized as a general rule, potentially opens up a new form of instant witnessing, without the need for literate framing; a one minute of knowledge in one minute of time, that contrary to its literate counterpart, now opens up a gap to all manner of uncertainty and forgery, whatever this might imply for the new models of technology/ institutions/ identity of our epoch.

87. "World Wide Web." *Wikipedia*, Wikimedia Foundation, 1 May 2018, en.wikipedia.org/wiki/World_Wide_Web.

88. Nelson, Theodor. "A File Structure for the Complex, the Changing, and the Indeterminate" in Noah Wardrip-Fruin, Noah and Nick Montfort. *The New Media Reader*. The MIT Press, 2003, pp. 133-45.

89. Ibid. Pp. 355.

Technology | Institutions | Identity

WALTER J. ONG, whom Ulmer describes along with Marshal McLuhan (Ong's supervisor at St. Luis), as "theoretical grammatologists",[90] in *Orality and Literacy: The Technologizing of the World* (1982) elaborates on the differences between oral, literate and the (his) contemporary epoch. Ong names the post-literate thinking, the *secondary orality*, "a more deliberate and self-conscious orality, based on the use of writing and print" which "has striking resemblances to the old in its participatory mystique, its fostering of a communal sense, its concentration on the present moment, and even its use of formulas". [91]

Ong's *secondary orality* rests and develops on literate thought and expression, all the while anchoring on the characteristics of new technologies. It does not supersede the *primary orality* of pre-literate traditions but instead it supplements it, or in Ong's own words: "the new medium reinforces the old, but of course transforms it because it fosters a new".[92] Ong's idea of *secondary orality,* affirms what intuitively resembled to me as a semblant affinity between the inherent logics of the *Odyssey* and the contemporary digital practices. His concept emanates, among others, from his observation that contemporary technologies such as telephone, radio, or television, *retrieve* the auditory which had been suppressed within literacy.

However, Ong's *secondary orality* hints to some sort of recovery or comeback, implying a fixation, I argue, to the old medium instead of the new, that can potentially lead to a technical determinism that I wish to avoid and that Ulmer cautiously eschews when he refers to the contemporary apparatus with the term *electracy,* instead of *secondary orality* or *post-orality*. Similarly, Derrida seems to reject an oral resurgence: digital media do not simply amplify audio-visual media, just

90. Gregory L. *Applied grammatology: post(e)- pedagogy from Jacques Derrida to Joseph Beuys*. John Hopkins University Press, 1992, pp. 319, note 4.

91. Ong, W. J. *Orality and Literacy: The Technologizing the Word*. Rootledge, 1982, pp. 133-4.

92. Ibid.

as writing did not just record/multiply speech, or as Internet does not solely accelerate the library. The digital devices open up *new* forms of intellection, creativity, memory, in the same way writing opened up alpha-numeric reason. Derrida turns to the bodily senses, in search of alternative intelligences that have been neglected by literacy: he turns not just in the immediacy of taste/touch/smell gratification, but in their base mechanics, in the way they work: they're not distinctly memorializing senses, but instead rely on stimulation and triggering which release chains of affective association. I turn to the interface of the *Odyssey* in search of those aptitudes. Thus, I don't account in favor of a *new-age orality*, (à la Latourian sense a *"We have never been literate"* as in his *"We Have never been modern"*). Instead, my project postulates that there are aspects of electracy that are in accordance to the logics of oral culture (possibly aspects of the oral apparatus transmuted into the digital within, what I call, 'orders of augmentation') and furthermore, that it is in the exploration of those aspects that alternative intelligences of creating/ receiving for the digital epoch, can be identified.

Following Ulmer's thought, within the post-Gutenberg era, the apparatus of Internet influences the very nature of electrate thinking, its institutions, models of behavior and modes of identity. Marshall McLuhan, in *The Gutenberg Galaxy: The Making of Typographic Man* (1962) and *Understanding Media* (1964), refers to the idea of a "global village" as a metaphor for the shrinking of the world through the use of electronic media. McLuhan's global village, "generates a sense of groups immeasurably larger than those of primary oral culture", recalling simultaneously the *ecumenical* aspiration of the Homeric epics. Today, within the global village of the world wide web, a new form of *ecumene* has emerged, one that eliminates the necessity of the oral apparatus

for a shared physical space of the performance. In the same writings, McLuhan refers to the *retribalization* of contemporary culture, an idea that brings us back to Havelock's account of the Homeric myths as a 'tribal encyclopedia', or his concept of the 'image thinkers', that have morphed to today's 'insta-thinkers'. An idea, with which I wish to point to the growing role that platforms such as Instagram have acquired, as per the way we apperceive the world and ourselves; but also to the *insta-* as in *instance*, that refers to the pervasive concertation of contemporary culture on the instant, the immediate. The current rise of a culture of *tribalization*, is also witnessed in the various 'cults' that we are part of today: bloggers, users, players, consumers, 'friends'.

John Miles Foley, another scholar of comparative oral traditions, further explores the accordance between oral traditions and the Internet. In *Oral Tradition and the Internet, Pathways of the mind,*[93] a "morphing book and wiki-website", he emphasizes "the disorientation necessarily involved in abandoning the default medium of the book to grasp the dynamics of alternative media".[94] For him, both devices (the oral and the Internet) focus "not on "What?" but on "How do I get there?".[95] Likewise, among the correspondences between the two devices, Foley identifies the dynamic patterned possibilities, the navigation pathways, the non-identical performances, the ideas of variability and variation, the cognitive scripts that underlie form (for example we can think here of Parry's oral formulas as a metaphor for the formulaic sub-structures of parametric design or of Circe's instructions as computational scripts). Along his 'avenues', Foley calls us to rethink notions of originality, accuracy, distributed authorship, and systems-versus-things, ideas that invoke contemporary emerging generative and procedural logics of creating/receiving and tight back to the Lord's systems of variants

93. Foley, John Miles. *Oral Tradition and the Internet: Pathways of the* *Mind*. University of Illinois Press, 2012.

94. Ibid, pp. 1.

95. Ibid, pp. 5.

96. Ibid, pp. 96-7.

and variations of the epic performances. Foley's pathways display "a double identity: individually, they lead from one node to another; but corporately, they constitute an interactive network with innumerable build-in-possibilities".[96] An open-ended network that can proliferate ad infinitum, as Nelson's hypertexts; and a corporate network of users as the new institutional *corpus* of electracy. Not far from Odysseus's deviations amid his maritime journey, Foley's pathways assume the form of *detours* within a matrix of possibilities that the hyper-structural netting of the digital medium, or the form of creative *drifts,* that stray away from the distant, causal, linear thinking. The 'pathways' (*oimai*) that once the Muses inscribed for Homer[97] are framed by Foley through a contemporary perspective:

97. "For among all men that are upon the earth minstrels win honor and reverence, for that the Muse has taught them the *paths* (*oimai*) of song, and loves the tribe of minstrels". Homerus, *The Iliad*. Translated

by A.T. Murray. Harvard University Press, 1954. Book 8. [479-481]. "HO-MER, ODYSSEY 8." *IRENE (Eirene) - Greek Goddess Hora of Peace (ʰRoman Pax)*, www. theoi.com/Text/ HomerOdyssey8. html.

> "What the Muse teaches, in other words, is the ability to navigate the web of oral tradition, to surf through the shared riches of the story-hoard and shape a performance that is intelligible to and enjoyable for performer and audience alike. What the Muse imparts is knowledge of system or process, not of things or products".[98]

98. Foley, John Miles, *Oral Tradition and the Internet: Pathways of the*

Mind. University of Illinois Press, 2012, pp. 97.

The shift of thinking from the basis of things and products, into the field of systems and processes, marks the *oimai* of electracy. In 1917, the mathematical biologist Thompson D'Arcy published the seminal *On Growth and Form*,[99] where he launches on a meticulous exploration of natural geometries in the dynamics of growth and form in the physical world. Using a variety of examples, from the molecular structure of cells and the arrangement of leaves (*phyllotaxis*) -i.e. the numerical relationships in plant parts-, to the logarithmic spiral shape of horns in the animal world, D'Arcy puts at the center of his thinking the

99. Thompson, DArcy Wentworth, and John Tyler Bonner. *On Growth and Form*. Cambridge University Press, 1961.

physical laws and mechanics, as a fundamental determinant of form and structure in the natural world. What initially emerged as an alternative to the Darwinist evolution (i.e. to what D'Arcy perceived as the determinism of natural selection), eventually began to separate itself into a definable, yet allusive form - a form of *process*, which only today exhibits its extensive potency as a creative *processu(r)al* thinking/ doing/ making; witnessed in the work, for example, of Jorge Duro (research assistant at the Mediated Matter Research group of MIT Media Lab) who 'unable' to draw an object, was driven to describe its conditions of formation, the parameters that subtend it. A drift that further led to the development of an inventive body of digital design research that combines manufacturing data and material-based computation, looking at nature not as an object, but as a creative tool. I am referring here to the Mediated Matter's hierarchically structured bio-plastic column, fabricated using a material-driven computational workflow integrating digital design with novel robotic additive manufacturing platforms (2015).[100] D'Arcy and the Mediated Matter group might share a common starting point: the observation that "in the natural world shape and matter are structured through growth and adaptation, resulting in highly tunable and hierarchically structured constructs, which exhibit excellent mechanical properties".[101] However, their approaches radically diverge when the Mediated Matter attempts to design a system *per se*, aimed to additively manufacture hierarchical and multifunctional structures using bio-materials. D'Arcy's criticism to the natural determinism of the Darwinist theory of natural selection, in the case of the Mediated Matter's work takes the form of an objection to the determinism of geometric-driven and form-driven approaches (a critique perhaps to D'Arcy). They rigorously contend:

100. L. Mogas-Soldevila, Duro-Royo J., and Oxman, N., *Form Follows Flow: A Material-driven Computational Workflow For Digital Fabrication of Large-Scale Hierarchically Structured Objects,* Proceedings of the ACADIA 2015 Conference – Computational

Ecologies: Design in the Anthropocene, Cincinnati, 2015. matter. media.mit.edu. See: "Mediated Matter." *About the Mediated Matter Group* | *Mediated Matter*, matter. media.mit.edu/ publications/article/form-follows-flow.

101. Available at: http://matter. media.mit.edu/ assets/pdf/ACA-DIA_2015_Mogas-DuroOxman.pdf.

"Current design practice is characterized by the domination of shape over matter. Consequently, virtual shape-defining parameters are typically prioritized over physical material and fabrication constraints, which are often considered only in hindsight, following a geometric-centric design phase".[102]

102.   Ibid.

What was still a product of literate tropes: D'Arcy's descriptive analysis of growth and form in the natural world, has become today an affective field of experimentation. Nature, as an objectified product of thorough yet distant and disassociated analysis by means of mathematical signs, becomes today a manipulatable, adjustable tool that operates sets of processes. Nature thus, becomes subject-ified within new forms of workflows that manage those processes. Associating material, environmental and manufacturing considerations with virtual design-modeling tools, the work of Duro challenges traditional design approaches, prioritizing process over product, and flow over form. This marks a broader shift in the mindset of the contemporary apparatus: from *form follows function* to *form follows flow*.[103] The overlap between physical and virtual tools of the Mediated Matter's experimentation, delineates the shift from descriptive mathematical or computational *inscriptions*, into programmable genera(c)tive *tools* and thus a broader shift, from D'Arcy's *morphogenesis* -the development of morphological characteristics in the shape of natural 'objects'- into a potentially new form of *hylomorphism* augmented by the virtues of digital tools: an orchestrated combination and manipulation of matter and form, flow and shape. What Duro's example reveals, as a new dimension of thought of the electrate apparatus, is precisely the liquefaction of the solid determinism of literacy, the substitution of the literate desire for scientific and objective certitude, by an exploration and an

103.   Ibid.

MILK DROP CORONET, 1936
Harold E. Edgerton

Featured in the second edition of D'Arcy's *On Growth and Form,* published by Cambridge Univeristy Press.

The book was first published in 1917 and republished in 1942 in a second edition heavily edited and expanded by the author. The second edition added 300 pages to the book, including photographs of Edgerton, obtained directly from him at MIT.

Source: *http:// anthonylukephotography.blogspot. com/2012/09/photographer- profile-harold-edgerton.html*
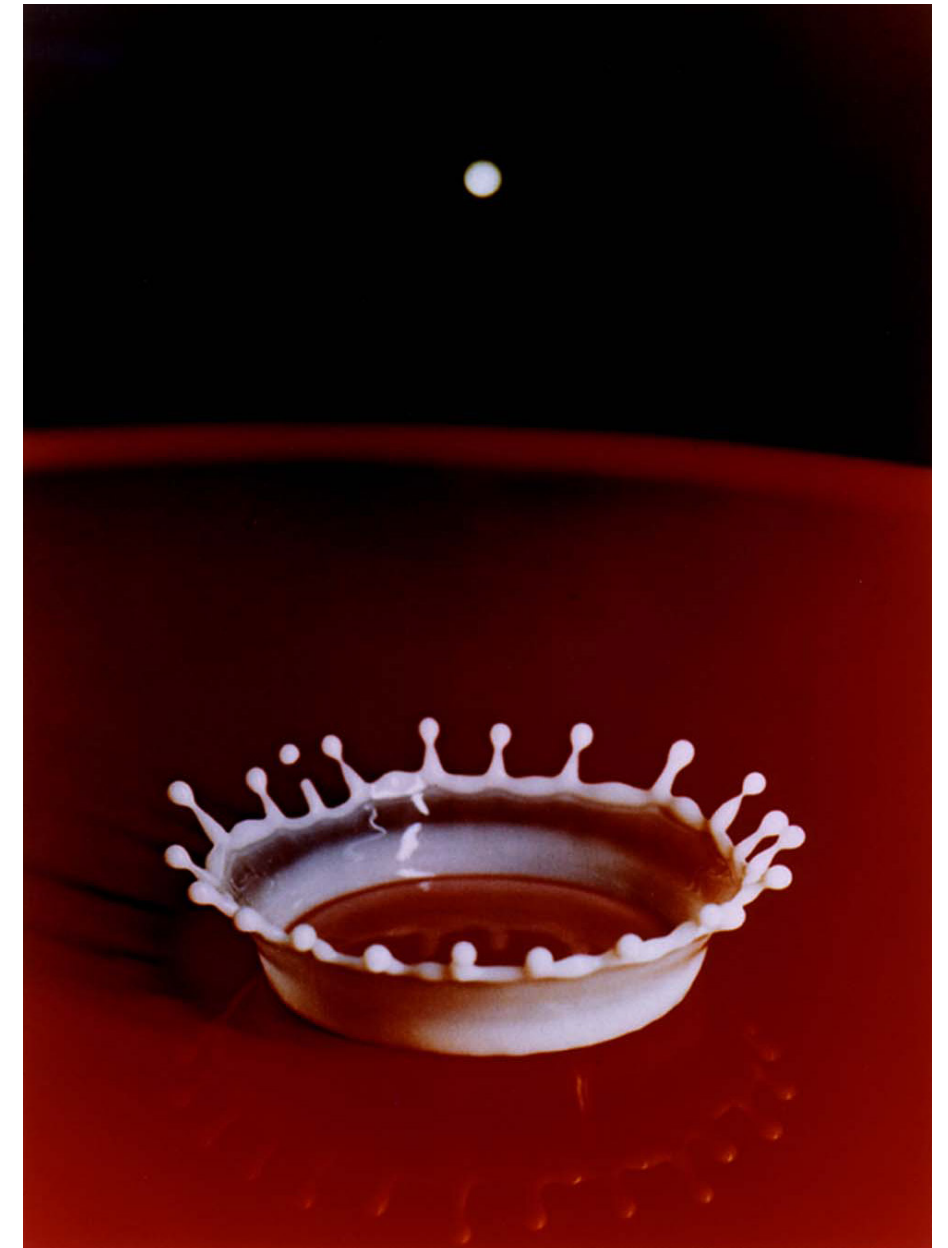
experimentation of the circuitous, liquid, indeterminate flows that natural processes generate.

Therefore, the challenge of the digital epoch does not seem to stem any longer from the vertical dimensionality of the text, it's inter-textuality, from the reading "between the lines", so-to-speak, that the alphabetic and graphic inscriptions presuppose; instead it emerges from an additional circuitous dimension of flows and interactions, pathed by the open-ended, synthetic systems related to contemporary digital tools. The dominant tendency is to assume that any new technical supplement simply amplifies the existing one, where in fact it opens up a new dimension of human aptitude. However, this new dimension of thinking/doing/making is to be invented, within the apparatus and its manifestations: thinking, personal identity and the institutions. As Ulmer rigorously accounts for, it doesn't merely happen by virtue of our interaction with digital technologies. Foley and Nelson imply what Ulmer points out explicitly: the fact that "our culture is now drawn to open-system models for conceptual representation",[104] systems that are interactional, transactional, developmental, process-oriented, and contrast prior linear models of representational configurations.

Within this open-endedness of the digital epoch, I sense that Ulmer's three registries: technology, institution, identity, present themselves intertwined/ weaved/ stitched in the Derridean sense. Internet, when Ong and McLuhan were writing, was conceived primarily as a technological impetus. Within electracy, Internet comes into being as an institution as well, operating with strict protocols and governmental acts that devise its use and function (function as operation but also function as power, mode, behavior). This is precisely the new idiosyncrasy

of Internet, a new dimension of the contemporary apparatus, upon which the recent Cambridge Analytica[105] debate rests: the fact that in the digital epoch, the Internet becomes an equally important political institution (apart from a technological commodity) as the elections (the fundamental device of representative democracy) and the vast chain of reactions that this transmutation incites.

Similarly, within the electrate apparatus, the unfathomable quantity of data that we generate daily, is not just stored in massive databases that merely enhance our capacity to retrieve information quickly (likewise to the storing of books in libraries). The digital apparatus precipitates a new way of thinking, witnessed as the same data become outputs in the form of advertisements, Google search preferences etc., that are then fed back into our 'systems' of thinking/ doings/ being. The new tropes of electracy, I speculate, precipitate a far more developed multi-sensorial mode of creating/receiving. The new dimensions of electracy hint to an augmented sensorium (in stark opposition to the Platonic model of the mind and body, but also different from the Homeric model of psychosomatic entity); rendering a new kind of knowing that extends beyond our organic capacities. This kind of augmentation does not follow the literate logic: an augmentation as intensification, enhancement or multiplication. Electracy does not merely *add* to our literate capacities, it yields new ones. Thus, to be more precise, the electrate apparatus does not *augment* our state/ means/ ways; but rather it *hyper-ments* them, within a hyper-rational, hyper-bolic new culture, as the excessive notion of *aporia* of the Derridean *differace* or the hyperbolic *89 degrees* world of Zaha Hadid insinuate.

My speculations can already be attested in the latent implications of

104.   Gregory L. *Applied grammatology: post(e)-pedagogy from Jacques Derrida to Joseph Beuys*. John Hopkins University Press, 1992, pp. 304.

105.   Solon, Olivia, and Emma Graham-Harrison. "The Six Weeks That Brought Cambridge Analytica Down." *The Guardian*, Guardian News and Media, 3 May 2018, www.theguardian.com/uk-news/2018/may/03/cambridge-analytica-closing-what-happened-trump-brexit.

the LIGO (Laser Interferometer Gravitational Wave Observatory) technology, developed for the detection of gravitational waves produced by immense cosmic events.[106] In his *General Theory of Relativity* (1916), Albert Einstein predicted that waves should exist, but on August 14, 2017, the LIGO detectors *sensed* this cosmic fallout, which resulted from the merging of two black holes 1.8 billion light years away, a ripple in space-time know as gravitational wave. By virtue of the LIGO technology, researchers verified, what Einstein had only theoretically predicted: that wherever space is stretched, it simultaneously contracts in dimensions at a right angle, enabling thus the direct sensing of space-time distortion in three dimensions.

Contrary to conventional telescopes or electromagnetic facilities, the LIGO technology can now *hear* gravitational waves, marking a new era for astronomy. What does this framing of base physics have to do with my speculations? We can now *hear* and *sense* waves, we can *see* gravitational forces. Outer space is not to be explored any longer merely by means of visual clues that light produces, through its iconoclastic, so-to-speak image, but instead this new era opens up a new dimension of apperception by means of the cues of fluctuating waves, i.e. by this new 'sense' of gravity. LIGO makes clear that within the digital epoch, we don't just augment our physical capacities (to hear, see, smell, touch, etc.), we extend over/above (hyper- in Greek) them as we become able to *see* sounds, and *hear* weight, and perhaps *touch* smell, ushering a new form of *synesthetic (or hyperesthetic)* electrate apperception. In that sense, LIGO technology works more like an augmented *ear* rather than an extended *eye*. "These detectors are going to get better, and we are just going to listen to more and more music from the universe", argues professor Negris Mayalvala, of the MIT LIGO team, while in my

interview she highlighted: "We were living in the era of silent movies. LIGO allow us to put on sound to the universe".

From a stance of a designer, my interest to LIGO technology is best described by Katherine Bourzac, at her article *Catching Einstein's Waves* featuring the MIT Technology Review at 2008 (almost 10 years before the actual detection of waves):

> "Astronomers have been observing the skies in essentially the same way for nearly 400 years. Since Galileo turned his telescopes on the moon in 1609, they've used ever more sophisticated means of detecting light emitted by distant objects, gathering up not just visible light but radio waves, x-rays, and other forms of electromagnetic radiation. But some of the most exciting things in space don't send light our way".[107]

The collision of black holes, is one of those exciting cosmic events that do not produce light effects. The supplementation of light-based 'mapping' of the universe, by the new technology of gravitational detectors for the exploration of the space-time medium, not only affects the way we perceive extraterrestrial space, but will undoubtedly influence the way we 'map' our earthy environment. This new form of gravitational, dynamic mapping, emerges as a new pattern of apperception that will reconfigure the whole notion of *representation* and *representability* subliminally. LIGO in that sense, question the predominance of the era of visual representation that Galileo's telescopes once opened; the era attached to our *eyes*, to the visual image of things and the disassociated, distant, linear ways of creation and reception. Simultaneously, LIGO traces the opening of a new dimension of forces, waves and gravity

106. Guarino, Ben, and Sarah Kaplan. "Gravitational Wave from Black Hole Collision 1.8 Billion Light-Years Away Sensed in U.S. and Italy." *The Washington Post*, WP Company, 27 Sept. 2017, www.washingtonpost.com/news/speaking-of-science/wp/2017/09/27/black-hole-collision-1-8-billion-light-years-away-sensed-in-u-s-and-italy/?noredirect=on&utm_term=.b03a8e0d88a9.

107. Bourzac, Katherine. "Catching Einstein's Waves." *MIT Technology Review*, MIT Technology Review, 30 Dec. 2013, www.technologyreview.com/s/409989/catching-einsteins-waves/.

inherently fluid, tidal, and dynamic in their dissolution of representative certitude. "Space is so strongly gravitating that it's not flat anymore; it's curled up on itself in horrible ways", affirms Rainer Weiss, the 2017 Noble Prize in Physics laureate for his contribution to the development of LIGO, all the while he adds: "we're going to be seeing things from regions in the universe where Einstein is the whole story. Newton, you can forget about".[108]

The mapping of the empirical science, brought forward by the printing press allowing comparative results, once challenged the religious explanation of existence. It simultaneously supplemented the oral mapping of myths, gods, and monsters of the Homeric paradigm. Today mapping seems to take the additional form of a gravitational tracing of curved formations and deformations within a constantly swaying universe, a fact that, as the LIGO scientists argue, will lead us to unimagined new territories of thought.

108. "Gravitational Waves Discovery Confirms Einstein's Theory." *Broad Jurisdiction Of U.S. Border Patrol Raises Concerns About Racial Profiling | WBUR News*, www.wbur.org/radioboston/2016/02/11/gravitational-waves-discovery.

A TRIP TO THE MOON, 1902
Georges Méliès, silent film

One of the earliest example of the science fiction film genre and, more generally, one of the most influential films in cinema history.

Source: *https://en.wikipedia.org/wiki/A_Trip_to_the_Moon*

The design capacities of the Odyssey

TO GET BACK TO THE NOTIONS of weaving, stiching and netting that incited my exploration of the second order of augmentation regarding the post-literate affective-ness of the *Odyssey*. These notions imbrue, as I have pointed out, Homer's rhapsodic logic of stitching, Derrida's idea of the text as *textile*, as well as the contemporary hyper-structural logics of the world-wide-web. However, in the interface of the *Odyssey*, *weaving* also takes the form of women's work *par excellence*: their artisanal weavings. Parallel to rhapsodists's poetic 'weaving' of words and their stitching of previously known myths into novel epic compositions, the idea of weaving in the *Odyssey* takes the additional form of a literal weaving that manifests in the shrouds, veils, robes, etc. that women fabricate throughout the epic.

The most characteristic example of this case is Penelope, Odysseus' female counterpart in the myth, who uses weaving as a never-ending, open process in order to hold her suitors away. For twenty years, she wove by day and unwove by night, delaying completion of the task she had quoted as necessary prior to making any commitment to a new husband. Penelope's weaving is, in effect, *designed* not to reach an end but to remain under construction *ad infinitum* (or at least until Odysseus's return).

For Detienne and Vernant, two of the most acknowledged classicists, the ancient concept of *metis* denotes in Greek thought the power of transformation, the power to change shape continuously.[109] It is simultaneously a strategy of deception, the plot itself, and the mental ability to devise one. In the *Odyssey*, *metis* is best represented, as I mentioned, in the figure of *polyropos* Odysseus, the turner and the turned, the active and the passive, but in the case of Penelope's weavings,

109. Detienne, Marcel, and Jean Pierre. Vernant. *Cunning Intelligence in Greek Culture and Society*. University of Chicago Press, 1991. Also see: "1. Language and the Female in Early Greek Thought [1]." *Homeric Hymn to Aphrodite - SB*, chs.harvard.edu/CHS/article/display/5729.

metis also takes the form of the craft ability to devise such a plan. The intellectual *metis* of Odysseus is transformed into a material *metis* through Penelope's crafting. Likewise, the poetic *metis* of the rhapsodic recitation translates into the creative poetics of Penelope's weavings, and poetics become a literal act of *poieisis* or making (*poiein* meaning to make). Yet further than that, this materialized version of *metis* is sub-structured once again, by an extended mythological scaffolding. Specifically, by the mythical figure of Athena, the goddess of textile art, the protector of Odysseus, for whom the virgins of the city of Athens weaved every four years her sacrificial veil, on the occasion of the Panathenaia (the main celebration in the honor of Athena, where the *Odyssey* was performed). Athena, the very daughter of Metis, who was born from the head of Zeus after he had swallowed the pregnant Metis.

Within this broadened understanding of *weaving* in the *Odyssey*, is where I identify further design capacities of the epic. Firstly, because notions of *acousticity*, that I explored within the oral apparatus, take the form of a material instantiation: an actualized design project. What I postulate with this claim, is that the poetic speech of the rhapsodists becomes in the case of Penelope's weaving, a metaphorical speech that substitutes her silence for most part of the epic. Following the overall logic of the epic composition, her project is conceived to accommodate revisions, alterations, editions, adjustments, by virtue of the very inherent manufacturing logics of weaving.

These observations lead to an understanding of 'technology' as *techne,* that which brings into being something that did not exist before, and not solely technology as technics, a result of technical determinism. This idea refers to the Heideggerian 'essence' of technology,[110] which is not

itself technological but instead artistic.[111] It is best expressed in Ulmer's model of TheoPraxEsis (theoria, praxis and poesis) as a methodology for heuretic invention. By virtue of her weavings, Penelope further suggests that the mythological agency of the *Odyssey*, for us the digital designers (i.e. its contemporary design capacity), lies in the creative, imaginative, poetic, artistic, active, re-appropriations of the myth. What does the idea of *weaving*, can potentially generate as an avenue for inventive digital design thinking/ doing /making?

The LIGO technology, which I mentioned earlier, opens up new ways of observing space in the macro scale of the universe (despite the fact that the physicists of LIGO had to resolve one of the most difficult precision engineering problems: the measuring of distances smaller than the smallest atomic nuclei). What Einstein predicted in his general relativity theories, LIGO verified: an understanding of the space-time continuum as a warped fabric threaded by means of gravitational forces. The design avenue for further speculation that I wish to offer here, rests on the other end of the scale: the micro-scale, specifically the nano-scale, opened by recent advances in the field of nanotechnology. The *Nanocomp. Technologies Inc.*, an example of a company that focuses on the production of nanomaterials, specifically Carbon nanotubes (CNTs)[112], argues that the history of the company borrows from "the era of the textile industry, producing a sheet material, or non-woven mat, and "spinning" its long carbon nanotubes into yarn or thread".[113] Textiles, mats, yarns, threads, fibers come into play as essential blocks of *Nanocomp*'s nano-vocabulary. Further on, the company explains about the underlying logics of carbo nanotubes:

"When tubes get very close to each other, some of the electrons

110. Heidegger, Martin, and William Lovitt. *The Question Concerning Technology, and Other Essays*. Harper-Collins Publishers, 2013.

111. Gregory L. *Applied grammatology: post(e)-pedagogy from Jacques Derrida to Joseph Beuys*. John Hopkins University Press, 1992, pp. 35.

112. Best described as seamless cylindrical hollow fibers, comprised of a single sheet of pure graphite (a hexagonal lattice of carbon, similar to a chain link fence).

113. Technologies, Nanocomp. "About Nanocomp." *Nanocomp Technologies | About*, www.nanocomptech.com/about-nanocomp.

in each of the tubes begin synchronizing their motion so that the tubes actually stick together. This attractive force -called a *dispersion force* - does more than simply hold the tubes together. As the tubes come together, the force also makes them intertwine with each other forming a network".[114]

114.   Technologies, Nanocomp. "Nanocomp Technologies | Nanotechnology." *Nanocomp Technologies | About*, www.nanocomptech.com/what-are-carbon-nanotubes.

Similar to the gravitational forces that 'put' the universe together, in the case of *Nanocomp*'s materials, these 'attractive forces' keep the tubes together in a form of intertwined networks. What these technologies generate are, in fact, *bundles* with excellent electrical, thermal and mechanical performance. What they generate for us is a new design prompt: how do we design and construct with such technologies?

The dominant design approach (I suggest the approach that results from our literary tradition) is that of assembling pieces together on the basis of a *synthetic* logic that operates in parallel to its conceptual counterpart, the *analytic* logic. Yet, both logics point to additive (as compositional or combinatory) manufacturing methods for the manipulation of compounds, entities, elements (beans, panels, columns, walls, or custom prefabricated elements.). What these nanotechnologies open up is a new *syndetic* (*syndetikos* in Greek means interconnecting, interrelated) logic of systems and networks, a Penelopian logic of weaving and unweaving. What this suggests, is a shift from a tectonic logic of assemblages, into a circuitous logic of bundles, interconnected within dynamic systems of attractive forces.

We are already witnessing this shift, in the Mediated Matter's silk pavilion (2013), an environment that explores the relationship between digital and biological fabrication in design. Inspired by the silkworm's ability to weave three dimensional cocoons out of a single multi-property silk

thread, the design team created a dome of silk fibers woven by a robotic arm, which was then finished by live silkworms. Specifically, the team monitored the way silkworms deposit silk to build their cocoons, and then programmed a robotic arm to imitate this way, by depositing a one-kilometer-long silk fiber across flat polygonal frames creating 26 panels. The panels were then arranged to form a dome suspended from the ceiling and 6,000 live silkworms were placed on the structure, depositing further silk, completing the "design". "Following their pupation stage the silkworms were removed. Resulting moths could produce 1.5 million eggs with the potential of constructing up to 250 additional pavilions",[115] claims the Mediated Matter team.

115.   "Mediated Matter." *About the Mediated Matter Group | Mediated Matter*, matter.media.mit.edu/environments/details/silk-pavillion.

The design exploration of the team exhibits the quest to contrast the limiting conditions of additive manufacturing in the search of alternative intelligences. Simultaneously, it marks the shift form a prior parametric logic that exhausts itself in the morphological variations that natural or biological processes can generate (in terms of architectural forms), into a parametric research that explores how the very silkworms (nature and biological organizations) can "compute" material organization based on external performance criteria. This implies the shift from a *nature-like* logic of design into a *natural* logic of design.

Above all, these examples, bring me back to where I started, Ulmer's idea that new digital interfaces yield the need for new metaphors within electracy that can extend and not compress the inherent of the contemporary apparatus. Design was once (within the apparatus of literacy) connected to the idea of *disegno*, the Latin *designare*, meaning to mark out, to inscribe. Designers were trained to draw, inscribe on sheets of paper. What Homer offers as an alternative, is a design related

to *metis*, a design that plans or devises. What the swarm printing of the Mediated matter's silk pavilion suggests, is the emergence of a new-age polymath swarm-architect, trained to be both active and passive, both turner and turned, who is able to devise but not necessarily to draw.
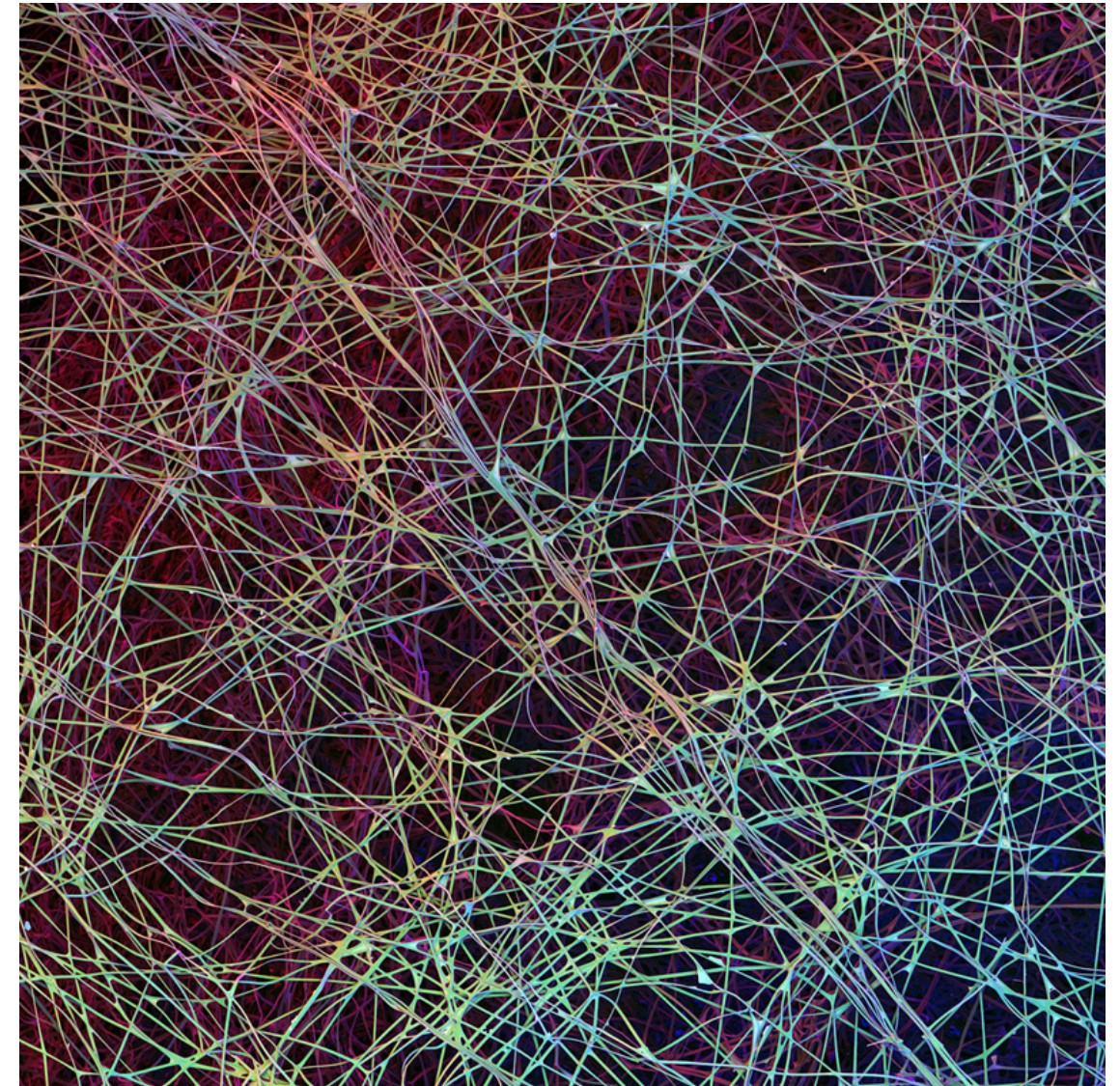
230x magnification polychromatic SEM micrograph of silk scaffold of a domesticated Bombex mori cocoon.
Image: James Weaver, WYSS Institute
Source: *http://matter.media.mit.edu/environments/details/silk-pavillion#prettyPhoto*

Lessons of de-mythological emancipation

GIANNI VATTIMO in the *Transparent Society*,[116] a book "of major importance to the debate on the postmodern question" according to Jean François Lyotard, argues in the third chapter entitled "Myths Rediscovered":

> "One of the most urgent problems faced by contemporary consciousness as it becomes aware of how the world is 'fabled' by the media and the social sciences is that of redefining its own position with regard to myth".[117]

Vattimo acknowledges the significant role that myths play within our contemporary digital culture. What interest me in his narrative, is what he calls, the "dominant views": *archaism*, *cultural relativism* and *tempered irrationalism,* which essentially illustrate the prevalent literate approaches towards myths that I have tried to contrast within my project.

In a summarized account of Vattimo's analysis, *archaism* spreads through the mistrust of/towards the Western techno-scientific culture by turning to myths for their authenticity and originality as a way to bridge anew man's relation to nature. *Cultural relativism*, on the other hand, unfolds on the premise that even the very concept of scientific rationality upon which Western though was developed, has a fundamentally mythical structure. As Vattimo puts it, *cultural relativism* holds that, "the idea that the history of Western reason is the history of an exodus from myth, an *Entmythologisierung*, is a myth as well, an undemonstrated and indemonstrable article of faith". Finally, the view of *limited rationality* argues that mythical knowledge corresponds to specific regions of experience, specifically those related to *immediate experience*. It can therefore apply in psychoanalysis, the theory of historiography, or the sociology of mass media.

116. Vattimo, Gianni. *The Transparent Society.* Translated by David Webb. The John Hopkins University Press. 1992.

117. Ibid   pp.28.

Those dominant views unfold on the basis of polarizations between scientific knowledge and non-scientific, between rational and immediate, narrative and scientific, analytical and non-analytical. Whether by aligning towards the one or the other end of those dipoles, or merely by claiming to be situated in the middle, the aforementioned views are fundamentally built upon binary schemes (that, I argue, result from our literate modes of apperception). Yet Vattimo, points out, that a contemporary theory of myth is essentially a problem of philosophy of history, "the source of every concept of myth". Thus, it is a question of metaphysics.

What Ulmer's offers in respect to this question, is the idea that within the apparatus's shifts there are elements that are maintained, facilities that are reformed and that at the same time there are new elements and facilities that should be invented. In redefining our position towards myth, Ulmer suggests that electracy internalizes the oral and literate, and augments them within a new electrate order. The electrate subject thus, already internalizes scientific and mythical knowledge, literacy and orality. What needs to be invented are the contemporary metaphysics. What I attempt to frame, through Vattimo, is that the lack of consensus in his dominant views to myth(s), or as Vattimo puts it, the absence of a comprehensive theory of myth(s), is in my approach something to be celebrated rather than opposed. A contemporary theory of myth(s) should not claim a better understanding of it/them, one that corrects the mistakes of the past, but instead should question the avenues that this multiplicity implies within the digital epoch. This theory should not seek to invent criteria that crystallize a unified or universal meaning of the myth(s) (this would have been a quest of literacy), instead it should surrender to myth(s) elusive nature, to the matrix of possibilities that the

Odyssey opens up. As Ulmer Konsult strategy suggests, a contemporary theory of myths should not be one that tries to explain myth(s) but instead should be one that lets myth(s) explain us. Vattimo rigorously account for:

> "If the postmodern subject looks into itself in search of a primary certainty, in place of the security of the Cartesian cogito, it finds the intermittencies of the Prussian heart, stories from the media, mythologies evinced by psychoanalysis. It is this experience (modern or postmodern) that the 'return' of myth in our culture and language tries to capture, rather than a renaissance of myth was knowledge untrained by modernization and rationalization".[118]

118.   Ibid,   pp. 43.

The question for electracy then is: are the contemporary modes in a quest of a mythological emancipation, in favor of a domination the rational mind over the mythological thought, or should they question anew what a 'de-mythological emancipation' might generate as a future avenue?

Tell me, O Muse

IN *THE MARRIAGE OF CADMUS AND HARMONY*,[119] Roberto Calasso departs on a meandering exploration of the muddled ancient mythologies, the tangled stories of heroes and gods, and the manifold tales of poets and ancient writers, some of them well renown while others little read in recent history. His journey traces lineages, or better put curves, between a series of mythological figures and events, in a volatile and rampant prose that almost escapes immediate conceptual registration. The book starts with the rape of Europa by Zeus and ends with the marriage of Cadmus and Harmony, marking the cultural shift from orality to literacy that I have tried to frame within my project. Yet, Calasso has found himself a companion in this course, another storyteller like himself: Odysseus. He rigorously argues:

119.   Calasso, Roberto. *The Marriage of Cadmus and Harmony*. Translated by Tim Parks. Vintage International, 1994.

> "The long chain of those stories that predate history, and of which the *Iliad* and the *Odyssey* form a number of links, […] closed with the death of Odysseus. […] After Odysseus, our life without heroes begins, stories are no longer exemplary but repeated and renounced. What happens is mere history".[120]

120.   Ibid, pp.   349.

The majestic and obscure realm of myth(s) ends, according to Calasso, with the death of Odysseus, "the warrior disguised as a Phoenician merchant, who some suspected of being a Phoenician merchant disguised as a warrior",[121] the turned and turned, the active and passive, the *precisely indeterminate* mythical figure of Odysseus. Calasso continues:

121.   Ibid, pp.   349.

> "His wanderings were partly a compendium, a roll call, of all those being and places that were already growing confused in many a memory, already being removed to the realm of fabulous. With Odysseus they are present, powerful and whole for one last time, and in Odysseus they salute the last traveler

able to see them with his own eyes and bear witness".[122]

122.   Ibid,
pp. 350.

Odysseus's return to Ithaca then, for Calasso, marks the end of an immediate, direct, embodied, personified experience of 'being and places', of which Odysseus is the last to 'bear witness'. This experience will, from now on, take the form of *literature*: books of history that will cover Odysseus with the veil of *memory*, the fabric, I argue, of Vattimo's myths: a distant and indirect recollection, remembrance and recounting of Odysseus's own *affective* impressions, "of where he went, and who he met, the pain he suffered in the storms at sea, and how he worked to save his life and bring his men back home".[123] Thus, for Calasso, it was not the *Iliad*, "that erratic rock abandoned on the plain",[124] that endowed us with the *novel*, but the "sinuous *Odyssey*: 'a private not a public affair'",[125] a drifting raft in the elusive archipelagos. Calasso's claim will be sealed after all, by the very marriage of Cadmus (who brought the gift of alphabet to the Greeks) and Harmony (the sister of Eros). Calasso traces exceptionally the mythological off-springs of this matrimonial union, but I am more interested here, in the conceptual signification of this conjugal coupling of Eastern (Phoenician) learning with Western (Greek) tales, that gave birth of the *writing tradition,* the staging, I argue, of *history* and *philosophy,* that marks the beginnings of the epoch of literacy. The rape of Europa by Zeus, disguised in the animal figure of a blondish bull that "had a sweet scent, which drowned the smell of flowers",[126] and the marriage of Cadmus and Harmony, indicate the shift from the theocracy of unrestrained animalistic instincts, to the contractual union of gods and humans; from rebellion to civility, from instinctual and inadvertent drives, to considerate and deliberate responses, and thus more broadly, from the intimate, emotional, associative, sinuous culture of the *ear*, to the linear, distanced, analytical,

123.   Ho-
mer, *The Odyssey.*
Translated by
Emily R. Wilson.
W. W. Norton et
Company, 2018.
Book 1, "The Boy
and the Goddess",
[1-10], pp. 106.

124.   Calasso,
Roberto. *The Mar-
riage of Cadmus and
Harmony*. Translat-
ed by Tim Parks.
Vintage Interna-
tional, 1994. Pp.
350.

125.   Ibid.

126.   Ibid,
pp. 5.

rational culture of the *eye*. Thus, if the Platonic dialogues were, according to Ulmer, the transitional medium from an oral culture to a literate one, the first instantiation, so-to-speak, of the literate ontology; then the *Odyssey*, Calasso adds, is the last testimony of the oral tradition, which opened the way to the 'Platonic necessity'.

***

Vitruvius, who is in no need of an introduction here, writing at the 1st century B.C., during what now might seem as the puberty of literacy, bequeathed us with the first surviving architectural treatise: *The Ten Books of Architecture*.[127] Similar to Calasso, Vitruvius is fascinated by myths; perhaps not those of the Greek primordial origins that caught Calasso's attention, but by the myths surrounding the birth of architecture, 'the origin of the dwelling house':

127.   Vitruvi-
us, *The Ten Books of
Architecture,* Trans-
lated by Morris
Morgan. Harvard
University Press,
1914.

"Finding themselves naturally gifted beyond the other animals in not being obliged to walk with the faces to the ground, but upright and gazing upon the splendor of the starry firmament, and also in being able to do whatever they chose with their hands and fingers, they began in that first assembly to construct shelters".[128]

For Vitruvius then, what differentiates the mindful humans by the swarming animals, is that humans keep their gaze up, in "the splendor of the starry firmament". Thus, it is the elevated, uplifted and distant observation of the sky, i.e. the rationale of the 'big picture', that

128.   Ibid.
Book II, Chapter
I, *The Origin of the
Dwelling House*,
Paragraph 2, pp.
38.

endowed Vitruvian man with the cunning, necessary to build shelters. This *effective* form of *metis*, was translated in Vitruvius's case, into the Latin *solertia*, the shrewdness and preciseness involved in the 'art' of war, the exactitude required for the study of ballistics, the military engineering *solertia* of war machines, to which Vitruvius (who besides an architect of the Roman emperor was also a military engineer) choses to devote the last book of his *De Architectura*.

However, Calasso offers an insightful alternative. For him the *polytropos* or *polymetis* Odysseus holds another lesson:

> "Among all the Achaean leaders, Odysseus keeps his eyes down. But not out of fear. While his gaze is lowered, Odysseus concentrates his mind, isolates it from all around, […] weaves a plot, gives shape to a *mechane*. He is the opposite of the man who is continually caught between the forces, machines, and *mechanai* of nature and of the gods. To their visible tangle, Odysseus adds new *mechanai*, ones that he has elaborated himself. Now he has the secret, he need no merely submit to it. Thus, he adds to the confusion of elements at play, then take advantage of that confusion to elude the various traps".[129]

Odysseus's *metis*, Calasso suggests, is different than the Vitruvian. It takes the form of an active, intense and concentrated introspection, an internal contemplating gazing that resembles here more to Bill Evans's attentive looking of the keyboards of his piano, or the attentive kinesthetic experience involved in the rhapsodic performances of the Homeric tradition. An almost lost in space and time gaze that fluctuates between hallucination, hypnosis and reality. Odysseus *metis* is an *affective* one, it manifests in the internalized experience of this inner-directing

gaze. His *mechanai*, do not try to evade confusion, by offering a *calibrated* precision, necessary for the calibration of the course of projectiles in Vitruvius's war machines, but instead those *mechanai* surrender to the "confusion of elements at play", within a calibrated imprecision. This type of *metis* operates within a *precisely indeterminate* framework, as I have argued in the extent of my project, looking for traces of *differance*, that allow Odysseus to weave a plan, i.e. a *disegno*, or Evans to "take these problems from the outer level in, one by one, and to stay with it at a very intense conscience concentration level, until that process becomes secondary and subconscious".[130] Odysseus's *mechanai* then, resemble more to the *deus ex machina*, of the ancient theatre, to the plot devices invented to suddenly and abruptly resolve an unexpected and seemingly unlikely occurrence. A machina personified in the figure of the god Apollo, the leader of the Muses, the god of music, poetry, arts, oracles and ultimately knowledge itself.

This is precisely the *metis* that Calasso devises in his retelling of ancient mythologies. He is not interested in the intelligibility of myths, in bringing a clear and restoring light onto the ancient Greek legacy. He rejects theories about their relationship to originality or authenticity, to social structures or laws, to rituals, or specific areas of human experience, that Vattimo's 'dominant views' implied. He is neither interested in offering an analytical clarity; to the contrary he is arbitrary, within his circuitous and elliptical cross-readings and cross-sections of different sources, that often contradict one another. In his syncretic attitude, Calasso resembles Odysseus, he takes advantage of the "confusion of elements", to weave a new mingling plot "told with enjoyment in 'the rapturous gliding' of intelligence".[131] In that sense, Calasso does not try to describe Odysseus, as much as he becomes Odysseus, in his

129. Calasso, Roberto. *The Marriage of Cadmus and Harmony*. Translated by Tim Parks. Vintage International, 1994, pp. 351.

130. See note: 38.

131. Warner, Marina. "BOOK REVIEW / The Magical Mythology Tour: The Marriage of Cadmus and Harmony by Roberto Calasso Trs Tim Parks, Cape Pounds 19.99." *The Independent*, Independent Digital News and Media, 5 June 1993, www.independent.co.uk/arts-entertainment/book-review-the-magical-mythology-tour-the-marriage-of-cadmus-and-harmony-by-roberto-calasso-trs-tim-1490047.html.

132. Nagy, Gregory. *Poetry as performance: Homer and Beyond*. Cambridge University Press, 1996. Pp. 214.

serpentine wanderings across figures and events, places and people. He reminds me here, of Nagy's re-performed composer, who through performance, becomes a recomposed performer.[132] Yet Calasso's modes of *creation* require, or precipitate, new modes mode of *reception*. There is a space-to-be-navigated by the reader in Calasso's text, that itself enacts the multiplicity of the linkages that himself draws. In this mythological course, certain figures appear, disappear and reappear again in different instances and instantiations, within a constant postponement of signification. In its redundancy, this navigation requires the reader's attentive concentration. In its multiplicity, Calasso's text, triggers chains of associations. Perhaps more than any other of the references I offered in my project, Calasso seems here like Derrida *avant la letter,* in his employment of the Derridean mechanics of the neglected senses: fluid in their inherent logics, meandering, circuitous, excessive like the Derridean *aporia* implies, running like a "thread of a stocking" that eludes our immediate conceptual apprehension.

This is the attitude that I have tried to entertain as well, in my exploration of the *Odyssey* as an *interface* for digital design. My attempt has taken the form of an intense, active and attentive looking *down* to the verses of the *Odyssey*, to account for what Homer, in his suggestiveness and redundancy, has to offer to us, the digital designers, as alternative, to the literate, modes of thinking, making and doing. Similar to Calasso who looks into the inherent suggestiveness of myths, and deploys their malleable and fluid logics in the form of a new myth of his own; I am captivated by the same drive, to explore the underlying logics of Homer's creative invention, in a quest to identify the matrix of avenues and possibilities that the *Odyssey* offers for contemporary design.

Thus, this conclusive chapter, cannot take the form of a thesis statement, recapitulating, restating, recounting my initial hypothesis and succinctly presenting my evidence in favor; for the simple reason that there is not one: a thesis, in the argumentative form of a statement proved by means of an analytical and linear methodology. My exploration wishes to distance itself from a critical, problem-solution examination of the *Odyssey*, and instead entertains an iterative and interactive wandering and wondering, based on oscillation and plurality, that is ultimately aspired to contaminate and intersect with contemporary design thinking, making and doing. As such, the avenues that I have offered are suggestive, and not definitive. They strive to answer not to *What?* but to *What if?* What if acoustic space was to become a design prompt? What if we design on the basis of the neglected senses? What if weaving became a digital design metaphor?

With Plato first, the tropes of literacy put the foundations of the dominant modes of creation and reception, in the form of a simple question: What is the *idea*? Innocuous as it might first appear, this question triggered a chain of reactions that affected our modes of thinking, being and doing, in ways that can be still witnessed today. From an experience-based culture of orality, at ease within its fluid, indeterminate, oscillating framework, we switched into a concept-based alphanumeric culture that that is only comfortable within precision, specificity, and unequivocal schemes. Today, the digital apparatus, Ulmer suggests, moves towards an *affective* culture of the visceral, that doesn't seem to care that much about what is real but more about what *feels* real. Electracy, summons us to reconsider the literary tropes and invent what 'knowledge' *looks* like, or *sounds* like, or *tastes* like, in the 21st century.

Hence, what the Muses tell us, is that Plato's question today can take another form: What is the *drive*, the *drift* or the *flow*? Mine, has been a genuine interest in the contemporary design thinking and practices, and an intimate fascination with the stories with which I grew up. In my meandering forward-backward between the interface of the *Odyssey* and that of design, the theories of Ulmer have been my raft, my vehicle for exploration, my *mechanai*, or the armature, as Ulmer would probably put it: a strategy more than a solution, a plot that will hopefully be weaved within my future design thinking/doing/making.

We often address design as a problem-solution strategy. I like design as it is, muddled, mysterious, multiple, elusive, hard to define. What the muses tell me, is that design might not necessarily be an answer to a problem, but a *gift*, like the ones Odysseus's received from the Phaeacians before his return to Ithaca, or the gift of the alphabet that Cadmus offered to the Greeks upon his marriage to Harmony. A sincere and intimate act of offering, without much need for big thesis statements, as N. Katherine Hayles and Todd Gannon rigorously argue, "inhering at the very heart of the discipline, architecture's ineffability, unspeakable as such, is the reservoir that renews the discipline and makes innovation possible".[133]

133. Hayles, N. Katherine, and Todd Gannon. "Virtual Architecture, Actual Mediaa". The SAGE Handbook of Architectural Theory, pp. 484-500, doi: 10.4135/9781446201756.n29.
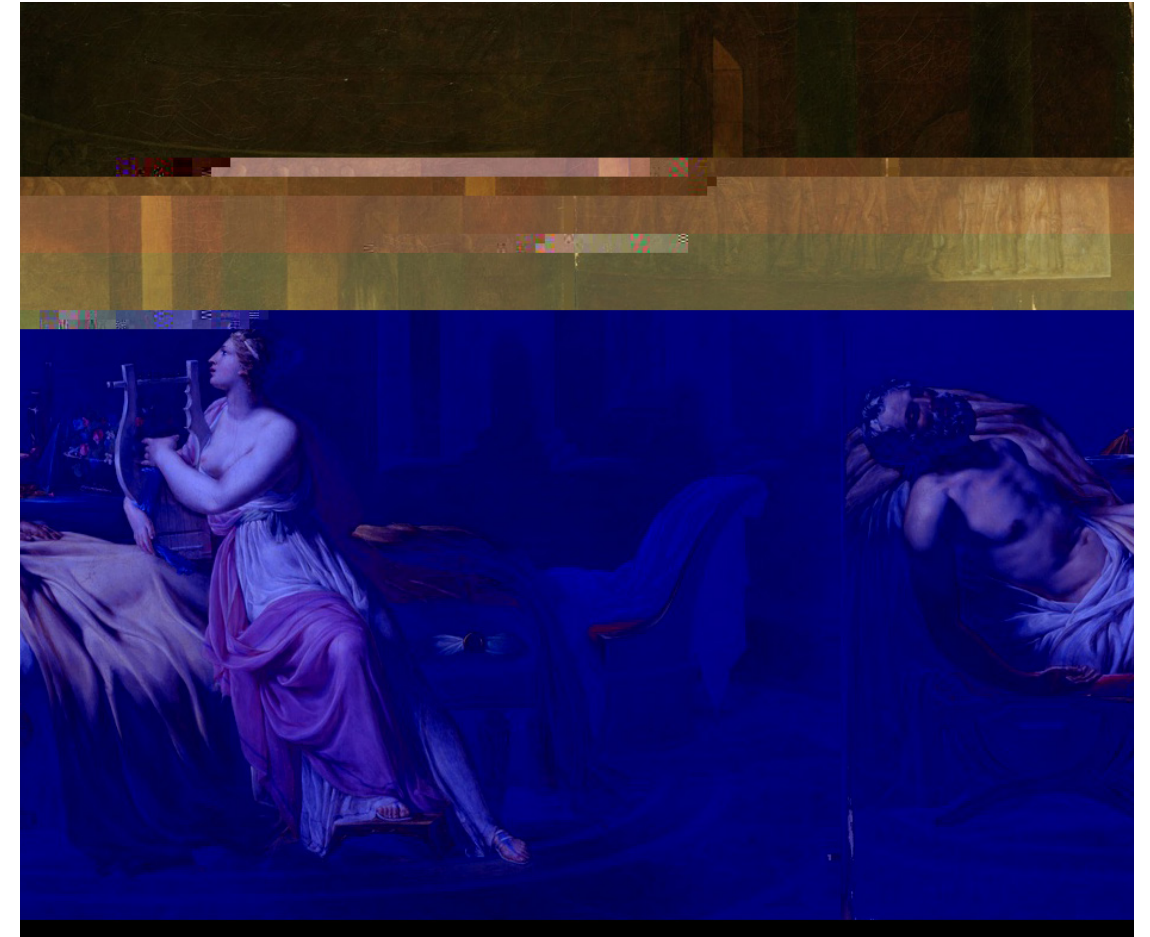
CALLIOPE MOURNING HOMER

Tampered version using TextEdit.
Original Painting of Jacques-Louis David, 1812, Harvard Art Museums.

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NOTE:

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The seam carving technique digitally distorts found images, by sorting pixels of color and replacing them across the image.

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