



University of Dundee

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Woodward, Ashley; Berger Soraruff, Amelie

Publication date:
2018

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Discovery Research Portal](#)

Citation for published version (APA):
Woodward, A., (TRANS.), & Berger Soraruff, A., (TRANS.) (2018, Nov 1). Technologies of Memory and Imagination.

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technologies of memory and imagination

bernard stiegler, translated by ashley woodward and amélie berger soraruff¹

In granting his permission for this translation, Bernard Stiegler asked us to contextualise this article and clearly indicate its status as an early, formative piece. The circumstances surrounding this work are indicated at the beginning of the text itself below. It originally appeared as ‘Technologies de la mémoire et de l’imagination’ in Réseaux vol. 4, no. 16 (1986): 61-87.² We thank both Bernard Stiegler and the editors of Réseaux for permission for this translation.

This article is Stiegler’s first published philosophical work, and it may be thought of as something like the rough urtext of the Technics and Time series (the first volume of which did not appear until 1994). Indeed, some passages in this article may be found in more or less revised forms in some of the later books.³ This text also intimates themes which have appeared in many of Stiegler’s other following works. We present this translation for historical and scholarly, as well as purely philosophical, interest: it helps shed light on the genesis of Stiegler’s project, as well as on the philosophical issues it treats.

—Ashley Woodward and Amélie Berger Soraruff

The text presented here is the abridged version of three documents written in the remit of a research program of the Collège Internationale de Philosophie, dedicated to the philosophical stakes of new technologies.

The reports were entitled “Les Nouvelles technologies. Aspects des enjeux philosophiques” (April 1985); “Culture et technologies de communication” (with Thierry Chaput, July 1985); and “Epoches et jeux de l’oubli: économies de la mémoire et de l’imagination” (September 1985).

The first objective of the research was to determine what is common in “new technologies of communication,” and to verify that they really do share something effectively new, which would constitute stakes of a properly philosophical nature.

The following points of view were developed first:

- The “new technologies of communication” are characterised by the artificial preservation of memory, which is also the production of memory as such and the exposure of the rules of its functioning.
- In this regard, it is not absurd to say that linear writing can be recognised as the “proto-neo-technology.”
- In other words, the newness is relative: the effects of rupture develop on the bedrock of a profound continuity. It is on the basis of this continuity that these effects are thinkable. They are *retroactively* ascertainable well before their patent development with the “new technologies of communication.” It is a question of noting:
 - A tendency for **ethnic-territorial idiomatic difference** to disappear.
 - A **consequent modification of the processes of intellectual production** (since thought used to be entirely idiomatic).
 - A **general question of the translation (or interface [*interfaçage*]) between communities which are increasingly technological.**
 - And **the appearance of new technological modes of reflexivity**, that is to say of rules for the interpretation of the common memory.

Our work on those questions leads us today towards a general reflection on **objective memory and imagination**, considered as profoundly technological, well before they are understood as purely psychological faculties.

MEMORY AND PROGRAMMING

We find in the new technologies of communication the unity of a complex process of the **impression** of memory. Indeed, everything that we designate by the expression “new technologies of communication” (or “information and communication technologies”—ICTs⁴) concerns the inscription, the preservation, the processing and the transmission (or **publication**) of memory.

The *inscription* is realised by equipment [*matériels*] for the *input* of *data*. The *preservation* operates on mnemotechnical *supports* (magnetic tape, discs, film, etc.) constituting databases. The data are *processed* by *programs* that can take very diverse forms. The data thus processed are *transmitted* on *networks*. One accesses these networks through *interfaces*, which in certain cases also allow the introduction of data into the network (and not only the reception of data from it).

The interfaces put all kinds of memories into relation and operate **translations** between them. It is important to emphasise that even though the terms used here to characterise this **mnemotechnical dispositif**⁵ are drawn from informatic⁶ jargon, the *dispositif* extends to modes of the conservation-production of memory which are not exclusively informatic, and might even not be informatic at all. A great diversity of equipment [*appareillages*]—consisting of media, networks, programs and interfaces—receive, process and disseminate many types of memories. The informatic databases receive digital information, transformable into graphic data. But the stocks of video or cinematic films, phonographic discs, archived photographs, documents written and conserved on paper, all constitute databases that are transposable onto informatic media. Processing programs, which formalise ways of processing the memorised data in order to produce new memories, sometimes taking other forms, and capable of being processed by other memories, constitute memorisations of **the functioning of memory itself**. In this respect, a television program (or a program grid⁷) and a program which utilises informatic files, which seem very different, must both be understood as processing programs. This also holds true for a film synopsis or screenplay, a mock-up of a journal, etc. **A program for processing memory is a way that memory has of comprehending itself and of producing itself more or less widely, according to logics which are not easily comparable straight away, but which correspond to economies that must be characterised as much by what they have in common as by how they differ, since they integrate themselves with one another in vast technological complexes.**

The **notion of program, or software** (understood as the program putting a logico-linguistic element to work), can be retroactively expanded to include all sorts of activities (academic programs, political programs, work programs, etc.) and be applied to everything *that formalises rhythms, repetitions, and habits*, even the most complex.

But in that case, we should ask whether something like a *natural* memory exists, a memory which would not be always already artificial, that is, produced by programs which can be considered prostheses of memory. For example, is the reader-viewer-listener auto-programming herself prosthetically while she reads a book, watches a film or listens to a disc? Is it she who processes the data conserved on the media-support using one or several programs which she would herself be? Or conversely, do these mnemo-technical data constitute programs which allow the “processing” of the “data” of her “individual” memory? What is the organ (instrument) that a phonographic disc makes function: the record player, the listener’s sense of hearing, or both? Moreover, is a book not an interface of translation [*tra-duction*] (which is also pro-duction [*pro-duction*]) between the reader and the *Literature* which constitutes a vast collective memory? And in that case, what is the *software* which runs on this apparatus?

If technological memory produces collective memory, and is not satisfied with reproducing it, the distinction between artificial and natural, technological and psychological, becomes increasingly tenuous and subject to caution. Such technologies are not only technics of conservation and transmission, but also techniques for the impression of memory (here in the “psychological” sense of the term).⁸ ICT troubles the most assured oppositions, notably on the level of “software” narratives that the media articulate: **on a daily basis, the media narrate life in anticipation, with such a force that the narrative of life seems ineluctably to precede life itself.** Public life is produced en masse by these programs; all sorts of interfaces introduce themselves into the intimacy of each and every life in such a way that the distinction between public and private becomes problematic.

The automatising of the process of memory production, as quasi-prosthetic autoproducting, comes to impress individual memories **beyond national, ethnic, familial, and ethical frontiers and barriers.** This can inspire the image of a “*realisation of absolute knowledge*,” which would also be the absolute “*derealisation*” of knowledge, and can provoke massive anxiety.

Along with the novelty of ICT comes the feeling of an undecidable and incomprehensible precariousness, and an exhausted wait for a decisive moment which would complete what is a very profound process of change. At issue is a mutation capable of affecting everyone with respect to intellectual, moral and professional legitimacies, and consequently, of affecting resources (including material resources) for entire regions.

This apocalyptic feeling may be explained by the fact that the logical element (in the broader sense of this term) finds itself affected by what appears to be an autonomous development of the “technical system.”

This development destabilises the notions of **cultural and national identity**, of **law** and the **sovereignty of peoples**, of **belonging to an historically constituted territory**, and, finally, of the **ethnic group**. Ethnic difference, understood as a determined historico-geographical identity, can perhaps no longer characterise the human species. The “**battle of standards**” which develops in the spheres of ICT transgresses, with the same gesture, both national laws and the symbolic universe (which constitutes a direct infringement of **the distinction between law and fact** which was until now in force⁹).

In *Gesture and Speech*, André Leroi-Gourhan characterises the human species on the basis of the opposition between *ethnic difference* and *specific difference*, and through an analysis of the technological and linguistic dimensions of ethnic memory.¹⁰ Yet membership of a community is undoubtedly less and less a matter of geographic and ethnic order in this sense, and more and more a matter of the technological order.

Networks of any and all types are what inform and will inform **differences**. This fact would be a consequence of what Leroi-Gourhan calls a “*liberation of memory*,” which comes about through an exteriorisation, that is, the development of a “technical system.” In the actual process of this liberation, the extra-linguistic aspect of ICT is undoubtedly essential to the opening of communities of non-territorial memory. If *language* is indeed essentially bound to a land, the *image* largely emancipates itself from this determination. There is thus, especially in cinema, an opening of spheres of memory’s technological production that bear no direct or necessary links to an ethnico-geographic community.

Leroi-Gourhan proposes that technical tools, and beyond them the “technological system” as a whole, can barely be isolated from living beings:

- “tools appear simply as an anatomical consequence, the only solution possible for a being whose hands and teeth had become completely useless as weapons and whose brain was so organised as to permit manual operations of a complex nature.”¹¹
- The tool is “a ‘secretion’ of the anthropoid’s body and brain. If that is so, then it is logical that the standards of natural organs should be applied to such artificial organs: They must exhibit constantly recurring forms, their nature must be fixed.”¹²
- “In *Homo sapiens* technicity is no longer geared to cell development but seems to exteriorise itself completely—to lead, as it were, a life of its own.”¹³
- “Analysis of techniques shows that their behaviour over time resembles that of living species, as though driven by an apparently inherent evolutionary force that places them outside human control. [...] There is room for a real “biology” of technics in which the social body would be considered as an organism independent of the zoological one—an organism animated by humans but so full of unforeseeable effects that its intimate structure is completely beyond the means of inquiry applied to individuals.”¹⁴

Insofar as it constitutes the substrate of operational sequences,¹⁵ the tool is the essential vector of know-how [*savoir-faire*]. There is, on the other hand, an original bond between the tool and language, which are two facets of a single development (a bond that is essential to take into account in the epoch of language machines [*machines à langage*]):

language is as characteristic of humans as are tools [...] both are the expression of the same intrinsically human property [...] as soon as there are prehistoric tools, there is a possibility of a prehistoric language, for tools and language are neurologically linked and cannot be dissociated within the social structure of humankind.¹⁶

In fact, technical development, in the very broad sense, consists of a sort of “exteriorisation” of memory which is always already both technical and logico-symbolic. The path adopted by Leroi-Gourhan to characterise human memory is outlined as follows:

the problem of grouping would dominate the question of what is animal and what is human. Society of both animals and humans would be seen as maintained within a body of “traditions” whose basis is neither instinctive nor intellectual but, to varying degrees, zoological and sociological at one and the same time. [...] each survives thanks to the exercise of a real memory in which behaviours are stored. In animals this memory—peculiar to every species—is based on a highly complex instinctual apparatus, whereas in anthropoids the memory of each ethnic group rests on the no less complex apparatus of language.¹⁷ In insects memory is vested in society only to the extent that the latter represents the survival of a certain genetic combination in which the individual’s possibilities of comparison are practically nil. But the human is both a zoological individual and the creator of social memory ...’.¹⁸

But this “creativity” of memory is only possible because, not being genetic, it possesses a prosthetic character:

The most important consequences of the transfer of ethnic memory outside the zoological species are the individual’s freedom to transcend the established ethnic framework and the ability of ethnic memory itself to progress. [...] Rapid and continuous evolution could apparently be achieved only by breaking the link between species and memory, an exclusively human solution.¹⁹

[T]he most important fact is that the human brain has evolved in such a way that it remains capable of *thinking* everything—and that it is virtually empty at birth.²⁰

Taking these points into account, in an epoch where ethnic difference seems to be disappearing, where programs automatically process and interpret memory data, and where the link between technics and language manifestly tightens itself in “exteriorisation,” one can wonder whether we aren’t witnessing a reversal. Strictly speaking, there would not be an “exteriorisation” of memory, for this would suppose a previous interiority. Rather, there would be **a realisation of memory**, in the form of a growing **technological complexity**, in which individuals are becoming instances that cannot be thought except from the point of view of the prosthetic complex (rather than the reverse). The technological medium appears to develop like a vast exoskeleton, produced by a “reversal of spirit into matter,”

a reversal through which the spirit only achieves itself and only effectively takes place like **a glove which turns itself inside out**. The paradox mentioned above means, then, that the “material” realisation gives itself only as a **“derealisation of the “spirit.”** The human being can therefore no longer be understood as an individual and original subject, but rather as something entirely prosthetic, in its language, its memory, and its knowledge. The non-genetic memory that characterises the human being is no longer ethnic; the ethnic undoes itself. Rather than belonging to an ethnic group that is geographically situated and traditionally programmed (the ethnic group’s program appearing to be “naturally” produced), the new technological human will affiliate herself with networks and with multiple associations which are no longer comparable with the reassuring naturalness that the community, raised from a common land, preserved. One no longer leaves the established ethnic setting, because such a setting no longer exists. Ethnic memory no longer progresses; rather, various kinds of memories develop themselves.

We do not mean to imply that states are endangered. Nonetheless, we insist on the erasure of their ethnological character, in favour of the development of their technological character. States are now geographical technostructures.

Neither do we claim that the human would be “taken over by its own technics,” but rather that the human is techno-logical and that **technics cannot therefore be considered as merely “means” serving “ends” that would not themselves be techno-logical.**

Geographical technostructures, and the individuals that constitute them, will be increasingly expected to implement themselves in networks which act as **audience domains**, that is, as forms of memory. This supposes on their part a large capacity to develop programs of all types, and requires that they know how to develop a new mnemo-technological culture as well as a new configuration of the intellect. In so far as they are technologies of memory production, ICTs are reflexive on a scale comparable to that of writing, considered as the technique of speech inscription: they constitute a new techno-logy of thought. In *Prospective et télécom No. 5*, Alain Lelu notes that Jack Goody, in *The Domestication of the Savage Mind*, proposes that the invention of writing and the possibility of arranging signs on a support gave rise to a kind of conceptual thought unimaginable in oral civilisations; must not the power to have writing and audiovisual objects available on “hypersupports” [*“hypertableaux”*] lead finally to a comparable revolution in our modes of conceptualisation?

The stakes of the new technologies seem to us to be focused in the question of **idiomatic difference**.

Language is what is first affected by the multiplication of the telecommunication networks and their spheres of influence. Heidegger saw a major danger here and denounced what he called **the instrumentalisation of language by cybernetics**.

The question of the idiom in general—whose scope should be expanded beyond the linguistic sphere—is indeed essential, since the possibility of thought is concealed in it (because thought is always novel). Among other things, our research has aimed (in some further developments not included here) **to determine whether there is appearing an idiomatic production of a non-ethnic, but rather technological, origin, or whether it is idiomaticity as such that is at stake**. If idiomaticity as such is disappearing, then this would mean a pure and simple return of ethnic difference to specific difference. Questions of right [*droit*] and fact are implied here: what do expressions such as *the right of the people* and *the right of the city*²¹ mean today?

The value of this analysis, however, can only be established through an extensive reflection on linear and phonological writing in its capacity as:

- The first technology of preservation-production of memory to possess a *critical* reflexive character.
- The first technology *to program its own massive development and systematic territorial expansion*—a vast transmission of technology that is today being achieved globally.
- The first technology to liberate the very particular form of idiomatic difference called *the principle of individuation*.

The questions we must pose are:

- What is the *origin* of idiomatic difference?
- Does idiomatic difference continue to operate, and if so, what is its destiny with ICT?
- Is there a natural memory? What is a prosthesis? Should memory be thought always already from the concept of prosthesis?

The “first new technology” (profane linear writing) opens the question of the textuality of memory, which philosophy, characterised as metaphysics, avoids by dissimulating the technical question writing implies.

This double movement of opening and concealing is made possible by **the critical reflexive character of the first new technology** (critical and reflexive here also signifying “performative”). In so far as it constitutes itself as a hyper-program, **metaphysics dissimulates the technological character of this reflexivity**. This program functioned until the emergence of the contemporary new technologies *qua* new modes of being of the writing of memory. In their operation, these contemporary new technologies render sensible, if not manifest, the prosthetic character of memory and reflection, and pave the way for new types of reflexivity.

We might logically expect that this means a new version of the textuality of memory, with a more abundant interpretability. However, if we actually observe the multiplication of little narratives [*petits récits*] here, we experience, paradoxically enough, an increased possibility of programming memory, of getting rid of its interpretability, of eliminating its idiomatic promises.

Yet it is reflexive technology, as writing, which opens the possibility of **individuation**, of idiomatic difference as political difference, in its profane and historical becoming.

What, then, becomes of individuation if we acknowledge that idiomatic difference no longer needs to be ethnic?

Literature has always already troubled this ethnicity of difference and the individual: the possibility of translation (and its double reduction, that of the text translated, and of the text which translates) gives it a power of ex-portation of texts and ethnic programs, of the deterritorialisation of territories and the global extraterritorialisation of the beautiful.

Science is another instance of the worldwide exportation of programs. What difference is there between these instances of globalisation? Are not Hollywood and IBM examples of the technological conjunction between the globalisations of science and of the beautiful?

WRITING: TECHNOLOGY OF MEMORISATION AND THE CRITICAL PUBLICATION OF RULES

From the moment that the profane use of writing begins to spread, the linear and phonological writing of language is a technology of memorisation, at once preserving the same and producing otherness, in both speculative and normative senses.

In Ancient Greece this “use” of writing transformed the relation of the social body to its memory, that is, to what constitutes it *as* a social body. The **conditions of interpretation**, of the traditional heritage, are altered by the emergence of this technology. That is to say that the conditions of the reading of this memory and the conditions of access to knowledge, as well as the condition of writing—in other words, the production of knowledge—change. The present interpretation of the past constitutes a legacy that will have to be interpreted in turn in the future: the transmission of knowledge thus becomes, and is always already, its own concern and re-elaboration.

In the first place, the new conditions of interpretation (reading-writing) reveal the interpretability as such of inherited memory: the technological event desacralises memory by opening up a specific form of publicity (or audience).

New rules of the social game arise at the same time as the new rules for the conservation, processing, and diffusion of memory. Or, to put it another way, new social rules (whether or not they are explicitly social) represent the concrete and diversified expression, polymorphous and without an immediately perceptible unity, of a modification of the regulating game that constitutes memorisation in general.

This novelty at once affects public and private law, the conditions of the exercise of thinking, and (as it would be possible to demonstrate) the relation to the world in general, especially in its commercial and monetary aspects. Conditions of exchange, and thereby of translation, are modified.

Tradition can be subject to debate. This possibility, which is the “negotiability” of power and at the same time a new form of the elaboration of knowledge, rests on the possibility of publication and characterises political society (inasmuch as the adjective comes from the noun *polis*) as essentially **profane**, in opposition to

the basilica society in which power is **sacred**. This then is how Western society could emerge with everything that characterises it: the historical relation to time, rational thought, and an exponential technological development corresponding to a global extension of its sphere of influence (its audience).

Political society emerges at the same time as the profane book. Insofar as this form of society depends essentially on knowledge and power being made subject to debate, it proceeds from the emergence of a new technological memory support which includes the publication of its rules of production.

Only the appearance of the profane book makes public law possible, opening the era of the new publicity. But a paradoxical opposition between two regions of knowledge also appears, or begins to appear: one which is essentially transmitted in the dominant form of knowledge, that is, the *theoretical* form that involves the mastery of the new communication technology that is writing, and the other which, as know-how, is transmitted in *practice*. The latter tends to be conceived in terms of “technique,” in opposition to the former, whose “technicity” is thereby concealed.

This dissimulation was perhaps necessary when knowledge was in the phase of its geographical expansion or, as it were, planetary explosion. Dissimulation became decreasingly possible from the moment the West dominated the whole planet (an essentially technological domination) and its knowledge no longer needed to integrate and absorb ethnic alterities into the space of foreign knowledges. Knowledge revolves on and into itself in order to discover there the only otherness that can appear to it.

The question must be asked: with the appearance of ICT, are we dealing with an event comparable to that of the emergence of linear and profane writing? And if so, how do we deal with it?

Something like a becoming-political of the social body and its construction [*faire-corps*] (as it is not a given and presents itself above all in the form of a question) is only possible if one supposes what Cassirer called the **principle of individuation**.

A public domain is established on the basis of a right to private interpretation, that is to say the exercise of a **principle of difference**. There can only be public

debate if there are also private individuals likely to engage in debate. Such a form of individuality, representing a specific relationship with the original appropriation of the collective domain, is strictly dependent on the modes of transmission and elaboration of knowledge.

While the principle of individuation doesn't concern speech alone, it nonetheless takes place through a technological transformation of the relationship to language. As a result, the latter becomes the medium *par excellence* in the on-going debate about the meaning of memory. It is through language that the transformation takes place, but this transformation also concerns the ensemble of social practices insofar as they are also spheres of tradition and, as practical actions, interpretations of knowledge. The diversification of individualities is accomplished in all spheres of social activity, in the form of styles, and political debate arises at the same time as what the Greeks call *ēris*. The "eristic" will later define the oral dispute; contradictory arguments in linguistic form. But *ēris* has a much more general extension: "This *eris* inspires any man who sees abundance thrive in the fields and house of a neighbour who has worked harder than he to emulate that neighbour."²² If there is a debate (*polemos*), it is in agonistic competition, which takes place not only in language, even though language constitutes the reference of any debate in general by formalising its legal conditions. The Greeks competed in every sphere of activity, and it was the question of the best (*agathon*) that spurred them to it. The best is what establishes [*donateur*] the rule of know-how, and this rule is and remains appropriable by those who are best. The authority of know-how imposes itself as a style, and the authority of a style is found in its performativity: society becomes political by becoming instructive [*institutrice*²³], and it is not the individual who constitutes style, but style which institutes individuality.

The technological **repeatability** of the common text gives us the opportunity to consider the rule in a completely different way. The rule regulates an irregular element, which itself continually engenders new rules. At the same time, the text formally identified in its linearisation becomes essentially modifiable: the enigma that arises is that the identical is **other**, and the **same** is different. Linearisation reveals regularities, but at the same time gives rise to a **textuality** which is first of all a **contextuality** of the text. So, what I read today will not have the same meaning tomorrow, because it will be delivered in another context. The issue in question in textuality is differential repeatability, and it is with respect to its regulatory status that the rule is changed. Thus, the fact that reading is critical-reflexive

(both discerning and crisis-provoking) proceeds fundamentally from the possibility of a re-reading of the identical which also produces difference.

Today, given its development in nonlinguistic areas of activity and its tendency to generalise itself, a repeatability of this kind requires a thorough reflection on the technicity or techno-logic at work in any repetition with a reflexive character, in order to see the “techno-logical” operators of all reflection. This could undermine the linguistic privilege of all theorisation, and likely even undermine the possibility of a theory of reflection itself. There would be reflexive practices that would be their own theory. There would be techno-logical theories that no theory could account for from the unity of the *logos* as *technologos*. This would correspond with the end of the hegemony of philosophy as an academic project of metaphysics, but would not necessarily mean the end of all discourse of a philosophical nature, nor of any and all question of the universal.

It is necessary to reflect on the historical and philosophical privilege of speech and linguistic-graphic technicity, and to critique this privilege, which is about to end, or is at least profoundly in decline (getting rid of “men of letters” and “intellectuals” as it goes).

The hegemonic jurisdiction of the theoretical-philosophical (including its best-hidden developments in the technosciences) corresponds to a specific designation of the juridical: the law or right [*droit*], as it distinguishes itself absolutely from the fact, denies its performativity and relies on a metaphysical, *a priori* constativity.²⁴ However, the reflexive technological fact being analysed here escapes this opposition: the fact founds, and is presupposed by, the opposition. The theo-constative jurisdiction proceeds from an exclusive privileging of speech in the giving of meaning, in which meaning is ultimately defined with reference to a primarily propositional understanding of the criterion of truth.

If a critical and technological reflexivity becomes possible in spheres other than language, then there are heterogeneous types of reflexivities, and our understanding of reflexivity as such is radically altered.

Semiological analyses, which originated with structuralism, do not take these questions into account. They do not grasp the fact that reflexivity, opened by the technological repetition at work in speech, also opens a specifically linguistic-grammatical configuration. They seek to find the same grammatical configura-

tion in non-linguistic “languages,” and, because they fail, generally conclude that only language [*langue*] is fully a language [*langage*], and therefore thought. Starting from their own linguistic subject matter, whose technological dimension they almost entirely ignore, they seek to isolate something like non-linguistic “signs,” “signifiers” and “signifieds.” However, the production of equivalent reflexive categories in a non-linguistic reflexive technology is not guaranteed (which does not exclude a reflexivity proper to it) and, in any case, **can only be produced in the very practice** of this technology. The semiologists import concepts straight from the metaphysical understanding of the text, for example the concept of code. This is particularly the case with their analysis of cinema. To these semiotic tendencies, with their linguistic origin, we must oppose endogenous reflexivities, for example of the kind that are proper to cinema.

According to Plato, non-linguistic spheres cannot legitimate themselves: cooking cannot claim the status of being a science because it is not able to explain how it operates, nor justify why. Because it is in the same position as cooking, rhetoric is only an accident of language and is not, at bottom, logical by *nature*. These spheres are accorded to the body, while the soul is opposed to it: the soul does not dress up nor play cards, nor gesticulate on stage, and “when I drink a beer, I do not drink a beer, I give a beer to my body to drink.”²⁵

What is thus postulated is the rule of theoretical-linguistic capital over the techno-bodily regions of sense. But this rule finds itself, and even founds itself, in the relation maintained between theoretical-philosophical language and language in general.

Pro-positivism formulates syntactico-semantic norms supposedly at work in the use of language, whether or not this use is philosophical (in which case ontology and logic are understood as a philosophical dictionary and grammar). However, this “theorism” systematically conceals the fact that the “exposition” of the syntax of a language, as well as its general rules of use, is always that of its “synchronic” rules. These rules belong to a text that does not, strictly speaking, exist. (*The French language is made of its various occurrences but can never be produced as such: French does not exist other than in the diversity of its effects*). There are no synchronic rules that can be uncovered or explained **by right** [*droit*] that would be the result of a constative description instead of a performative inscription.

When scribes, grammarians and intellectuals explicate the rules of a language (and from this explication draw a general economy of the rules of being-together), they must choose a unity among the diversity, up to the point of formalising, in the very statement of these rules, the truth of their statements. This choice is never absolute: it is made in the process of a systematic search that is ultimately not conscious, but rather “enacted.” Here the deceivers are the first deceived—a characteristic of all metaphysics and one that radically distinguishes it from sophistry. This choice always ultimately amounts to the fact that this synchrony, that is, legal publicity and the law [*droit*] in general, is exclusively that of the capital at the expense of regional areas, of the head at the expense of the body, or the sky at the expense of the Earth.

Concerning this, Jean Bazin and Alban Bensa write:

In a society which knows writing, there are at least two sorts of statements: those which are produced spontaneously by virtue of a linguistic habitus (which differ according to the social position of the speakers) and those which are produced expressly with reference to a norm or a model (usually defined by the dominant group) transmitted by writing across the scholarly system. As Pierre Bourdieu remarks, ‘when we speak of language as such, we tacitly refer to the official language of a political unity, that is, the language which is fixed by “specialised and authorised agents” (grammarians, professors, etc.), so then the language which is written, or quasi-written, or worthy of being written’ (Bourdieu and Boltanski, “Le fétichisme de la langue”²⁶). The comparison of language with a code supplied to partners for the encoding and decoding of their message is never, whether desired or not, really innocent of all reference to a codification, to a legislation of communicative practices. The proof is in the relative incapacity, characteristic of the “structuralist” attitude, ‘to conceive of speech and more generally of practice other than as *execution*’ (Bourdieu, *Outline of a Theory of Practice*²⁷), as obedience to a rule.²⁸

Many analyses could follow from these remarks, which should be compared with Jean-François Lyotard’s views on language games and forms of knowledge and Jacques Derrida’s on the retroactivity of declarative acts and all forms of signature. These should nourish a reflection on the general techno-reflexive performativity of repetitive recording technologies and the normative strategies developed with them.

The enunciation of grammatical rules would be both normative and speculative, which would mean that every utterance of this type is performative rather than constative—unless there is simply a radical undecidability regarding the question “*what is the enunciation of a rule: a performative or a constative?*,” given that the performative act is also the observation [*constat*] of its performance. The shape of such a question is determined by the *a priori* pertinence accorded to the question “*what?*” in general. Such a pertinence is violently disturbed by the battle of technological standards (whether it deals with the standards [*normes*] of compatibility of materials, with those conveyed by the programs and software, or with standards of national and international law as they are affected by the technological development of telecommunications) and the issue of “simulacra” it conceals. The stakes are, to say the least, enormous. However, it is particularly important to note that this “battle” is far from new. The “new” communication technologies reveal the fact that this battle has had a long and intense history.

The question regarding the enunciation of rules is increasingly relevant, as performative-normative models of knowledge in general are not only “transmitted by writing from the academic system.” Rather, the academic system increasingly becomes a relay and auxiliary for a system of technological-media networks distributing software and programs and “processing” memories, with the help of multiplying types of interfaces. One could provocatively say that professors and other teachers are only a part of this system. Many remarks by Armand Mattelart and Yves Stourdzé are heading in this direction. For example:

Nothing can deny that, in the recent past, school/media actions were born and developed in the complementarity of the interests of the mass media and of secondary school teaching: we have contributed to an attempt to reduce the gap between a partially unadapted secondary teaching and the ideological exigencies of the practical integration of the “youth,” by recourse to a teaching more ideologically adapted, more “contemporary,” and more practical for the media.²⁹

This is ultimately a reflection on the **instituting moment**³⁰ called for by these collected remarks. The initial stakes of this reflection would be the following: technological reflection is never merely the description of a pre-existing reality that it would instruct us about, but an inscription (or per-formance [*per-formation*]) and perhaps also something like a “derealisation”—a disappointment with regard to an exhausted metaphysical project, a realisation-“derealisation” that would ap-

pear here as the “work of mourning” of a “post-modern condition.”

If it is necessary to make a distinction between right [*droit*] and fact [*fait*], then it is necessary precisely to *make* it, that is to say, to produce it and not only to constate it: this distinction is not constatable because it is not given (which does not exclude the possibility that it can be that which gives).

What is thus posed is a question of the technological limits of the right [*droit*]. With the appearance of new technological reflexivities we witness the emergence of new rules of judgment, thereby calling for new critiques.

It is not an exaggeration to call it a “Copernican revolution.” Kantian philosophy encouraged the philosophical focus to turn away from the ontology of the object itself towards a knowing subjectivity productive of its objects, apprehended as phenomena. (This knowing subjectivity being at the same time paradoxically limited.) What now calls for philosophical work are the technological conditions of possibility of something like a reflective, knowledgeable, knowing, and enjoying subject—*qua* reader and interpreter of an always-already prosthetic memory. The first question becomes that of supports as regulative *dispositifs*.

We must begin to reflect on the conditions of critical access to reflexive technologies. What we call here “critical” does not seem to us essentially determined by reference to a critique of the ideology which would be conveyed by the new networks. This question derives from another question, one that is even more critical.

The ICTs are not new means of transmitting already-constituted knowledge. They convey a knowledge that is in the process of being instituted. Their massive introduction in the traditional institutions, for example the schools, presupposes that all the issues at stake have already been well measured. This introduction is, however, indispensable if the distinction between right [*droit*] and fact has to be *made*, and if such a distinction can only be made by those who will *know how* to make it.

LANGUAGE AND INSTRUMENTALITY: THE QUESTION OF THE “MEANS”

In *The End of Philosophy and the Task of Thinking*, Heidegger takes the advent of cybernetics to be co-incident with a possibility for thought that had previously

been held in reserve:

No prophecy is necessary to recognize that the sciences now establishing themselves will soon be determined and regulated by the new fundamental science that is called cybernetics. [...] The sciences are now taking over as their own task what philosophy in the course of its history tried to present in certain places, and even there only inadequately, that is, the ontologies of the various regions of beings (nature, history, law, art). The interest of the sciences is directed toward the theory of the necessary structural concepts of the coordinated areas of investigation. "Theory" means now supposition of the categories, which are allowed only a cybernetic function, but denied any ontological meaning.³¹

These sciences:

can deny their provenance from philosophy, but never dispense with it. For in the scientific attitude of the sciences the certification of their birth from philosophy still speaks.

The end of philosophy proves to be the triumph of the manipulable arrangement of a scientific-technological world and of the social order proper to this world. The end of philosophy means the beginning of the world civilization that is based upon Western European thinking. [...]

[I]s there a *first* possibility for thinking apart from the *last* possibility that we characterized (the dissolution of philosophy in the technologized sciences), a possibility from which the thinking of philosophy would have to start, but which as philosophy it could nevertheless not expressly experience and adopt?

If this were the case, then a task would still have to be reserved for thinking in a concealed way in the history of philosophy from its beginning to its end, a task accessible neither to philosophy as metaphysics nor, even less, to the sciences stemming from philosophy.³²

All this would come into play around a question of language and its instrumentalisation. Cybernetics is characterised as that which "transforms language into an exchange of news. The arts become regulated-regulating instruments of information."³³ Without doubt "global civilisation" and cybernetics incorporate and signify a threat to idiomatic difference. What must be thought, however, is the "trivialisation" of language in its cybernetisation. Heidegger also writes that

“man’s essence must first open itself to the essence of technology,”³⁴ even though the late Heidegger’s thought revolves entirely around the very question of language, and occurs within the vast “linguistic turn of western philosophies.”

The Heideggerian *dispositif* was initiated with the question of forgetting—the forgetting of the question of Being—and is defined from the start as a reminder, an effort of memory, and a retrospective undertaking regarding the origins of philosophy. It is oriented, that is to say, towards the question of Being in which Being is apprehended as a questioning, as the matrix of every question and as a question-ing³⁵ for a *Dasein*. Furthermore, it is a retrospective of the history of philosophy, a history understood at the same time as the forgetting of this question and of its fundamental questioning power, but also as the keeping of this question in reserve, and thereby also as its preservation.

The question of Being concerns a distinction that must be made: the ontological difference between Being and beings. It is the “vehicle,” or the medium, we could say, of the remembrance and maintenance of the Western world’s origins as a becoming-world. It is the messenger of the Difference which is also a factor in its forgetting, in “indifferentiation.” Tradition preserves and buries, closes and discloses. It is philosophy which, as metaphysics, engenders cybernetics.

The questions thus opened are those of memory, language, the medium, cybernetics, the instrument, and technics.

The “new technologies” concern all of these: they are language machines, cybernetic machineries, instruments of pressure, of impression, of expression, of distribution and publication, of “artificial” memory.

The current “instrumentalisation” of language is anticipated by what, with Aristotle, takes the name of *Organon*, of **Instrument**, the first treatise of formal logic. It is with Plato, however, that the possibility of such an instrumentalisation is born. From this origin (which is even more significant than Aristotle), it is Platonism which gives instrumentalisation the imprint which will destine it to inscribe itself in the vast metaphysical programme. The proposition isolated from the text to which it is tied, as presented in *The Sophist*, is the theoretical matrix of cybernetics and the logical algorithm. But the organon (instrument) is also the condition of possibility of philosophical discourse: it is already on the basis of an instrumentalisation of language that metaphysics proceeds to denounce the technical

(sophistical) usage of the logos: for in order to denounce the technical usage, it is necessary to forge an instrument and to construct an entire technology which contributes to reinforcing the efficiency of what is denounced. The instrumentality of the logos is irreducible.

If an instrumentalisation of language is possible, it is because this instrumentality is originary. The question is one of knowing how the instrument must be understood. It is not a question of fighting against the instrumentalisation of language, but of resisting the reduction of the instrument to the rank of a means, in a conception where means are opposed to ends.

In a very broad and general way, philosophy devalues technics and the knowledge of technical essence. It is only as subject to a critique that technics can acquire a real positivity in the eyes of the philosopher.

Technics confronts philosophy with a dangerous challenge: by positing that theoretical thinking must precede action, philosophy finds itself in conflict with technological pragmatism. The efficacy of know-how, developed in practices without theory, is a fact. There is a positivity of fact and an unreflectiveness of technics, which is independent of any theory, and which philosophy does not recognise.

Philosophy makes the determination that it is only wholly theoretical reflection—in other words, reflection that is philosophically founded—that is capable of justifying action, and thereby any implementation of a technique, in its full necessity. An act, to be legitimate, must make reference to the law [*la loi*] which founds it. Know-how does not know what it is doing. The only necessity know-how can invoke on its own is to be a fact. To oppose reflection and technics philosophically is always to oppose right [*droit*] and fact, that is to say, ends and means. Left to its own devices, technics would mean the reign of the right [*droit*] of the strongest, and confusion between right and fact, means and ends.

In antiquity, the word *tekhne* covered a large semantic field, in which technological pragmatism, which does not know what it is doing, appeared to be even more dubious: with the Sophists and poets, it attained to the level of the medium of reflection itself. This presence of the technological in reflection resurfaces today in a particularly pressing way—with artificial intelligence, for example, but more insidiously with the media in general (though it is the same issue).

For modern philosophy, just as for ancient philosophy, the technical [*technicienne*] manipulation of the logos, whether under the guise of scholastic habit or of a metaphysics that misrecognises its own limits, is the producer of illusory ends and therefore of fiction. It is in this way, for example, that Husserl analyses Kant's critique of his predecessors:

[Their] reflection on knowledge, however, was not *transcendental reflection* but rather a reflection on the *praxis of knowledge* and was thus similar to the reflection carried out by one who works in any other practical sphere of interest, the kind which is expressed in the general propositions of a *technology*. It is a matter of what we are accustomed to call logic, though in a traditional, very narrow, and limited sense. Thus we can say quite correctly (broadening the meaning): it is a matter of a logic as a theory of norms and a technology with the fullest universality, to the end of attaining a universal philosophy.³⁶

In the modern period, art, whether as imitation of nature or as celebration of the religious spirit, does not seem to be grasped from its technical [*technicienne*] essence.³⁷ (Two words are therefore needed to designate two different realities.) The emancipation of art is borne out with the industrial revolution, with which it takes shelter from the alienation of labour and know-how, as well as from the widespread generalisation of mercantile activities. If art once again finds a place in political struggle in the 20th century, in the avant-garde of the revolutionary struggle and critique, it is in virtue of its disobedience to the logic of capital.

Conversely, science is increasingly conceived as technoscience. On the one hand there is a sort of objective convergence between art and philosophy, and on the other, a convergence between science and technics. This probably does not reflect what *should* be (the world turned right side up would see technics and science join art and philosophy), but is the result of a power relationship that asserts a conflict between these new domains.

The technics of technoscience, then, is industrial logic, i.e. the means for the domination of capital. It allows this domination not only over the working classes, but also over intellectuals who enable the penetration of science into society in the forms of technocratic and ideological rationalisation (Habermas). But the biggest danger is more likely to be in the absorption of the first domain (art and philosophy) into the second one (technoscience) through the integration of all

intellectual activities, i.e. the elaboration and transmission of knowledge [*savoir*] according to industrial and mercantile logic. The critique of such a situation was initiated through the concept of the *culture industry* (Adorno). The development today of what are conventionally called the “new technologies” substantially increases the field of such a critique.

All these philosophical critiques of technics are based on the idea that there is a non-technological origin of idiomatic difference, that is, of thought. They all remain stuck in the opposition: ends/means. They proceed from a pre-critical understanding of instrumentality, which is taken to be evident.

There are two possible ways of understanding the instrument. Either:

1. it is apprehended as a pure means in the service of a pure end, or
2. it is conceived as what forms [*instruit*] something as an end by its very implementation (and by this alone): there is no exteriority of the means relative to the end. The separation of the two is only a formal distinction.

Similarly, there are two possible ways of understanding language. Either:

- a. language is understood as a way to convey information, a means of which we would make a “use” and which would thus be secondary to “information,” “sense,” and “feeling,” to what happens through the medium of language and its “use”—which would then be second in relation to the subject, or
- b. language is thought as such, the event itself, what happens. In this case we cannot reduce language to the transmission of information, nor to an instrument in the sense of (1). We cannot make “use” of language. One does not possess language: one is possessed by language.

It is from this point of view that a thought like Heidegger’s arises. Yet, if we accept that language cannot be instrumentalised unless it has always been instrumental, then we plunge back into (a) if one assumes (1). Adopting view (b) then means, strictly speaking, to adopt (2) and to refuse to consider the instrument as essentially a means.

It must be said that in general the medium is not transparent to an aim that would be anterior to it and that would be achieved through it. If an anterior aim can anticipate the result of the setting-in-motion of the medium, it is in reality already

the existence of the medium which determines the aim in its very possibility. The medium is necessarily contemporary with the aim: it bears the possibility of the aim and actualises it.

“Psychology, sociology, pragmatics, and a certain philosophy of language have in common this presupposition of an instrumental relation between thoughts and language,” writes Jean-François Lyotard. “This relation follows a technological model: thought has ends, language offers means to thought. How can the addressee discern the addressor’s ends from the means of language put to work in the message?”³⁸

The technological model he alludes to corresponds to (1). It consists in understanding the medium as intermediary when it instead needs to be thought of in terms of a milieu, an element, in a sense very close to what Lyotard calls a universe: “the addressor must be understood as a situated instance in a phrase universe, on a par with the referent, the addressee, and the sense.”³⁹ The phrase, as medium, makes an addressor, an addressee, and an address [*un destiné*] appear. The medium by which this happens, it is true, is always already conditioned by previous media. The medium therefore has a technological and instrumental, prosthetic character, which implies that it is always already the media and the *différend* existing between them: that the phrase as donation [*donation*] does not mean it is given [*donnée*]. That the phrase as medium is also inter-medial does not signify that it is an available means; on the contrary, since it needs to be interpreted, the phrase is not simply something at one’s disposal.

Thus “[t]he human beings who thought they could use language as an instrument of communication learn through the feeling of pain which accompanies silence (and of pleasure which accompanies the invention of a new idiom), that they are summoned by language, not to augment to their profit the quantity of information communicable through existing idioms, but to recognise that what remains to be phrased exceeds what they can presently phrase, and that they must be allowed to institute idioms which do not yet exist.”⁴⁰ Now it is in the same way that the pianist is required by the piano, the score, the musical genre, etc., which are all instruments of **interpretation**, which means: the exposure of idiomatic difference.

The two understandings (1-a) and (2-b) that it is possible to have of the instrument and language correspond to two accounts of the *relationship* between lan-

guages and instruments, accounts that are always already intertwined.

The first account thinks to possess language and master the instrument. It tends not to allow us “to institute idioms which do not yet exist.” It understands the phrase as a primary univocity and the instrument as a transparent availability, where the plurivocal or un-foreseen effects are accidents of the process, inessential parasites. This account (1-a) understands the program as mastery.

The second account understands itself as the interpretation of previous interpretations, and as an interpretation itself interpretable for the future, which is the promise, or the “present⁴¹,” of what happens. What is to come is the true pleasure of instrumental phrasing. In the account (2-b) the program is both less and more than a program; the promise it includes is not that of the addressor, but of the medium. It is on the basis of this that the medium promises that something like a promise may be intended by an addressor, for an addressee.

The relationships indicated by these two accounts are in permanent tension; they are like constitutive “tendencies” of an economy of instrumental interpretation. They constitute a difference that must be maintained between performance and performativity, between program and promise—a difference which is not one of opposition, but of composition.

Therefore the “subject” does not “use” language or the instrument. The subject takes place in the milieu of language and the instrument; the milieu gives place to the subject; which does not stop us from saying that it is only thanks to the subject’s place (or point of view) that the milieu actually takes place.

Language is at its root technological, just as instrumental implementation is always already an act of language. This is why Jean-François Lyotard can say that “*phrasein* in Greek designates some non-linguistic ways of signifying. In itself—but this sense is never attestable—everything can function as a phrase that would open, even for a short moment, a sort of universe and manifest some senses to be determined.”

If one can say that language is thought, that thought does not distinguish itself from language, does not precede it, does not control it, and only constitutes itself through it inasmuch as it is possessed “by” language, then Western thought—that is to say philosophical, scientific, artistic, or doxological thought—corresponds to

a certain technological state of language, that is, to a certain state of technological law [*droit*]. This state of law is territorial idiomatic difference, and it is undergoing a profound alteration. Territorial reference is effectively the possibility of characterising idiomatic difference as a natural difference (and also of opposing nature and culture in such a way that the ethnic community appears natural). It is reference to a chthonic origin myth founding communities and “natural” languages.

To the extent that profane linear writing—a reflexive technology—had **formalised** the conditions for **instrumental translation** and the interfacing between linguistic idioms, it had already opened onto non-territorial communities, assuring the West of a capacity for global expansion in which technoscience constitutes the essential vector.

The question of translation and of **the unity of community**, of idiomatic difference as instrumental interpretation, is generalised by the development of optoelectronic technological networks, of programs for the processing of memory applied well beyond the linguistic medium, and by the proliferation of interfaces opening up the possibility for non-territorial technological communities that are not regulated by criteria such as, for example, scientific truth. All of this retro-acts on the understanding that it is possible to have of language itself: language now appears to be one of the technological states of memory, always already informed by its instrumental conditions of interpretation.

Heidegger critiques the instrumentalisation—the cyberneticisation—of language as the elimination of idiomatic difference (it “transforms language into an exchange of news”). This elimination proceeds from a state of affairs characterised by **the technological realisation of the principle of non-contradiction**, which is then no longer merely a factor in the coherence of apodictic knowledge claims, but the vector of technical power [*pouvoir*].

We have argued above that the analysis of logos based on its propositional structure, and excluding its textual environment, was the condition for the cyberneticisation of language. We might add here that idiomatic difference is what distinguishes the **semiotic** (textual, sequential) dimension of language from its **cybernetic** dimension.

This distinction does not at all mean that idiomaticity would be something non-instrumental and non-prosthetic in language. Semiotics is as instrumental as cybernetics. Rather, there are two types of **instrumental rules**: some are **propositive**, while others are what we call **dispositive**. Some examples of propositive rules are: the propositional syntax of a language, the rules regarding how the pawns of a chess game can move, the register of a musical instrument, the constraints of a programming language. Some examples of dispositive rules are: the rules for the semantic sequences of a lexicon, literature about possible moves in a chess game, musical programs that can be played on an instrument, a particular piece of software in a particular programming language.

It is not a question of seeking to isolate a non-instrumentality of language or of idioms in general: there are none. Rather, it is one of *interrogating the modes of being of instrumentality as such*, as containing the conditions for idiomatic differentiation, and the multiple dimensions of what could be called the *instrumental condition*.

A musical instrument is a support for an immanent and original grammar of rules. Such a grammar opens infinite possibilities of interpretation.

The instrument is part of a coherent set of fluxes, of which it is one path. One can say, schematically and provisionally, that before the instrument we find matter ready to be instrumentalised, and after it, we find products, instrumentalised or “informed” by the instrument: we are speaking of informed matter, of information.

But matter is always already information: in the example of the musical instrument, matter consists of a text which can be recognised as such, and is thus notated [*noté*]. It can function just as well as an undefined text, a memorisation without notation but rigorously conserved in the heritage of collective memory and life. As for the product, it’s a question of a formalisation, that is to say also an interpretation,⁴² of the matter insofar as it is textual. In its turn, interpretation can be notated, inscribed, carved, or left undefined.

The product can itself become matter for interpretation. While the instrument constitutes the original set of rules for immanent grammars, the product of the instrument constitutes in turn another original set of rules: this is why it is shaped like a text and can itself become matter for instrumental interpretation. There

are three sets of rules here: matter which is only interpretable because it is textually framed by musical rules, which can also be called the musical genres; the instrument as the concretisation of its own rules which constitute a possible path through which a musical genre can manifest itself; and finally, the interpretation as the manifestation of the original grammar of the interpreter, itself available for interpretation.

The instrument informs a matter which, truth be told, would never take place without this information. The matter no more precedes the instrument than it does the performer.

The instrument is the manifest element of a technique that consists in the integration of various levels of rules which are not necessarily recognised *as* rules. The same goes for rules of language: one who does not know how to write, knows a grammar but not its rules.

Such a technical ensemble constitutes a grammatical domain which is a **field of telecommunication, that is to say of interpretation**. The interpretation of matter is always an interpretation of memory. The interpretation of memory may be a reduction as much as a translation, and it must even be said that every translation is a reduction. However, such a reduction may also be a “production” of difference: translation tends then to be a **transposition**. That is to say that the very movement of translation tends to register the idiomatic difference concealed in the translated idiom, enacting its differential power.

Every instrument must be understood as an interface of translation. This is the case for the hammer, which can, for example, be an interface between a coppersmith and copper. The hammer at the same time informs the coppersmith of the state of the copper, and the copper of the state of the coppersmith.

Conversely, every translation, every interpretation, supposes an instrumentality, which doesn't necessarily present itself or manifest openly as an instrumental technical object. A book, being an interface, always already implies an instrumentality. And broadly speaking, every intermediary is an instrumental interface.

The instrument always inscribes itself in a complex of rules, and it is on the basis of this complex that it can be understood. Outside the complex—one might say in the language of Aristotle—the instrument only exists *potentially*. The *entelechy* of

the instrument is the movement of interpretation in all its instances. Considering that it is always an interpretation of rules, the instrumental question is in the end a textual, and at the same time a technological, question.

As we suggested earlier with regard to memory, instrumental interpretation not only deals with data. In producing norms of interpretation, instrumental interpretation also produces rules of functioning for memory. While it produces them, this does not mean it constates them: this production is performative; not only programmatic, but promising [*prometteuse*]. The production of rules of memory is not their exteriorisation, but their realisation. This is why it is necessary to speak of an **instrumental retroactivity** in a sense which follows Jacques Derrida's analysis of signatures, particularly that of the Declaration of Independence of the United States of America:

One cannot decide—and this is the interesting thing, the force and “coup de force” of such a declarative act—whether independence is stated or produced by this utterance. [...] Is it that the good people have already freed themselves in fact and are only stating the fact of this emancipation in [*par*] the Declaration? Or is it rather that they free themselves at the instant of and by [*par*] the signature of this Declaration? [...] This obscurity, this undecidability between, let us say, a performative structure and a constative structure, is *required* to produce the sought-after effect. It is essential to the very positing or position of a right as such [...]. [E]very signature finds itself thus affected. [...] If it [“the people”] gives birth to itself, as free and independent subject, as possible signer, this can hold only in the act of the signature. The signature invents the signer. This signer can only authorize him- or herself to sign once he or she has come to the end—if one can say this of his or her own signature in a sort of fabulous retroactivity.⁴³

This is the essentially technological question of the instituting moment, which becomes particularly critical at a time when communities are decreasingly related to complexes of ethnic regulation (whether of the family, the clan or the “social networks” of the town or the nation). Contemporary media, being in principle global (since their duty is to inform about the state of the world), bring this fabricating retroactivity to life on a daily basis, a retroactivity that is all the more effective in that it produces as many reinterpretations of the entire past as it does contemporary frames of reference.

Moreover, just as Jacques Derrida wrote that speech is always already writing, we could say that life is always already cinema. That is why something like cinematography can produce the rules of common memory that it informs.

In turn, the camera, the instrument of cinematographic interpretation, is a consciousness, as Gilles Deleuze does not hesitate to write:

Does this mean that for Bergson the cinema is only the projection, the reproduction of a constant, universal illusion? As though we had always had cinema without realising it? But then a whole range of problems arises. Firstly, is not the reproduction of the illusion in a certain sense also its correction? Can we conclude that the result is artificial because the means are artificial?⁴⁴ [...] [Cinema] would no longer be just the perfected apparatus of the oldest illusion, but, on the contrary, the organ for perfecting the new reality.⁴⁵ [W]e can say of the shot that it acts like a consciousness. But the sole cinematographic consciousness is not us, the spectator, nor the hero; it is the camera—sometimes human, sometimes inhuman or superhuman.⁴⁶

At this stage of the analysis, the question which finally poses itself remains this one: who reads? For whom and by whom is there interpretation? Translation? What are audiences? What then, finally, is the **origin** of idiomatic difference?

OF AN ORIGINARY TECHNOLOGICAL COMPLEX

The reference to an historico-geographical territory, understood as originary, is the **production** of an origin which gives itself as natural, full, proven, and fundamentally founded—and not as the **original** case of an hermeneutical and promethean absence of origin—and which thus permits and even implies the **unity of a subject**.

Territorial unity (the ethnic group, the city, the nation) is defined by the existence of other ethnicities, by the opposition to other, exterior identities, an opposition marked by the existence of **borders** and the hatred of nomads.

But territorial unity also enables the constitution of interior rival identities (a rivalry regulated by ethnic programs) which also refer to historically dated territorial origins. These identities come from family histories which are their imme-

morial but chthonic origin, their *Geschlecht*, assured by the genericity of a name.

The explosion of ethnic reference is also that of the identity of the subject. It is not by “chance,” nor is it only due to a supposed law of harmony between scientific discoveries and technical “progress,” that the opto-electronic networks are multiplying at the same time as associations of “surrogate mothers.” The question is the same as that of Argument 2 for *Les Immatériaux*: “How should we understand the maternity of sense?”⁴⁷

The disappearance of geographical borders is also the appearance of idiomatic opacities (originalities) of a new type: the general question of translation is first of all this one.

It is in the context of this problematic configuration that we asked ourselves in the introduction if there could exist something like a natural memory, which amounts to asking whether there could exist an idiomatic difference that would not always already be technological.

Does the reader, the viewer, the listener, when auto-programming a book, a film, or a disk, process the data stored on the media-support? And if this is the case, are we dealing with one or several processing programs? Where do they come from? And finally, can we really talk about **auto**-programming after all?

Or should we consider mnemonic data-supports as already being programs with which the reader “processes” the “data” of “her” memory? And furthermore, is there anything in that memory which is not already “the” reader? How, under these conditions, would “the” reader not already be “multiple” readers?

Should we not say, strictly speaking, that the disc, the phonograph, the auditor’s sense of hearing, the auditor herself—in her capacity as individual memory but also as the representative of various memory networks (ethnic or otherwise)—and finally the music as such (if indeed music could take place as such), are **cases of organs** (instruments), and **instances** of the **mnemotechnical complex that constitutes a medium**?

Is there a program that ultimately manages this media complex? Is there not, on the contrary, an **originary de-fault**⁴⁸ of such a program? A de-fault which would be like the promise of the infinity of idiomatic programs which are to come? A de-

fault that would be the very reason for the interactive interpretation of memory's movement, interfering in these multiple interfaces? But can such a promise be heard otherwise than through the establishment of programs?

All these questions are summed up in a **question of reading**.

What must be grasped is an idiomatic complex, not an ordinary and simple unity—which the differentiability of the idiomatic difference itself immediately excludes. This complex is characterised by a **movement** of interpretation. It includes various instances, none of which precede any of the others as they are found always already co-implicated (and complicated) in a medium.

Let us call this the **idiotextual complex**, the idiom always being a memory, and this memory, a text.⁴⁹ The idiotext contains at once the questions of the interpretation and of the audience, that is to say of the skill to hear [*savoir-écouter*] and of the capacity to understand [*pouvoir-entendre*], which is also the power of making understand, that is to say, of interpretation. This is the question of translation.

The interfacing [*interfaçage*] process supposes languages of access (whether or not they are explicit). With the multiplication of technological networks and of non-ethnic idioms, interfacing and translation processes pose problems that become more serious as the “transversality” of objects increases. This is the case not only in the domain of scientific research, but also, for example, in the management of public affairs (including themes such as the synergy of actors, and of local development). This necessary transversality, combined with the absence of a common, universal, and non-prosthetic language, is one of the biggest difficulties posed to state geographic technostructures by the technological complexification of memory-data and their modes of processing.

The interfacing process signifies the programmed mediatization of the targeted publics by the idiom (a programming which is not necessarily deliberate). Indeed, one has no audience if one does not cultivate the skill to listen [*savoir-écouter*] and the capacity to translate [*pouvoir-traduire*]⁵⁰—with all the difficulties and simplifications that translation implies. The necessity of cultivating one's public (and also of knowing how to limit it) is often confused with levelling down and “vulgarising” language at the level of the most common—that is to say, of the least idiomatic. This is to ignore everything about the interpretation of memory as complexification. On the contrary, those who do not integrate this mediated

dimension of the public interpretation of memory are doomed to disappear.

This has for a long time been one of the main preoccupations of the builders of computing machines. The most well known example is that of the Macintosh microcomputer: the machine's access control list (the protocol) is programmed by the machine itself.⁵⁰ But the machine is only one case of the technological complex. Human groups, institutions, and individuals as such, are also complexes and interfaces. And as such, they require access protocols [*langages d'accès*] which must be programmed, according to diverse modalities that cannot be reduced to the modalities at work in informatics. This question of access to the idiom (to the signifier) is that of appropriation, or of publication; of the becoming-communal [*devenir-commun*] of what is private, of what is outside the community [*hors du commun*]. These terms are altered by cultural industries and the new editorial function, and are redistributed by the technological conditions of publication.

But the idiom itself is always already an access protocol, a relay-form. The “author” of a text is always already the interpreter of another text—that is to say, she is a performer, and in this sense, a reader, rather than an author. What is appropriated is not her own [*le propre*]: the idiom is not property [*propriété*], but rather the improper, the de-fault, the deficiency—let us call this the hermetico-promethean “technological condition.” This “appropriation” of the improper is superbly illustrated by some famous fictional characters—for example, Charlot [the Tramp], whose de-faults such as his limp, his rags and his misery arouse much sympathy and joy, feelings that in turn actualise the movement of the medium.⁵¹

Given the problems posed, for example, by artificial intelligence, and notably by the automatic generation of literary texts, we evidently cannot bypass the question of the subject, of what was called the “author.” However, this subject-user of instruments, the performer and/or author of programs, is neither the author nor the performer of the promise which carries the authority of the program in its text. The question is one of knowing where this authority—the authority of an idiom—comes from. We posit the principle that the author is a derived, rather than originary, instance, taking seriously Calvino's argument:

And so the author vanishes—that spoiled child of ignorance—to give place to a more thoughtful person, a person who will know that the author is a machine, and who will know how this machine works.⁵²

The idiotext is a prosthetic memory, mobilised by what we call “the consistent.” The consistent is a case of textuality. The idiotext is a memory affected by its textuality.

It is a memory that only writes itself through reading, and only reads itself through writing. “Memory” here is not at all psychologically determined. We can easily give examples of idiotexts: Western memory, with its marble monuments, libraries, roads, its networks of all kinds, its stocks, people, etc.—but just as well, Monsieur Dupond,⁵³ with his books, furniture, buildings, instruments, networks, body, etc., or even philosophy, with its texts, syntaxes, lexicons, histories, institutions, or its relations with the sciences, the arts, politics, and so on.

One can never speak of an idiotext “as such.”

If, for example, I speak about the French language, I will always speak about a particular French, and from a particular point of view. A French from Paris or from Toulouse, the French of mathematics or of the bourgeoisie, Proust’s French or eighteenth-century French. It can be from the doxic point of view, from the Parisian doxic point of view, or from the linguistic point of view; from the stylistic linguistic point of view, or from the sociological point of view, and so on. The very fact that I **speak** of the idiotext already implies a certain point of view adopted “on” it: I could just as well sing this idiotext, or dance it, or put it to music, or paint it, or (why not?) play it on a chess game.

Moreover, if I speak of “me” or “someone else,” this will always involve me speaking, philosophising, eating, or being-French; in other words, playing. And because I speak French, I do philosophy from the perspective of a certain tradition, I eat according to the local customs, etc. Being French-speaking, in short, means playing games in a particular way.

All these are “constructions,” “technics,” and are in turn idiotexts, that is to say, idioms, which are equally texts, networks, instruments, interfaces and programs. And a program, for example a book or a musical score, opens a prosthetic memorial community of readers, and only exists by opening such a community. As such, it is already an idiotext.

PROGRAMS OF MEMORY, EPOKHE OF IMAGINATION

We have proposed that memory is realisation (and not simply exteriorisation in Leroi-Gourhan's sense), the essentially techno-logical character of which is also derealising.

This realisation, as global becoming, is also the mark of a non-ethnicity (a non-determination of ethnic programs) felt first of all as technological universality and "decline." This raises the question of a technological corrosion of idioms, at least insofar as they would be ethnically—and by the same token, psychologically—constituted and intended. This goes beyond the persistence of an idiomatic differentiation in the global technological configuration.

It is assumed that the ICTs, the pretext of these matters, follow an archaeological movement of history and politicity, which marks its beginning as the advent of critical memory (in crisis) as it is accomplished as a technological phenomenon in linear writing. The hypothesis is: linear writing is the technical condition (hear "condition" as in the phrase "human condition") and, more precisely, an **epoch** of this condition, characterised by a form of textual repeatability which opens, as linear formality, a crisis of the common heritage of memory (and of its interpretation). This is also the beginning of critique, that is to say, of the political life of the ethos—where the preservation of memory, which is always already technological, is also its production (beyond its simple reproduction), which currently implies a crisis of political right [*droit*] in technological universality.

It is, consequently, a question of thinking the relation of reflexivity to *tekhnē* (a general conception of *tekhnē* totally bound up with writing, which is not limited to writing in the usual sense of the word) and of operating an anamnesis of the relationship of philosophy to technics, especially with regard to the question of instrumentality, such that it does not result in the opposition of ends and means. This problematic field is situated in what was named the originary prosthetic complex (idiotext), for which reference to Aristotle and to the thought of the actual and the potential, as thought of the *meson* (milieu), would be privileged.

Various observations can then be made.

In the first place, the question of the knowledge of which we speak, under the name **reflexivity**, remains open. We want to insist (if such an insistence is needed) on

the fact that linear writing is not posited as the cause of reflexivity, primarily because we are not talking about reflexivity in general, but about critical reflexivity (in the political sense of the term). Linear writing could then appear as the *mirror stage* of humanity in general; but again, that is not what we mean, unless we specify that this would be the “mirror stage of political humanity.” This is because, first of all, there is no humanity in general; second, because humanity is not political in general; and finally, because any idea of a “childhood” of humanity, whether political or not, should only be taken as a metaphor. This means that linear writing is not even the cause of the criticality in reflexivity. Criticality finds its “cause” in reflexivity itself—understood as the interpretation of memory by itself—before any other determination. Here attention should be focused on proto-political poetics, especially in Homer, as the *polis* seems to be anticipated in the *Iliad* (the “banquet where all are equal,” the circle—*agora*—where the warriors debate). It is certainly also a **question of the passage to politics as *ēpokhē*, that is to say the suspension of strictly ethnic programs. It is a general question of the epoch that leads us here to a more general question of the *tekhnē*/causality relation.**

In the second place, from a Kantian perspective—where the beautiful, the feeling of beauty and the faculty of judgment, as analysed in the judgment of taste, specify reflexivity—the **question of art** (*tekhnē*) becomes the guide for a reflection on reflexivity before any other epochal determination, especially any critical determination that can be understood from a purely historico-political point of view. Indeed, if we hold on to a view of reflexivity as something produced by linear writing and/or politicity, if we reduce reflexivity to criticality or to its political form of crisis, pre-political art would become incomprehensible, or art in general would go beyond the scope of reflexivity. Homer, who is already in “literature,” is not yet in linear writing, nor in politicity (even if we find him there retroactively). Moreover, how can we correctly appreciate Lascaux without seeing there the perfection of nascent reflexivity in the “birth of art”? Bataille notes that formerly, before the discovery of Lascaux,

we were accustomed to thinking of the Greeks as the first to have all the marks and all the titles of modern man. I wish here but to indicate that, Lascaux having been found, this critical moment may be situated many thousands of years earlier than we once thought. Resolutely, decisively, man wrenched himself out of the animal’s condition and into “manhood”: that abrupt, most important of transitions left an image of itself blazoned upon the rock in this cave. The miracle occurred at Lascaux.⁵⁴

This other **proto-moment** (which as such can only be a fiction, which is its strength) in fact needs to be analysed thematically according to our previous remarks—and it needs to be disengaged from a metaphysical vision that stills seems to govern Bataille’s very beautiful text, especially where the art of *homo sapiens*, as play, succeeds and is opposed to the useful **work** of *homo faber*. It is already the question of technics and of the two faces of the universal which confront each other here.

These two clusters of questions here are the outline of a **general thematic of memory as realisation, of the production of memory as *imagination in forgetfulness*, by the *suspension* of programs and the programming of this suspense; a general question of the *ēpokhē* which is also that of *discipline* and of work in this sense (*askesis, mēlētē, praxis*), and consequently of the instrument (*organon*). The imagination supplements the de-fault of memory; it is therefore by the ultimate memory, which is more than ever artificial, and made in the image of the outside.**

Mnemosyne is the mark of the improbable, the unhoped-for coming of the immemorial; chance. Poetry is improbable (Yves Bonnefoy, *L'improbable*⁵⁵). It is memory because it is forgotten (Maurice Blanchot, “Forgetful Memory”⁵⁶).

Poetry represents one of the typical forms of divine possession and madness, the state of “enthusiasm” in the etymological sense of the word. The poet, through being possessed by the Muses, is the interpreter of Mnēmosynē, just as the prophet, through being inspired by Apollo, is the interpreter of that god.⁵⁷

It is a question of a **memory of non-lived time**, of a recollection [*sous-venir*] of the immemorial, of the **more-than-human character of memory**.

The bard and the diviner share the same gift of “second sight,” a privilege for which they have had to pay with their vision. They are blind in the light of day, but they can see what is invisible. The god who inspires them shows them, in a kind of revelation, the truth that eludes the sight of men. This double vision relates in particular to the parts of time that are inaccessible to mortal creatures, namely, what happened in bygone days and what is yet to come.⁵⁸

The poet is not short-sighted; he is not Epimetheus (the reverse side of Prometheus, who is foresight, his brother makes possible this foresight by making it bearable, through a more essential thoughtlessness only revealed afterwards [*après-coup*]: Epimetheus represents both the unconsciousness of danger and the *epimētheia*: the science of coming later). He is more than the reverse side of Prometheus: he is the knowledge of the identity of the two—he is more than foreseeing. The one who foresees remembers. But the immemorial, which escapes foresight, comes to the poet because he **forgets** what remains fore-seeable: the presence of the non-lived past comes from a **discipline**, from a *mēlētē* which is also *tekhnē* and a work without probable goal, from an apprenticeship of **repetition without ends** which brings exhilaration and enthusiasm.

Improvisation is poetry *par excellence*: unexpected memory, proclaiming the improbable.

Nor does the use of improvisation in the course of the song preclude his fidelity to a poetic tradition preserved from one generation to the next. On the contrary, the rules of oral composition insist that the bard have at his command not only a whole body of themes and tales but also a technique of formulaic diction that comes to him ready-made and involves the use of traditional expressions, predetermined combinations of words, and established rules of versification.⁵⁹

In addition, this technique involves what are in a way **programs of the improbable**, the unexpected; matrices of an enthusiasm which is thus pre-textualised, and which is also *ēpokhē*, the suspension of programs of voluntary memory and of habits. It is an inhabitation according to disembodiment of the close, of the familiar. In the course of its interpretation, the traditional poetic program suspends all programs. It programs only a clearing of memory, an **effacement of fore-seeable traces**, and it effaces itself. There is **double vision** because there is **double memory** and the **redoubling of forgetfulness**. This duplicity proceeds from a first de-fault: there is vision thanks to the lack of a foreseeable organ of sight; the poetic program is the prosthesis for a handicap of sense; the **imagination** is the redoubling of this handicapped memory and the power of its images. Homer, blind before history, bequeaths to it his imagination and the authority of his memory—he could only understand history because he could not see it.

Between Mnemosyne and Prometheus, Hermes moves on the river Lethe, forgetfulness.

The improbable memory, the one that has not been lived, is the one which signifies and authorises. It is only because of this memory that foreseeable memory is worth anything. This improbable memory is the theme of the dialogue *Meno*, where for the first time Plato, in the story of Persephone's myth, suggests that the only question is reminiscence and the authority of a memory which is unexplainable because it is literally and radically im-probable, and of which the proof could in no way be given—this is the reason why recitation of an imaginary history is required.

The myth of Persephone responds to two aspects of an aporia that Meno submits to Socrates. The first and most famous has always occasioned—as it has been taken up in various forms—the great moments of **philosophical *ēpokhē*** (it is the *skepsis* par excellence): it is not possible to find what one is searching for, unless one has already identified what it is, and is therefore not truly searching. If one did not already know what one seeks to establish in its being, then even if one found it, one would not be able to recognise it, because one would not know what it is. The second aspect of the aporia concerns the terms of the dialectical definition: they remain undefined; it is therefore with indefinite terms that one builds definitions. They are not strictly speaking definitions (because they are not definitive), but conventions between players (in the dialectic, understood as a game of rules).

To the first question, Socrates' answer is simple: what we seek, we have forgotten. Knowledge is recognition, the **anamnesis of another time**, immemorial for the memory of lived experience. Reminiscence takes place around a problem that is the result of a dialogue (between thinkers, as well as of thought with itself, whereby it is thus **redoubled**). Mythically speaking, it seems that the soul lived another life; it is in this sense immortal. But in truth, it is the life of the *logos* as memory that we are talking about, a memory that could not have been lived because it has no place *in* the soul, but is the place *of* the soul, as *logos*.

To the second question, Socrates replies that there are conventions (the undefined terms of the definition) that coincide with the definition. It is with these conventions that anamnesis emerges for the dialecticians. These conventions bring the dialecticians together by imposing themselves as terms of **authority**. Plato distinguishes two modalities of convention: the contingent (received ideas,

pro-programmed by habit, which the sophists abuse) and the suitable [*convient*], which would be like the true fruit of the dialogue in its movement, the infinitive result of the dialectical definition. In other words, it is necessary to distinguish between conventional conventions [*conventions convenues*] and suitable conventions [*conventions convenantes*]. The question is that of their **origin** [*provenance*], which the myth answers, or rather to which it responds (because a myth would not constitute an answer). The reminiscent dialogue is the production of a movement—and of a feeling—of the origin in the *logos* as being **its necessity**. The dialogue in this sense is maieutic, where the interlocutor is always the midwife of the speech of the other: it is a question of giving birth to the *logos* from what it conveys and who conveys it. The suitable [*convenable*] dialogue is the one in which, in the forgetting of the conventional and the programmed, improbable memory gives itself. (In Aristotle there will be a similar question of axioms, in the *Second Analytics*, and of the credible, in the *Rhetoric*.)

Anamnesis is then the maieutic of a memory common to partners in dialogue but immemorial because not lived by them. For this reason, such a memory is never able to be definitively established. It is advent because it is *ēpokhē*, forgetting (the confusion and torpor of the slave in the dialogue *Meno*): this is why the authentic dialogue is epoch-making [*fait époque*]. This understanding is inscribed in the oldest Greek tradition: anamnesis.

Through the contact it establishes with the first ages, the divine *aiōn*, primeval time, it enables [the poet] to escape from the time of the fifth race, so fraught with fatigue, wretchedness, and anxiety. For Hesiod, Mnēmosynē, she who makes one remember, is also she who erases the memory of evils, the *lēsmosunē kakōn*. The necessary counterpart to recollection of the past is the “forgetting” of present time.” “[I]n her association with Lēthē, she is an infernal power, operating on the threshold of the afterlife. The beyond to which she gives the initiate access is identified with the world of the dead.⁶⁰

Later, however, the *ēpokhē* will become Plato’s *askēsis* and *lisis*, no longer understood only in the sense of the “epochal,” “suspending” practice, but as detachment with regard to mortal life and the expectation of a return of the soul to immortal life. The myth of Persephone, whose mythical form was the mark of an original *aporia*, becomes the dogma of the immortality of the soul. This evolution in Plato’s work had been anticipated by the mystical tendencies of the tradition

itself:

Mnēmosynē has undergone a transformation. She is no longer the one who sings of the primeval past and the genesis of the cosmos. Now she is the power on whom souls depend for their destiny after death, and as such she is connected with the mystical history of individuals and with the transformations that occur in their successive incarnations. By the same token, what she brings to mortal creatures is no longer the secret of origins but the means to reach the end of time and to put an end to the cycle of generations.⁶¹

The Platonic evolution takes place under the effect of the enigma of the story [*récit*] and its retroactive power, its mimetic and duplicitous authority (which affects art and *tekhnē* in general) for which there is no criterion (other than “performative” chance). This enigmatic power would be misused first and foremost by the sophists and then, through them, the politicians would misunderstand it. The legitimacy of the story becomes that of the instrument at the service of the dialectician, and no longer that of the elementary milieu of maieutics. The essential point turns around the definition, and the authority shifts to the apodictic regime of the science of the One (*orthotēs*).

Plato therefore breaks with the Greek tradition insofar as mortality, which is the Promethean condition, marks the whole paradigm of memory configured by Mnemosyne.

Epokhē becomes *askēsis*, and the latter detaches itself from all *tekhnē*. Memory and imagination move towards a determination (as faculties) which is psycho-logical, not logical, and even less techno-logical. The de-fault of an organ of sense, which is the exigency of the *ēpokhē* as such, becomes the fault of the body, the prison of the soul and the support of a wild, unpredictable imagination.

THE CULTURE OF PROGRAMS, MEMORY PRODUCTION, AND ECONOMIC PRODUCTIVITY

The economic and cultural crisis, of which the ICTs have become a kind of obsessional symptom, calls for a profound “modernisation” of major infrastructures, primarily the productive and cultural infrastructures. A major discourse on the ongoing mutation is taking place. It emphasises the need to make every effort

to adapt ourselves, highlighting delays and the obsolescence of the apparatuses of production. This is the discourse of industrial redeployment strategies, which calls for the development of professional qualifications around new technologies. The redeployments in question cannot take place without causing social conflicts, and the new technologies are not necessarily understood as a benefit for those they disqualify, which may be whole regions as well as individuals. Are these technologies creating new jobs that would compensate for the losses? Many doubt it today, which raises problems for the often-presented argument for the necessity of socialisation: the economic argument according to which we should learn to become “literate” in new technologies, with the explicit aim of finding a job. This argument characterises the need to acquire this new knowledge exclusively in terms of a productive finality.

From the sombre economic perspective, these discourses seek to promote a new technological conviviality, or emphasise the possibilities for individual autonomy opened up by the portable hardware being made available to a broad public (home computing and video), or the “interactive” possibilities of future networks. All of these appear more as compensatory phenomena than as future realities.

At the same time, the Ministry of National Education is developing a computer-*literacy* plan, with the possibility of an extension to the audio-visual sphere in certain cases. This is in response to the imperatives of professionalisation, but also of adaptation to the necessity of a new basic technoculture (which is not necessarily inscribed in a schema of strict professionalisation).

The thematic of “new technologies,” which is developing in the context of a globalisation of stakes, organisations and strategies—and essentially within the economic perspective of intense international competition—is understood primarily in relation to the question of employment.

This general framework generates various rearrangements, some of which are quite paradoxical:

- The economic question is also directly cultural, and even aesthetic: it is primarily a question of producing knowledge and information, that is to say “immaterial goods” [*biens immatériels*], software, programs of all kinds—so that at the same time as we seek to eliminate spending considered unproductive, we invest heavily in the “spiritual.” The question is of knowing how, and under what conditions, an increase of “spiritual production” is possible, especially if

- technoculture—which is its milieu—must be thought from the sole viewpoint of productivity.
- At the same time as we witness globalisation, localisation takes place at various levels of management, leadership, and decision-making. This is true in industry in general, where we divide up large production units and where, in the name of flexibility, deregulation and privatisation of public monopolies is advocated. In the context of decentralisation in France, local collectives are put in decision-making positions, especially from the viewpoint of national policy regarding ITCs (cable networks).
 - These tendencies of the public sector towards disengagement are nevertheless accompanied by a great interventionism of states (in France as well as, for example, the USA), which manage and subsidise research and the necessary restructuring. In France, however, this interventionism seems to focus mainly on the material infrastructure, while there is an explicit disengagement with the content, with the danger of a separation of these two aspects (containers and contents). This danger is also that of opening up new markets to international program industries without a simultaneous intake of new national skills.
 - The **social bond** has to be reformed around the technological vector, which would become the matrix of local communities in the global community. New media engender a synthesis and a complexification of traditional stakes: economy, culture, political and social life. **Social development, understood as a project of local community, is now conceived essentially as coming from technological development, which is a very new fact in the history of communities.** With this change there appears the concrete danger of a process of social (economic and cultural) division, again on the two planes of the local-national and the global, according to a double dichotomy:
 - North/South
 - Literate (i.e. active and even **hyper-active**)/illiterate (i.e. inactive or **under-active**).

What has developed is an **essentially productivist point of view** on the necessity of a new techno-culture (in which we see the economists legislate on the conditions of the transmission and development of knowledge). Broadly speaking, one could say that the argument upheld up is ultimately the following: *“The economic environment has changed. To adapt the (national) productive machine to this change is to adapt the skills of the individuals who compose this machine.”* The individuals are here like the cells of a great living being, which would be the productive machine.

That such an evolution is seen as required is a quasi-biological point of view, thought in Darwinian terms. To adapt individuals is to modify (or manipulate) the genetic code of cells. This point of view is, consciously or not, based on a prevailing socio-biological ideology, and influenced by ecological metaphors that are not devoid of pertinence, but are only metaphors and not concepts. A business, a market, a technology, and even culture in general, would live in an “ecological niche”; the “technological milieu” would be a living milieu, and this living milieu would be determined by biological laws common to plants, animals and human societies, where the key word is *adaptation*. We do not disclaim all interest in this model for thinking technics (André Leroi-Gourhan, to whom we frequently refer, speaks of a quasi-biological development of technics). But we do think it is necessary to state limits: if we are dealing with technologies of memorisation, with a transformation of the conditions of the transmission and the development of knowledge, with reflexivity, and with the symbolico-aesthetic *dispositifs* in which all these consist, then the biological viewpoint evoked in a vague way by the terms “adaptation” and “learning” leads purely and simply to failure if it is not placed in its proper context, and if the issue is not thought in an appropriately reflective way. In other words, the stakes are not only those of optimising the efficiency of the productive machine—and we must even say that they are not primarily this. On the contrary, the optimisation of productivity is conditioned by principles which in essence escape productive finality.

The discourse on the “new technologies” is also dominated by a **thematic of rupture**. It is stated in several discourses:

The discourse of production and the “technological challenge,” as we have seen, follows a biological model, and calls for the acquisition of skills to conform to new norms of production.

The discourse of the socio-cultural activist aims for the appropriation of the “new means of expression” by individuals and social groups for their emancipation, and the establishment of a “new social regulation.” It constitutes a sort of technological messianism.

The discourse of techno-social marketing legitimates itself with reference to the notion of social experimentation. Its concern is to bring forth new forms of consumption rather than of production—that is, a “social need” that would allow the creation of new services and ensure the “scaled growth” of networks (in other words, their commercial viability).

For the discourse of pedagogy, the “new means of communication” extend

the pedagogical power of teachers (but they are not understood as matrices of new forms of knowledge).

None of these discourses take into account the continuity of the ICTs with the knowledge of books, understood as the technological processing of memory through the instrumental (and institutional) practice of writing.

Today, states are tasked with equipping the communities they represent with the capacities needed to produce programs of all types. This issue is felt in various ways, but is well expressed by the stated desire to make new generations widely “literate” to ICT, especially informatics.

We should reflect on the pertinence of applying the metaphor “literate” to techniques other than linear writing.

Writing already constitutes a technology for the processing of memory, and not only of its conservation. This processing requires processing programs, which are in this case textual, literary, political, legal, administrative, and scientific. We can say retroactively that learning to write is learning to program; that is to say, to produce (at the same time as to read) texts—and it’s also learning to think in a certain mode of thought. The notion of program should be widely extended without erasing the differences which characterise the diversity of programs. However, whether these are books, musical scores, records, radio program grids, newspaper mock-ups, movies, games, or computer programs, they all always assume an instrumental practice applied to a material that it informs, which results in information that is also memory data, at the same time stored and produced by its formalisation.

To learn to program does not here mean “to learn a language” in the sense that in informatics one would learn an access code and a set of procedures (protocols), but rather to learn to analyse—or in other words, to formalise and instrumentalise—memory. The applications of informatics in teaching a language make this aspect apparent: the use of scripts, narrative sequences stereotypically describing micro-worlds (via MOP, memory organisation packets), shows the language student formal regularities, narrative rules that linear writing does not make directly evident, and which require from the student more rigour in the formalisation—that is to say, in the analysis—of her statements (those she writes as well as those she reads). In the techniques of the moving image, the question of the program

presents itself in many ways, and first of all in terms of editing, which constitutes the formal (for it is instrumentalised) implementation of **rules of sequencing** [*règles d'enchaînement*], as in the previous case. These formalisations, and the insights that their practice implies, are made possible by, and can be identified because of, the repetitive nature of the technologies which authorise them: it is because they can be repeated that programs uncover the regularities they produce by revealing them (like the judge produces documents in the investigation of a file). The same goes for linear writing: the literal conservation of a sentence and the reading it necessarily implies not only allow, but require, that we wonder about its regularity.

However, we do not wonder enough about the profoundly instrumental character of the relationship that a literate individual maintains with his or her memory. Public education and the literacy that supports it are so well integrated into our cultural practices that they are second nature. However, our access to language, mediated by these practices and institutions (among the most significant of modern states), which requires many years of coaching and learning, is entirely technological. This is a reality which tends to completely escape us.

Yet the ideal of public education is recent: it is Republican. It became an official ideal of power with the French Revolution, and an institutional reality with Jules Ferry.

In Republican idealism, only a literate, educated subject is a true citizen, because they are a person likely capable of making a **choice**, that is to say an *ēpokhē*. The institution of secular education, free and compulsory, is also **the right and the duty of all to access memory technologically**—a technological access that is a right to emancipation from the traditional and dominant programs. An access whose ideal is speculation, that is to say, a critical thinking constitutive of the Republican individual fit to pronounce a political choice, as well as to produce an alternative.

If the great nineteenth century social project of literacy was led by a humanist discourse of emancipation of individuals and of social progress, inherited from the Revolution, it is clear that it responded in the first place to economic imperatives: at the time of its development, industrial society needed to fight against illiteracy, which became a major hindrance to its requirements for production (such as the establishment of means of social regulation). We may think that Jules Ferry had

not essentially intended to make the working masses more critical. And yet, this literacy could be achieved only by way of the development of literary practices perfectly irreducible to pure efficiency requirements. Literacy is only possible by including the highest forms of the practices that it produces, which are essentially reflexive. Literacy does not endow the subject with a means supplementary to those it already has: it constructs it *as* this subject. Learning to write is an instrumental practice, but one which does not aim at the mastery of a means of power. Rather, it aims at the constitution of a reflexive subject in the political sense of the term, which only constitutes itself effectively through the practice of this instrument of knowledge. The instrumental practice is the central issue.

We will not linger over many objections which could be made to this “ICT-literacy project” (and notably this one: the socialisation of writing by public instruction was preceded by three thousand years of practices restricted to private tutoring which have prepared for this “massive” appropriation, etc.). In order to conclude, we want to say that if the question of the production of memory and imagination is that of the *ēpokhē*, and of practices of which it is the result—practices which, in modernity, the academic institution is itself the mark—then this institution, in its ideal of emancipation, addresses itself to a citizen, that is to say to a subject belonging to a city defined by the existence of walls or borders. It would be a question today of cultivating the “epochal” power of communities, of forming “neo-technological” citizens. The subject of the media is perhaps not that of the Enlightenment and Republican ideals, because the media overcome the walls of households as well as of cities: the “subject” of the media is without doubt no longer a citizen properly speaking.

BERNARD STIEGLER is Director of the Institut de recherche et d’innovation (IRI) at the Georges Pompidou Centre, Paris, and a co-founder of the group *Ars Industrialis*.

ASHLEY WOODWARD is a Senior Lecturer in Philosophy at the University of Dundee, and an editor of *Parrhesia*.

AMÉLIE BERGER SORARUFF is a Doctoral Candidate in Philosophy at the University of Dundee.

NOTES

1. All explanatory notes are the translators'. We are grateful for the many helpful comments and suggestions on this translation given by Jon Roffe, Arne De Boever, and Jason E. Smith.
2. The full French text is available online: http://www.persee.fr/doc/reso_0751-7971_1986_num_4_16_1204
3. In particular, this translation has benefited from comparison with a few passages in Stephen Barker's translation of Stiegler's *Technics and Time 2: Disorientation* (Stanford: Stanford University Press, 2009).
4. The original French gives the acronym NTC for "nouvelles technologies de communication." While it would have been possible for us to keep this as an acronym for the equivalent English phrase "new technologies of communication," for the sake of contemporary clarity and readability we have chosen to substitute the familiar English acronym ICT (Plural: ICTs), which stands for "information and communication technology."
5. The French term "*dispositif*" is sometimes translated as "device," "apparatus," or "set-up." We have chosen to leave it untranslated as it is becoming well-known in the community of Anglophone scholars through the works of philosophers such as Michel Foucault, Gilles Deleuze, Jean-François Lyotard, and Giorgio Agamben.
6. In translating "*informatique*" and related terms we have followed Stephen Barker's precedent in his translation of *Technics and Time 2: Disorientation*: "The French term *informatique* originally referred strictly to the computer; by the end of the 1990s it came to mean something more general: the virtualizing of information by—but also beyond—the computer; therefore, I have chosen to translate *l'informatique* as 'informatics' rather than 'computers' or even 'computer science.'" (249). In the interests of consistency we will generally therefore use, for example, "informatics" rather than "computing" to translate such terms, but—especially considering the dating of the research presented in this paper to the nineteen-eighties—the predominance of the sense of "computing" should be borne in mind when such terms are used.
7. The term program grid [*grille de programmes*] refers to a schedule of television programs. Stiegler analyses this further in *Technics and Time 3: Cinematic Time and the Question of Malaise*, trans. Stephen Barker (Stanford: Stanford University Press, 2011), 121-125.
8. While context has occasionally demanded otherwise, for the most part we have employed the following conventions established by Richard Beardsworth and George Collins in their translation of Stiegler's *Technics and Time 1: The Fault of Epimetheus* (Stanford: Stanford University Press, 1998): "The French terms '*une technique*' and '*des techniques*,' referring to one or more individual, specialized 'techniques,' are translated as 'technique' and 'techniques.' The French '*la technique*,' referring to the technical domain or to technical practice as a whole, as system or result, is translated as 'technics' or 'the technical.'" (280)
9. Stiegler's French terms here are "*droit*" (right or law) and "*fait*" (fact). Here and in other sections of the article he is referring to the old legal distinction between *de jure* and *de facto*, and to the important philosophical sense was given to this distinction by Immanuel Kant in distinguishing between the questions *quid facti?* and *quid juris?* The former question: "by what fact?," concerns experience and is the question asked by the kind of empirical deduction which, according to Kant, was employed by philosophers such as John Locke and David Hume. By contrast, Kant's own method of transcendental deduction focuses on the latter question: "by what right, law, or principle?," or in other words, how can the legitimacy of a claim be established? (See Kant's *Cri-*

tique of Pure Reason A 84/B 116—A 92/B 124.) We have translated *droit* variously as “right” or “law,” depending on context, although it is not always entirely clear which would be preferable, and the confluence of these terms—as well as the notions of “principle” and “rule” which are also often implied—should be kept in mind. Stiegler’s main point is to argue that new technologies (ICT) are problematizing the traditional distinction between *droit* and *fait*, in all these senses, both legal and philosophical.

10. André Leroi-Gourhan, *Gesture and Speech*, trans. Anna Bostock Berger (Cambridge, Mass. And London: MIT Press, 1993).

11. Leroi-Gourhan, *Gesture and Speech*, 90.

12. Leroi-Gourhan, *Gesture and Speech*, 91.

13. Leroi-Gourhan, *Gesture and Speech*, 137-39.

14. Leroi-Gourhan, *Gesture and Speech*, 146.

15. “Operational sequence” [*chaîne opératoire*] is a key term in Leroi-Gourhan’s *Gesture and Speech* and in the wider anthropological discourse that it influenced. It refers to the step-by-step technical process involved in the production and use of artifacts through material actions, including the social and cultural dimensions of such a process. In his introduction to the English translation of *Gesture and Speech*, Randall White explains that “[for] Leroi-Gourhan such operational sequences constitute the building blocks of technology, indeed of culture. They are culturally or ethnically conditioned and highly structured but through repetition and conditioning at a young age become more-or-less subconscious. Whether these operational sequences structure the fabrication of stone tools, the manufacture of personal ornaments, or the construction of painted and engraved underground sanctuaries, they are the focus of analysis. For archaeologists they represent an accessible entry to social organization and cosmology. But these operational sequences often remain un verbalized and unrecognized by those who practice them” (xviii).

16. Leroi-Gourhan, *Gesture and Speech*, 113-14.

17. Leroi-Gourhan, *Gesture and Speech*, 220.

18. Leroi-Gourhan, *Gesture and Speech*, 228.

19. Leroi-Gourhan, *Gesture and Speech*, 228.

20. Leroi-Gourhan, *Gesture and Speech*, 228.

21. The French expression “*droit de cité*” translated here refers to the right to citizenship.

22. Marcel Detienne and Jean-Pierre Vernant, *The Cuisine of Sacrifice Among the Greeks*, trans. Paula Wissing (Chicago and London: University of Chicago Press, 1989), 33.

23. See note 29 for some of the resonances of meaning which may be heard here.

24. The concepts of “constative” and “performative” derive from J. L. Austin’s philosophy of language. Constative utterances are statements of fact. With constatives there is a distinction between the statement and the fact itself, such that the statement may be true or false in relation to the fact. By contrast, performative utterances do not state a fact, but are the performance of an action. For example, “I promise.” For Austin, a clear-cut distinction between these types of utterance is only preliminary, and he argues that there is a performative dimension to all utterances. In addition to his well-known book *How to Do Things with Words* (London: Oxford University Press, 1962), see Austin’s paper “Performative-Constative” in Charles E. Caton (ed.), *Philosophy and Ordinary Language* (University of Illinois Press, 1963), 22-54. Notably, this is a translation by G.J. Warnock of an article which originally appeared in French: “Performatif-Constatif” in *Cahiers de Royaumont, Philosophie No. IV, La Philosophie Analytique* (Paris: Les Editions de Minuit, 1962), 271-304. Stiegler’s characterisation of the constative as metaphysical likely draws on Jacques Derrida’s discussion of Austin in “Signature, Event, Context” in *Margins of Philosophy*, trans. Alan Bass

(Chicago: University of Chicago Press, 1982).

25. Gérard Granel, course notes.

26. Pierre Bourdieu and Luc Boltanski, “Le Fétichisme de la language,” *Actes de la recherche en sciences sociales* vol. 1, no. 4 (1975): 2-32.

27. Pierre Bourdieu, *Outline of a Theory of Practice*, trans. Richard Nice (Cambridge: Cambridge University Press, 1977).

28. Jean Bazin and Alban Bensa in Jack Goody, *La Raison graphique*, trad. Bazin and Bensa (Paris: Éditions de Minuit, 1979). Translation of *The Domestication of the Savage Mind* (Cambridge: Cambridge University Press, 1977).

29. Armand Mattelart and Yves Stourdzé, *Technologie, Culture et Communication: Rapport remis à Jean-Pierre Chevènement, ministre d’Etat, ministre de la Recherche et de l’industrie*. La Documentation Française, 1983.

30. *Le moment instituteur*. The French “*instituteur*” is from the Latin “*instituer*,” implying something foundational/ formalising/organising/regulating and administrating. Stiegler seems to be punning with these meanings and with the meaning of “*instituteur*” in the lexical field of education, where it is used to refer to a primary school teacher. We are taught by formalisation, regulation, and initiation: the “*instituting moment*” can be understood as a key moment of both instituting and teaching, in these senses. It can also be understood as linking with “*institution*” in the social and political sense of the term.

31. Martin Heidegger, “The End of Philosophy and the Task of Thinking,” trans. Joan Stambaugh and David Farrell Krell in *Martin Heidegger: Basic Writings*, ed. D. F. Krell. San Francisco: Harper Collins, 1993, pp. 434-5.

32. Heidegger, “The End of Philosophy,” 435-6.

33. Heidegger, “The End of Philosophy,” 434.

34. Martin Heidegger, “The Turning” in *The Question Concerning Technology and Other Essays*, trans. William Lovitt. New York: HarperPerennial, 1977, 39.

35. This translates “*questionnance*,” a French neologism.

36. Edmund Husserl, *Crisis of the European Sciences and Transcendental Phenomenology*, trans. David Carr (Evanston: Northwestern University Press, 1970), 92.

37. Heidegger famously notes that for the Ancient Greeks, *tekhnē* meant both art and technology. See “The Question Concerning Technology” in *The Question Concerning Technology and Other Essays*.

38. Lyotard, *The Differend: Phrases in Dispute*, trans. Georges Van Den Abbeele (Minneapolis: University of Minnesota Press, 1988), 18 (section 32).

39. Lyotard, *The Differend*, 55 (section 91).

40. Lyotard, *The Differend*, 13 (section 23).

41. *Présent* refers both to the “present” timeline and the idea of a gift.

42. It is important to note here that the French *interprétation* can mean both “interpretation” in the English sense, as what we do when we seek to understand a text, and “performance” as this term would be used in a musical context. In these passages both these senses are intertwined as Stiegler develops a thesis on the textuality of musical instruments.

43. Jacques Derrida, “Declarations of Independence” in *Negotiations*, ed. and trans. Elizabeth Rottenberg (Stanford: Stanford University Press, 2002), 49-50.

44. Gilles Deleuze, *Cinema 1: The Movement-Image*, trans. Hugh Tomlinson and Barbara Habberjam (London: Athlone, 1992), 2.

45. Deleuze, *Cinema 1*, 8.

46. Deleuze, *Cinema 1*, 20.

47. Stiegler is referencing a document for the exhibition Lyotard directed, *Les Immatériaux*, held at the Georges Pompidou Centre, 29 March—15 July, 1985. This document is available in the Bibliothèque Kandinsky. The relevant passage reads: “The *matériels* [hardware] do not cease to complexify themselves. A line was crossed when their brains were made to operate with digital information, without analogy with their origin. It’s as if a filter has fallen between things and us, a screen of numbers. A colour, a sound, a matter, a pain, a star, are reproduced as numerical indices of very precise identifications. These encoder-decoders inform us of much more ungraspable realities.

In the end we have analysed and reconstituted good and beautiful matter itself in complex formulas. Reality is made of indiscernible elements organized by laws of structure (matrices) on inhuman scales of space and time.

How could the question of the origin of these innumerable messages and of their destination not consequently arise? Can we still believe that we are their special addressees? To what end do we constantly attempt to grasp, to decipher, and to produce novelties if we do not think thus to honour their donator? How should we understand the maternity of sense? [*Qu’en est-il de la maternité du sens?*]”

48. We have here followed the convention introduced by Richard Beardsworth and George Collins in their translation of Stiegler’s *Technics and Time vol. 1: The Fault of Epimetheus*: “We wish to stress here Stiegler’s insistence throughout the work on the originary *défault* of the human species which makes of it a technical being, in distinction to other living species, and, as a result, a contingent and underdetermined being. To distinguish, therefore, *défault* from the connotations that inform either the English term “lack” (the term has been much used in recent French thought concerning the ends of the concept of a “subject”) or the work (more Derridean in tone and inspiration) on “radical lack,” we believe it worthwhile to translate the term by the neologism “de-fault,” thereby picking up the play between “default” and “fault,” but also the connotations of “failure,” “lack,” “mistake,” “deficiency,” and “defect” which inform Stiegler’s use of the French term.” (280)

49. In a 2014 interview with Benoît Dillet, Stiegler indicates that the concept of the idiotext, briefly developed here, was central to the last part of his doctoral dissertation, titled “The Idiot.” This material remains unpublished, as he does not feel it is yet ready. See Stiegler, *Philosophizing by Accident: Interviews with Élie During*, ed. and trans. Benoît Dillet (Edinburgh: Edinburgh University Press, 2017), 117.

50. An *access control list*, in any computer operating system (including Apple’s), is the list denoting who has permission to read and/or write a given file or folder.

51. The reference is to Charlie Chaplin’s most famous character, known as The Tramp in English, but as Charlot in French and several other languages.

52. Italo Calvino, *The Literature Machine: Essays*, trans. Patrick Creagh (Picador, 1989).

53. “Monsieur Dupond” is a generic name for an individual, the French equivalent to the English “John Smith.”

54. Georges Bataille, *Prehistoric Painting: Lascaux or The Birth of Art*, trans. Austryn Wainhouse (New York: Skira, 1955), 7.

55. Yves Bonnefoy, *L’improbable et autres essais* (Paris: Folio essais, 1992).

56. In Maurice Blanchot, *The Infinite Conversation*, trans. Susan Hanson (Minneapolis and London: University of Minnesota Press, 1993).

57. Jean-Pierre Vernant, *Myth and Thought Among the Greeks*, trans. Janet Lloyd and Jeff Fort (New York: MIT Press, 2006), 116-17.

58. Vernant, *Myth and Thought Among the Greeks*, 117.
59. Vernant, *Myth and Thought Among the Greeks*, 118.
60. Vernant, *Myth and Thought Among the Greeks*, pp. 121-22; p. 123.
61. Vernant, *Myth and Thought Among the Greeks.*, 123.