

# The Remediation of (Post-)Humanities

Laurent Milesi

Shanghai Jiao Tong University  
E-mail: milesi@sjtu.edu.cn

## Abstract

‘Humanity does not exist at all yet or it barely exists.’ French historical figure Jean Jaurès’s statement, famously echoed by Jacques Derrida, then by Bernard Stiegler, provides a fittingly provocative starting point for my reflections on the present condition and future of the ‘humanities’, envisaged both as the pluralization of what differentiates ‘us’ from other species and as the academic implementation of programmes (as well as the philosophical questioning) in the name of humanism.

This article investigates the condition of the humanities in the digital age as always already that of the ‘posthumanities’. The impact of the Derridean deconstruction of the sign as technological ‘trace’ is recalled as an antecedent to Stiegler’s conception, from his first volume of *Technics and Time* onwards, of humanity as indissociable from an exteriorizing technicity which gave rise to a third kind of, or ‘epiphylogenetic’, memory. The second part looks at Stiegler’s notion of ‘pharmacology’, his diagnostic of the enslavement of contemporary *homo technicus* through tele-technologies and his pragmatic search for socio-political, cultural and educational remedies. Taking my cue from his approach as well as inflecting Bolter and Grusin’s notion of ‘remediation’, I conclude with a final section envisaging tomorrow’s ‘remedial’ (post)-humanities, adducing as precursor examples a couple of creative practitioners (Mark Taylor and Gregory Ulmer) and emphasizing the rich potential of videogames in such a ‘re(-)creative’ process.

**Keywords:** remediation, Jacques Derrida, sign vs. trace, Bernard Stiegler, pharmacology, videogames, posthumanities

I would like to begin with a remark made on 18<sup>th</sup> April 1904 by a historical figure of French politics, Jean Jaurès, for the leading article in the first issue of the newspaper *L’Humanité* (which became the central organ of the French Communist Party after the 1920 Tours Congress), which Jacques Derrida recalled to fame in a commentary originally delivered at the Fête de l’Humanité, then published in the same newspaper on 4<sup>th</sup> March 1999:

L’humanité n’existe point encore ou elle existe à peine.  
(Humanity does not exist at all yet or it barely exists.)<sup>1</sup>

Later the hapless victim of fanatic inhumanity – he was murdered on 31<sup>st</sup> July 1914 by a young French nationalist – Jaurès, the believer and leading figure in a ‘new international’ movement, was then extolling the great socialist-proletarian cause, whose goal was to make of ‘each nation, at last reconciled with itself, a small part [*parcelle*] of

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<sup>1</sup> Jean Jaurès, ‘Notre but, L’Humanité’, *L’Humanité* 1 (18 April 1904): 1; Jacques Derrida, ‘My Sunday “Humanities”’, in *Paper Machine*, trans. Rachel Bowlby (Stanford: Stanford University Press, 2005), 100.

humanity’,<sup>2</sup> and which its newly-founded journalistic voice in France had set out to further.

Taking his cue from the newspaper founder’s provocative aphorism, Derrida proposed eleven (mistakenly announced as ten) developments, or ‘points’, on what ‘humanity’ meant for him, offered ‘[a]s if [...] I was spending my Sunday morning doing the homework of a student who had decided to study “humanities”.’<sup>3</sup> Among these – and leaving aside those ‘abstractions’ that dealt with sexual difference / gender equality, the issues of sovereignty and globalization, or that pertain more specifically to the context of a political newspaper called *L’Humanité* – I single out nos. 3, 7 and 8, which focus respectively on the intrinsic non-specificity of the human (especially in relation to the ‘animal’), the impact of (virtual) technologies and bio-engineering on the living, and freely thinking the ‘question of man’ in the so-called ‘humanities’:

Humanity [...], the humanity of mankind, is still a very new concept for philosophers who aren’t sleepwalking. The old question about what is specifically human needs to be entirely reworked. Not only in relation to the life sciences, not only in relation to what is called by that general, homogeneous, and confused word, ‘the *animal*,’ but also in relation to all the traits that metaphysics restricted to humans, of which *not one* is resistant to analysis [...].

Humanity, whether in relation to the new bio-genetic technologies, or to multimedia virtualization, or to the new public space, will be a new ‘spectral’ beyond of the opposition of life and death, and presence and absence. And of the opposition of private and public, and state or civil society and family.

Plural humanity is also the issue for the old and young humanities subjects, which are under threat more than ever before in secondary education, research, and the universities. The humanities (language and the book; works of philosophy, literature, and the arts, etc.) remain the last place where the principle of free speech or free thought can still *be presented* as such. The same is true of the principle of a ‘question of man,’ freed from old presuppositions [...].<sup>4</sup>

In a paper first read at the Cardiff Centre for Critical and Cultural Theory’s 20<sup>th</sup> Anniversary Conference on ‘Zoontotechnics (Animality/Technicity)’ (12-14 May 2009), Bernard Stiegler returned to this historical moment and quotation as a point of departure for his inquiry into the fast-changing condition of human life, existence and living memory in today’s hyper-mediatised, hyper-technological society. Titled ‘Pharmacology of the Question’,<sup>5</sup> from Plato’s *pharmakon*, made famous by Derrida as both the poison and the cure, it aimed to question under this name for a new critique the ambivalence of artefactual memory aids (*hypomnemata*) that incline us to forget just as they enable us to remember. But rather than pretending to assume, like Stiegler, that Jaurès’s statement makes ‘the question of post-humanism’ ‘completely premature’, ‘that it would not yet know how to think the question of prematurity, that is, the question of the pharmaco-logy of exteriorization, the question of a kind of *inexistence* of man, an *incompleteness* of man, of man’s relation to the incomplete [*inachevé*], that is, to

<sup>2</sup> Jaurès, 1; translation mine.

<sup>3</sup> Derrida, ‘My Sunday “Humanities”’, 101.

<sup>4</sup> Derrida, ‘My Sunday “Humanities”’, 103, 107.

<sup>5</sup> Reworked as Part IV of *What Makes Life Worth Living: On Pharmacology*, trans. Daniel Ross (Cambridge: Polity, 2013), 102-33.

(de)fault, which will have always called the human into question’,<sup>6</sup> I would like to situate these legitimate doubts as/at the very core of thinking the human as always already posthuman. Through a temporal logic akin to the Freudian temporality of trauma or *Nachträglichkeit* – one which has contributed to Jean-François Lyotard’s conception of the relationship between the modern and the postmodern – the human can start being apprehended only when it is disengaged from humanist assumptions that ‘we know what “man” is’ and envisaged under the label of the posthuman. Thus, to adapt Lyotard’s famous maxim – since his conception of postmodernity provided one of the several ingredients in the emergence of posthumanism – one could say that ‘man’ / the ‘individual’ can become human only if it is first posthuman. Posthumanism thus understood is not humanism at its end but in the nascent state and this state is constant.<sup>7</sup>

Thus, ‘The Humanities Matter’, the *mot d’ordre* for the conference which first prompted these reflections,<sup>8</sup> is also, and perhaps has always already been, the question of the posthumanities. Yet, as Stiegler goes on – albeit in orthodox Marxist fashion, without taking on board the possibility of a non-linear advent of the ‘post’ (in a process which therefore would not be one of mere supersession and obsolescence but of complementarity and reinscription), in a sequence hinting at his conviction of the potentially regressive nature of man’s enslavement to new technologies (to which I will return):

To begin by proposing that *there would have been* a humanity, threatened by who knows what ‘post’ – ‘post-humanism’ necessarily coming after a banal ‘humanism’ through which, however, one dispenses with having to pose the question and allows oneself in advance not to put anything into question – is to close off, from the outset, what such thoughts put into question [...].<sup>9</sup>

In what follows, in order to map a joint territory for the ‘question of humanity/ties’ and what Martin Heidegger famously called ‘the question concerning technology’,<sup>10</sup> I will navigate between Derrida’s rethinking of the human as a sort of posthumanism that does not want to acknowledge its name<sup>11</sup> – as early as his deconstruction of the notion of ‘sign’ and highlighting a specific moment at the end of *Specters of Marx* (with which the adjective ‘spectral’ in the first fragment from ‘My

<sup>6</sup> Stiegler, *What Makes Life Worth Living*, 112.

<sup>7</sup> Compare with Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. Geoff Bennington, and Brian Massumi, foreword Fredric Jameson (Manchester: Manchester University Press, 1984), 79, and see 81 for the postmodern modality of a future perfect temporality. My mention of Lyotard also serves the indirect purpose of recalling, for what it is worth, a little-known parallel between him and Stiegler: Lyotard’s *Postmodern Condition* was a ‘report on knowledge’ presented to the Conseil des Universités of the government of Quebec at the request of its president, while in 1985 Stiegler was tasked by the French Ministère de la Recherche with conducting a study on the stakes of information and communication technologies.

<sup>8</sup> This essay was first given as a keynote on the occasion of the International Seminar on ‘The Humanities Matter (?)’, convened at the University of North Bengal in February 2018.

<sup>9</sup> Stiegler, *What Makes Life Worth Living*, 112. The ‘questioning’ is deliberately truncated here: Stiegler’s interest lies primarily in the possibility of a new critique of political economy since ‘the real question is not post-humanism but hyper-proletarianization.’ (112)

<sup>10</sup> Martin Heidegger, ‘The Question Concerning Technology’, in *The Question Concerning Technology and Other Essays*, trans. and intr. William Lovitt (New York and London: Garland, 1977), 3-35.

<sup>11</sup> Including in his ingrained reticence towards all forms of ‘postism’; see ‘Some Statements and Truisms about Neologisms, Newisms, Postisms, Parasitisms, and Other Small Seismisms’, trans. Anne Tomiche, in *The States of ‘Theory’: History, Art, and Critical Discourse*, ed. and intr. David Carroll (New York: Columbia University Press, 1989), 63-94.

Sunday “Humanities” can be made to resonate silently) – and Stiegler’s conception, from his first volume of *Technics and Time* onwards, of humanity as indissociable from an exteriorizing technicity. After this inevitably patchy recapitulation, I will offer my own critical articulation of the ‘remediation’ of (post)humanities today, with a brief coda on the increasingly productive role of videogames in such a process as well as a couple of forward-thinking, creative-critical practitioners.

## From Sign/Expression to Trace/Impression and Exteriorization

Very early in what became known as deconstruction, and especially in the key chapter on Saussure in *Of Grammatology* (‘Linguistics and Grammatology’ [1967]) and in ‘Signature Event Context’ [August 1971], Derrida set about prizing open the ‘ontotheological’ determinations of the classical (linguistic, philosophical) concept of the sign. For Derrida, not only did the sign, in retaining a hierarchical valorisation of one facet over the other (the signified over the signifier in the Saussurean algorithm, inverted in Lacan), fully pertain to the logocentrism of Western metaphysics, but its tethering to a regional rather than global science (linguistics rather than semiology/semiotics) attuned to a reductively anthropocentric conception of ‘communication’ and expression bypassed the two joint axes of animality and technicity (points nos. 3 and 7 above) which his substitution of the ‘trace’ as quasi-originary impression could more readily preserve.<sup>12</sup>

The symbolic significance, for humanity as much as for the humanities, of Derrida’s deconstruction of the sign, which for Husserl in *Logical Investigations* subsumed the concept of ‘expression’ (*Ausdruck*),<sup>13</sup> lies in heralding the possibility of a grammatology-to-come which, conceived as ‘a nonexpressive semiology only on the condition of transforming the concept of sign and of uprooting it from its congenital expressivism’,<sup>14</sup> ‘ought not to be *one of the sciences of man*, because it asks first, as its characteristic question, the question of the *name of man*.’<sup>15</sup> Together with the essay on the mnemonic apparatus as a ‘mystic writing pad’ (‘Freud and the Scene of Writing’) –

<sup>12</sup> See my two companion essays ‘Saint-Je Derrida’, *Oxford Literary Review* 29: ‘Derridanimals’, ed. Neil Badmington (2007): 55-75, and ‘Almost Nothing at the Beginning: The Technicity of the Trace in Deconstruction’, in *Language Systems after Prague Structuralism*, ed. Louis Armand, and Pavel Černovský (Prague: Litteraria Pragensia, 2007), 22-41. For Stiegler, the thinking of the trace, *différance* and arche-writing as technological was already formed during Derrida’s engagement with Husserl’s *Origin of Geometry*; see his excellent ‘Derrida and Technology: Fidelity at the Limits of Deconstruction and the Prosthesis of Faith’, trans. Richard Beardsworth, in *Jacques Derrida and the Humanities: A Critical Reader*, ed. Tom Cohen (Cambridge: Cambridge University Press, 2001), 241.

<sup>13</sup> See Jacques Derrida, *Voice and Phenomenon: Introduction to the Problem of the Sign in Husserl's Phenomenology*, trans. Leonard Lawlor (Evanston, IL: Northwestern University Press, 2011), 15; cf. also ‘Signature Event Context’, in *Margins of Philosophy*, trans., additional notes Alan Bass (Brighton: Harvester Press, 1982), 319-20.

<sup>14</sup> Jacques Derrida, *Positions*, trans. and annotated Alan Bass (London and New York: Continuum, 2004 [1981]), 29.

<sup>15</sup> Jacques Derrida, *Of Grammatology*, corrected ed., trans. Gayatri Chakravorty Spivak (Baltimore and London: The Johns Hopkins University Press, 1976), 83. In *Of Grammatology*, Derrida had stated that the trace, which ‘[a]rticulat[es] the living upon the nonliving in general’, ‘arche-phenomenon of ‘memory,’ [...] must be thought before the opposition of [...] animality and humanity’ (65, 70). See also Christopher Johnson, ‘Derrida: The Machine and the Animal’, *Paragraph* 28.3 (2005): 102-20, which recalls, in connection with Derrida’s essay on ‘Heidegger’s Hand’, that traditionally ‘the human animal is a signing animal, an animal capable of pointing, of indication’ (111).

cf. for e.g.: ‘Life must be thought of as trace before Being may be determined as presence.’<sup>16</sup> – and its extension in *Archive Fever: A Freudian Impression*, dealing with techniques of archiving and mnemonic inscription,<sup>17</sup> these landmarks in Derridean deconstruction helped pave the way for a paradigm shift in the humanities, from the unquestioned privileging of the interiority of expression (‘nature’) to an awareness of the exteriority of impression (*tekhnè* but also ‘artificiality’<sup>18</sup>) as well as, in *Of Grammatology*, via paleoanthropologist André Leroi-Gourhan, ‘exteriorization’:

Writing is that forgetting of the self, that exteriorization, the contrary of the interiorizing memory, of the *Erinnerung* that opens the history of the spirit. It is this that the *Phaedrus* said: writing is at once mnemotechnique and the power of forgetting.<sup>19</sup>

The following passage, in which phenomenological/Husserlian and Heideggerian terminologies (protention, retention, intentional consciousness; putting in reserve) will be noted in passing and whose momentous significance outside the stricter confines of philosophy and linguistics cannot be stressed enough, fully articulates the necessity to think together as a technical ‘program’ the ‘human condition’ and the history and becoming of the written trace (*graphie*) in a generalized sense:

Leroi-Gourhan no longer describes the unity of man and the human adventure thus by the simple possibility of the *graphie* in general; rather as a stage or an articulation in the history of life – of what I have called difference – as the history of the *grammè*. Instead of having recourse to the concepts that habitually serve to distinguish man from other living beings (instinct and intelligence, absence or presence of speech, of society, of economy, etc. etc.), the notion of *program* is invoked. It must of course be understood in the cybernetic sense, but cybernetics is itself intelligible only in terms of a history of the possibilities of the trace as the unity of a double movement of protention and retention. This movement goes far beyond the possibilities of the intentional consciousness. [...] If the expression ventured by Leroi-Gourhan is accepted, one could speak of a ‘liberation of memory,’ of an exteriorization always already begun but always larger than the trace which, beginning from the elementary programs of so-called ‘instinctive’ behavior up to the constitution of electronic card-indexes and reading machines, enlarges difference and the possibility of putting in reserve [...].<sup>20</sup>

This programmatological exteriorization bears some similarity to our more recent understanding of ‘man’ as constituted ‘from the outside’, not only – and ‘classically’ – in a glorified difference from its related sign ‘the animal’ but also, as we shall now see, as the trace of a process of incompleteness indissociable from its advent as a technologized, mediatized being.

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<sup>16</sup> Jacques Derrida, *Writing and Difference*, trans., with an introduction and additional notes Alan Bass (London and New York: Routledge, 1978), 255.

<sup>17</sup> Jacques Derrida, *Archive Fever: A Freudian Impression*, trans. Eric Prenowitz (Chicago and London: The University of Chicago Press, 1996).

<sup>18</sup> For the notion of ‘artificiality’, see Jacques Derrida, and Bernard Stiegler, *Echographies of Television: Filmed Interviews*, trans. Jennifer Bajorek (Cambridge: Polity, 2002), 1-27, 41-55. A parallel can be drawn between Derrida’s image of the eardrum or ‘Tympanum’ (cf. the eponymous, prefatory essay in *Margins of Philosophy*), through which philosophy hears itself speak and retains only what it can successfully interiorize (unlike poetry, for e.g.), and Stiegler’s conception of Greek philosophy’s self-identification as an inside (repository of knowledge) relegating *tekhnè* to a simple outside.

<sup>19</sup> Derrida, *Of Grammatology*, 24.

<sup>20</sup> Derrida, *Of Grammatology*, 84 (see also 9).

Working in the footsteps of Derridean deconstruction,<sup>21</sup> and also influenced by Gilbert Simondon, a philosopher of technology and evolution, and his theory of individuation, Stiegler extended Leroi-Gourhan's crucial insight into the correspondence between anthropogenesis and technogenesis as well as his conception of hominization as the exteriorization of memory, through tools and technology constituting a third kind of memory, the *pharmakon* in Stiegler's 'epiphylogenetic' memory or 'tertiary retention', in addition to the genetic memory contained in the DNA and the individually acquired, epigenetic memory stored in the nervous system.<sup>22</sup> In Daniel Ross's helpful explication, three great epochs of memory must be distinguished 'within the differential, material, inscriptive process that is vital individuation': the genetic molecule, the neuronal structure, and the technical artefact, characterized as follows:

- the epoch of genetic conservation, or 'the persistence-in-becoming of the DNA molecule that has enabled the great terrestrial process of vital individuation';
- the epoch of nervous memory, or 'the capacity of animals possessing nervous systems to finitely retain, and to have their behavioural programs altered by, the events of their own experience';

and, crucially innovative in Stiegler's tripartite scheme:

- the epoch of technical memory, or 'the inscription of form in inanimate matter by beings whose cortical evolution is then affected by this capacity and the specular capacity to return to these technical objects, which then also function as a projection screen and contribute to the formation of a non-biological process of becoming including the formation of socio-ethnic programs, idiomatic differences, technical inventions, and all the others of *physis*, the pursuit of life by means other than life [...], amounting to what, following Simondon, Stiegler calls processes of psychic, collective and technical individuation.'<sup>23</sup>

As early as *Technics and Time, 1: The Fault of Epimetheus* [1994], in a sort of rerun of Derrida's 'logic of the supplement', Stiegler expounded a theory of the human as an incomplete being marked by the '*défaut qu'il faut*', or (wittily in French) '*panne d'essence*',<sup>24</sup> an originary default of origin, a constitutive lack of interiority which only the prosthetic acquisition of technology will come to palliate:

what is usually considered properly human is immediately and irremediably linked to an absence of property [*impropriété*], to a process of 'supplementation,' of prosthetization or exteriorization, in which nothing is any longer immediately at hand, where everything is found mediated and instrumentalized, technicized, unbalanced.<sup>25</sup>

In Ben Roberts's concise rendering of Stiegler's thought, '[t]echnics is not the essence

<sup>21</sup> For a serviceable account of Stiegler's relation to, and subsequent departure from, Derrida, see Daniel Ross, 'Pharmacology and Critique after Deconstruction', in *Stiegler and Technics*, eds. Christina Howells, and Gerald Moore (Edinburgh: Edinburgh University Press, 2013), 243-58.

<sup>22</sup> For a nuanced account of Stiegler's debt to, but also compressed reading of, Leroi-Gourhan, see Christopher Johnson, 'The Prehistory of Technology: On the Contribution of Leroi-Gourhan', in *Stiegler and Technics*, 34-52.

<sup>23</sup> Ross, 'Pharmacology and Critique after Deconstruction', 248.

<sup>24</sup> 'Man is this accident of automobility caused by a default of essence [*une panne d'essence*, a "lack of fuel," an "empty tank"].' Bernard Stiegler, *Technics and Time, 1: The Fault of Epimetheus*, trans. Richard Beardsworth, and George Collins (Stanford: Stanford University Press, 1998), 121.

<sup>25</sup> Stiegler, *Technics and Time, 1*, 133; translation slightly modified.

or origin of the human but that which comes afterwards to fill in for a lack of origin or essence. The human is what it becomes through technics as becoming.’<sup>26</sup> To rephrase things using a popular adage, one could even say that, if man had not existed, it would have had to be invented, and such an invention is precisely what is made possible by technological evolution – Leroi-Gourhan’s ‘technological tendencies’, or movements, within the interior milieu (the shared past of the group, hence culture, etc.) that gain progressive foothold in the exterior milieu (geography, climate, animals and vegetation). In this new perspective, what is called the human is this process of exteriorization that has no pre-existing (as opposed to retroactively constituted) interiority: ‘[t]here is no interiority that precedes exteriorisation, but [on] the contrary exteriorisation constitutes the interior as such’. And ‘the history of the exteriorisation of memory in all its forms’ is what Stiegler calls, as a nod to Derrida’s *différance* and arche-writing, ‘grammatisation’.<sup>27</sup>

Fast forward from Stiegler’s engagement with the process of hominization to his more recent concern with the current digital age and the political impact of human dependency on its (post-)globalized virtual tele-technologies. In a prescient passage towards the end of *Specters of Marx*, taking up in a different context from ‘Plato’s Pharmacy’ the deconstruction of the relation between (interior, living) anamnesis and (exterior, living-dead) hypomnesis in the *Phaedrus*, Derrida had already intuited how

the differential deployment of *tekhnē*, of techno-science or tele-technology [...] obliges us more than ever to think the virtualization of space and time, the possibility of virtual events whose movement and speed prohibit us more than ever [...] from opposing presence to its representation, ‘real time’ to ‘deferred time,’ effectivity to its simulacrum, the living to the non-living, in short, the living to the living-dead of its ghosts.<sup>28</sup>

Leaving behind his planned, unfinished five-volume project of *Technics and Time* and focusing instead on the socio-cultural and politico-economic implications of today’s hyperindustrial technologization, Stiegler has alerted us to the ‘generalized proletarianization’ of gadget-bound *homo technicus*, the evolution from man-made (‘artisanal’) mnemotechnics to industrial mnemotechnologies – from alphabetic writing to electronic card indexes, to the process of total digitalization unfurling today – leading to ‘a structural loss of knowledge’ (both *savoir faire* and *savoir vivre*) and even, after Günther Anders, an ‘obsolescence of the human’.<sup>29</sup> We lose our mobile phones and it is

<sup>26</sup> Ben Roberts, ‘Introduction to Bernard Stiegler’, *parallax* 13.4 (2007): 27.

<sup>27</sup> Bernard Stiegler, ‘Anamnesis and Hypomnesis’, available at <http://arsindustrialis.org/anamnesis-and-hypomnesis> [accessed 20 August 2020]. Also: ‘Human memory is originarily exteriorized, and that means that it is *technical from the start*.’ See also *Technics and Time*, 1, 152, *What Makes Life Worth Living*, 20 ff. [§ 9], and Arthur Bradley, *Originary Technicity: The Theory of Technology from Marx to Derrida* (London: Palgrave Macmillan, 2011), 123, whose discussion of Stiegler rightly takes issue with the latter’s reserving, even against scientific evidence, epiphylogenetic heritage for the human alone (130), a ‘state of exception’ for a species otherwise originarily constituted through a necessary lack that not only folds Stiegler’s view of life back to (an albeit technologized form of) classical anthropology but also threatens to restrict his subsequent critical (bio)politics – for example of the technical constitution of temporalization in the epoch of hyperindustrialization (131 ff.).

<sup>28</sup> Jacques Derrida, *Specters of Marx: The State of the Debt, the Work of Mourning and the New International*, trans. Peggy Kamuf, intr. Bernd Magnus, and Stephen Cullenberg (New York and London: Routledge, 1994), 212.

<sup>29</sup> Stiegler, ‘Anamnesis and Hypomnesis’. See also *States of Shock: Stupidity and Knowledge in the Twenty-*

the whole memory of all our ‘contacts’ that has been lost; the more automated driving becomes, including with increasing GPS-assisted functions, the less we (need to) know how to drive and orient ourselves in space by our own means or by reading a map. This, for Stiegler, is all the more remarkable and paradoxical since we are living ‘at the exact moment when the extraordinary mnemonic power of digital networks make[s] us all the more sensible to the immensity of human memory, which seems to have become infinitely reactivatable and accessible.’<sup>30</sup> However, the inventiveness of technologies, the extent of their ability to individuate the mind, also depends on our participation in them, on our ability to operate and understand them; we have become passive and superficial consumers rather than active producers of technology, arguably a step back from even those early poststructuralist days when Barthes drew our attention to the emancipatory potential of participatory, writerly literature. This ‘involution’ therefore called for a diagnostic and a critique, prior to finding solutions: a pharmacology.

## Pharmacologies of the Human

As Stiegler revealed in an insightful interview, it was François Laruelle who alerted him to the thought of Gilbert Simondon, a predecessor to his own thinking emphasizing (trans)individual processes rather than those centred on constructions of ‘subjects’ or individuals. As he further explained, ‘I started to develop a theory of what I call triple individuation (psychic, technical, and social), a general organology through which I try to analyse all of these processes. I’ve added two more now: the physical and the geophysical.’<sup>31</sup> Slightly recast in Stiegler’s thought, individuation more specifically designates the realm of culture, the cultural unconscious, memory that transits across individuals and generations, hence the joint emphasis on ‘trans-individuation’ as a crucial cultural, inter-generational process.

For Stiegler, relations between individuation and technics are the object of a ‘pharmacology’, and the point of departure for pharmacology is ‘exteriorisation and interiorization: of the phantasm of the transitional object’ without which, following Winnicott, there cannot be a relationship.<sup>32</sup> In capitalist, consumerist economies, all technical objects are/operate as transitional objects of desire.

From September 2010 onwards, five years after *Ars Industrialis*, the political and cultural group he co-founded whose manifesto (updated in 2010) called for an industrial politics of (technologies of the) mind/spirit,<sup>33</sup> Stiegler pioneered an alternative pedagogical-philosophical model for specialists and non-specialists alike on [pharmakon.fr](http://pharmakon.fr), whose aim, reflected in the very conception and organization of its

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*First Century*, trans. Daniel Ross (Cambridge: Polity, 2015). See Günther Anders’s two-volume *Die Antiquiertheit des Menschen* (Munich: C. H. Beck, 1956, 1980), whose introduction to the second volume states that the book is ‘a philosophical anthropology in the age of technocracy’ (*The Obsolescence of Man, Volume II: On the Destruction of Life in the Epoch of the Third Industrial Revolution*, trans. Josep Monter Pérez; available at <https://libcom.org/files/ObsolescenceofManVol%20IIGunther%20Anders.pdf> [accessed 20 August 2020]).

<sup>30</sup> Stiegler, ‘Anamnesis and Hypomnesis’.

<sup>31</sup> Bernard Stiegler, ‘A Rational Theory of Miracles: On Pharmacology and Transindividuation’, interview by Ben Roberts *et al.*, trans. and ed. Ben Roberts *et al.*, *New Formations* 77: ‘Bernard Stiegler: Technics, Politics, Individuation’ (Autumn 2012): 166.

<sup>32</sup> Stiegler, ‘A Rational Theory of Miracles’, 167.

<sup>33</sup> See Bernard Stiegler, *The Re-enchantment of the World: The Value of the Human Spirit versus Industrial Capitalism*, trans. Trevor Arthur (London: Continuum, 2012).



teaching activities, is ultimately to produce a global theory of transindividuation in the digital age. Centred on the philosophy of Plato and its conflictual accounts of the relation between anamnesis and hypomnesis, the three-pronged project was made up of 1) the school of philosophy proper, open to local/regional grammar schoolchildren preparing for the baccalaureate, 2) the doctoral seminar, also available as video conferences in partnership with several universities around the world, whose goal was eventually to make the doctoral students and school pupils work together, and 3) the summer academy, on split locations in the area.<sup>34</sup> This for Stiegler was becoming all the more urgent since the advent and rampant burgeoning of digital networks and technologies, which are generating radically new processes of collective and psychic individuation with a capacity to absorb all other technologies of individuation like writing, cinema, etc., as well as threatening with obsolescence traditional pedagogical forms of knowledge acquisition, reflexion and learning. This performative invention and the call for the elaboration of a new political economy can be seen as the belated response to Derrida's prescient inkling in *Specters of Marx*, recalled before, of the impact on presence and 'representation', or on the difference between the living and the non-living, which the increasing virtualization and tele-technologization of the world was soon to engineer. Stiegler's pharmacological critique is therefore the first stage in a dual process geared towards working out the possibility of a therapeutic remediation in what is always at first and structurally a poisonous, toxic context and *epokhè*, when any emergent technology initially leads to a systemic *bêtise*. According to Stiegler, the appearance of a new technical *pharmakon* structurally always produces stupidity and '[s]ystemic stupidity is engendered by *generalized proletarianization*'.<sup>35</sup> '[S]tupidity is the law of the *pharmakon*' and 'the *pharmakon* is the law of knowledge'.<sup>36</sup>

To formulate the 'two-stroke' operation of his pharmacological, then therapeutic critique, across philosophy and the political sphere, Stiegler often resorts to the Freudian notion of the *après-coup* or deferred action in a way that recalls the Lyotardian take on postmodernity and thus indirectly shows how, *pace* Stiegler himself, his thinking on the human condition in the digital age can be grafted onto the postmodern-posthumanist linkage glimpsed above in terms prefigured ever since *Technics and Time, 1*, with the mythopoetic lesson to be drawn from the interaction between Prometheus and Epimetheus, foresight (anticipation of the future) and forgetting/forgetfulness (delay):

This structure of pharmacological *après-coup* (which always comes after pharmacological dependence, if not always too late) is what, in the second volume of *Technics and Time, I* refer to as the *doubly epokhal redoubling* – which is also the theoretical formulation of the way in which *prometheia* and *epimetheia* are arranged.<sup>37</sup>

In this context of the property-less human's enslavement to supplemental, exterior technology, 'autonomy is not what *opposes* heteronomy, but that which *adopts* it as a

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<sup>34</sup> See the summary description of 'Pharmakon.fr. Ecole de philosophie d'Epineuil-le-Fleuriel', available at <http://pharmakon.fr/wordpress/le-projet/> [accessed 20 August 2020] and 'A Rational Fleury of Miracles', 173-4. See also the special issue of *Educational Philosophy and Theory* 52.4: 'Stiegler as Philosopher of Education', eds. Joff P. N. Bradley, and David R. Kennedy (2020).

<sup>35</sup> Stiegler, *What Makes Life Worth Living*, 22.

<sup>36</sup> Stiegler, *States of Shock*, 33.

<sup>37</sup> Stiegler, *What Makes Life Worth Living*, 34, which refers to *Technics and Time, 2: Disorientation*, trans. Stephen Barker (Stanford: Stanford University Press, 2009), 72 ff., 95-6. Cf. *Technics and Time, 1*, 201-2 for the inseparable linkage between *prometheia* and *epimetheia*.

necessary default [*un défaut qu'il faut*].<sup>38</sup> Thus, the question of what I will call, in post-Derridean fashion, the 'autoheteronomy' of a proletarianized *homo technicus* to be emancipated from media-technological alienation lies at the heart of Stiegler's demarche: to analyse the toxic possibilities of *pharmaka* and their joint possibilities for individuation, i.e. to cure and conjure away the former and enhance the beneficial potential of the latter in order to counter the loss of individuation brought about by modern technics.

### 'Remedial Humanities'

The still dominant, fashionable posthumanist slant in academe should not make us forget that it is but one strand in a vast array of attempts at reassessing the essence and redrawing the limits of the human, alongside (post-)Nietzschean anti-humanism and especially, nearer us, transhumanism, formerly associated with Nick Bostrom and his Future of Humanity Institute at the University of Oxford (<https://www.fhi.ox.ac.uk/>), whose aim is to transform the human condition by developing and making widely available sophisticated technologies to greatly enhance human intellect and physiology.<sup>39</sup> However, also according to Bostrom (as well as Stephen Hawking) and his so-called 'existential risk',<sup>40</sup> such advances in artificial intelligence research might pose a supreme danger to humanity if the problem of control has not been solved before superintelligence is brought into being. More nuanced – and certainly much more philosophically savvy – than such futurological or catastrophic sci-fi scenarios, Stiegler's accounts of the dystopian interaction between the human and contemporary technics share the outlook that the new always potentially gets worse before it can get better, and therefore some form of redemptive overcoming, through scientific control and/or a novel political economy, is required alongside. Thus, not only is the human to be understood as constituted only through the retroactive interiorization of prosthetic technics, but the future of humanity, whatever its open definition, appears to be precarious... Indeed, explaining that the centre of his project is temporality, Stiegler observes:

I'm not interested in what we call 'man' but in *temporality*, temporality that, as a form of life, has to decide what it is to become (and it so happens that this form of life is still called man today). Even when man is finished, when he belongs to the past, this form of life may well continue on, becoming ever more complex – and perhaps man is *already* finished.<sup>41</sup>

<sup>38</sup> Stiegler, *What Makes Life Worth Living*, 21.

<sup>39</sup> See, for example, Nick Bostrom, 'A History of Transhumanist Thought', *Journal of Evolution and Technology* 14.1 (April 2005): 1-25, and *Religion and Transhumanism: The Unknown Future of Human Enhancement*, eds. Calvin Mercer, and Tracy J. Trothen (Santa Barbara, CA: Praeger, 2015).

<sup>40</sup> See Nick Bostrom, 'Existential Risks: Analyzing Human Extinction Scenarios and Related Hazards', *Journal of Evolution and Technology* 9.1 (March 2002): 1-31.

<sup>41</sup> Bernard Stiegler, 'Technics of Decision. An Interview', trans. Sean Gaston, *Angelaki* 8.2 (2003): 158. While Stiegler's 'structural' mistrust of emergent technologies in an age of global technologization should not be reductively understood as, and collapsed back onto, a broadly humanistic project, one is sometimes left feeling the sense of an anxiety best summarized by Christopher Johnson's conclusive statement in 'Derrida: The Machine and the Animal', after observing that 'it is perhaps necessary to remember that the intellectual resistance to emergent technologies, as illustrated in the example of Martin Heidegger, is also, inseparably, an affective one': 'The anxiety of a certain humanism, faced with the automatism that the machine seems to impose on the human, and the apparent loss of conscious control that this entails, would be that machine

Rather than focusing on remedies and remediality for humanity at large, I would like to conclude by taking on board Stiegler's insistence on the need to create new forms of spirit in the contemporary digital age under new media conditions<sup>42</sup> and, adapting Jay Bolter and Richard Grusin's notion of remediation from their founding text in the field of new media studies,<sup>43</sup> bring it to bear on a more creative and even 'recreative' role for the humanities today and tomorrow which would integrate a sense of the techno-cultural interface of 'the human-in-the-world'.

For Bolter and Grusin, media do not possess autonomous formal or technical specificity, but they exist only in relation to other media forms and practices. It follows that new (digital) media do not present a historical rupture with the past, but rather define their newness through the refashioning or re-mediating of older (analogue) or contemporary media practices and forms, i.e. 'the representation of one medium in another' (what within the arts was known as ekphrasis), or 'the refashioning [...] within a single medium'<sup>44</sup> (such as intertextuality), and this genealogical process is reversible. Besides,

media technologies constitute networks or hybrids that can be expressed in physical, social, aesthetic, and economic terms. Introducing a new media technology does not mean simply inventing new hardware and software, but rather fashioning (or refashioning) such a network. [...] New digital media are not external agents that come to disrupt an unsuspecting culture. They emerge from within cultural contexts, and they refashion other media, which are embedded in the same or similar contexts.<sup>45</sup>

Quoting from Derrida's 'Economimesis', Bolter and Grusin also make it clear that their 'logic of remediation' is not ontological but intersubjective, and is similar to his account of mimesis, conceived not as 'the representation of one thing by another', not as 'the relation of two products but of two productions', 'between two producing subjects and not between two produced things'.<sup>46</sup> Remediation thus understood can therefore be loosely construed as an instance of epiphylogenesis and cultural transindividuation.

One of the newest kids on the aesthetic block, and therefore filtering the repository of available culture in a more compressed, accelerated fashion and with greater intergeneric complexity, videogames are characterized by an arguably unprecedented degree of remediation, from the restaging of classical board games, the ludic (re-)enactment of historical or scientific scenarios (wars, revolutions, the Mafia, apocalypse sci-fi, etc.),<sup>47</sup> to the adaptation of films and, rather as an intertextual dimension, works of literature. As Bolter and Grusin remark, remediation can even take

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civilization represents not the progression but the regression of humanity, regression to a state of homogeneity and oblivion that is closer to so-called animality.' (117)

<sup>42</sup> Cf. his critique, in *The Lost Spirit of Capitalism: Disbelief and Discredit, Volume 3*, trans. Daniel Ross (Cambridge: Polity, 2014 [2006]), of Luc Boltanski, and Ève Chiapello's insufficient treatment of the role of the media in *The New Spirit of Capitalism* [1999].

<sup>43</sup> Jay David Bolter, and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, MA: MIT Press, 1999).

<sup>44</sup> Bolter and Grusin, *Remediation*, 45, 49.

<sup>45</sup> Bolter and Grusin, *Remediation*, 19.

<sup>46</sup> Bolter and Grusin, *Remediation*, 53, n. 1; Jacques Derrida, 'Economimesis', trans. R. Klein, *Diacritics* 11 (1981): 9.

<sup>47</sup> For videogames as embodying more specifically a new form of history, including by re-presenting the past, see Adam Chapman, *Digital Games as History: How Videogames Represent the Past and Offer Access to Historical Practice* (New York and London: Routledge, 2016).

place at more than one level, as in the case of digital versions of popular American sports, which are both staged events and televised performances, and whose computerized versions can refashion our experience of both.<sup>48</sup> Computer games are also delivered on a variety of platforms, which are themselves ‘multiply remediating artifacts’ and can therefore help sensitize the user to technological interaction: ‘arcade machines, video units that connect to a television set, CD-ROM (or DVD) applications for desktop computers, games sites and servers on the Internet to be received by desktop computers or televisions with set-top boxes, and portable games units.’<sup>49</sup>

More uniquely than other interactive aesthetic forms (including Barthes’s writerly text, the precursor to Lawrence Lessig’s more geeky ‘Read/Write’ [RW] vs. ‘Read Only’ [RO] culture<sup>50</sup>), as befits a ludic medium, videogames foster direct participation and immersivity, including through hybrid genres like RPG’s and sim games, whereby Johan Huizinga’s *homo ludens*,<sup>51</sup> a metaphor famously used to qualify the fundamental dimension of play in socio-cultural formations and interactions, becomes a *posthomo ludens*, recreating empires, cities and whole civilizations (*Sim City*, *Age of Empires*, the *Civ* games, etc.), managing families (the serial iterations and expansion packs of the *SIMS* franchise), or team-interacting in networked games.

While the element of play has always been viewed suspiciously in ‘serious’ disciplines like philosophy or literary criticism/critical theory, even when it is encountered in some more purposefully ludic forms of textuality, the ‘re(-)creative’ vein of digital games (in both senses of the adjective) blends so natively with the participatory aspect of this new aesthetic platform that it can be thought as an ideal candidate for Stiegler’s plea for an active engagement with *tekhnè* instead of falling prey to an increasingly passive consumption or use of enslaving technologies, one that will help promote a more ‘creative economy’ in our age of ‘creative and cultural industries’.<sup>52</sup> The intrinsically interactive, contributory nature of even the least sophisticated game offers a blueprint for the task and role of dynamic posthumanities, in which the relationship between affect and attention as part of what Stiegler calls a

<sup>48</sup> Bolter and Grusin, *Remediation*, 89.

<sup>49</sup> Bolter and Grusin, *Remediation*, 89.

<sup>50</sup> See Lawrence Lessig, *Remix: Making Art and Commerce Thrive in the Hybrid Economy* (London: Bloomsbury, 2008), especially 28-31.

<sup>51</sup> Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture* (London: Routledge and Kegan Paul, 1949 [1938]).

<sup>52</sup> In this respect, see Patrick Crogan, ‘The Conditions of Production of Video Games: The Nature and Stakes of Creative Freedom in Stiegler’s Philosophy of Technicity’, in *Philosophy of Computer Games 8: Freedom in Play*, Bilgi University, Istanbul, 13-15 November 2014; available at <https://uwe-repository.worktribe.com/OutputFile/807744> [accessed 20 August 2020]. Influenced by his engagement with Stiegler’s ideas, Crogan has been leading a research network examining indie game collaboration models to look at ways of fostering the creative and cultural value of game making for makers and for the communities from which they emerge. For an exploration of the pedagogical potential of videogames within the new context of ‘edutainment’ or, more generally the ‘gamification’ of learning, see also Harry J. Brown, *Videogames and Education* (Armonk, NY and London: M.E. Sharpe, 2008), and, as a more hands-on approach, Yam San Chee, *Games-To-Teach or Games-To-Learn: Unlocking the Power of Digital Game-Based Learning Through Performance* (Dordrecht: Springer, 2016), David Hutchison, *Playing to Learn: Video Games in the Classroom*, foreword James Paul Gee (Westport, CT and London: Teacher Ideas Press, 2007), and, featuring as a tantalising subtitle to chapter 7, ‘How a Subversive Suburban Teacher Is Using World of Warcraft to Teach Humanities’, Greg Toppo, *The Game Believes in You: How Digital Play Can Make Our Kids Smarter* (New York: Palgrave Macmillan, 2015).

‘retentional economy’ of human and technical memory could be profitably explored.<sup>53</sup> For instance, the *Myst-Riven* series explicitly puts interconnectedness on its thematic agenda, with the key motif of the linking book used to connect (historical, spatial) ‘ages’, so that, for Bolter and Grusin, ‘[a]lmost certainly without the conscious intent of its authors, *Myst* turns out to be an allegory about the remediation of the book in an age of digital graphics.’<sup>54</sup>

There are already theorists and pedagogues who, often working within a broadly deconstructive framework, implement such a perspective. An alternative theologian who developed an interest in the visual arts, architecture, media and new information technologies, Mark Taylor co-taught, with Finnish philosopher Esa Saarinen, the first global seminar using teleconferencing technology in 1992, an experience recorded in *Imagologies: Media Philosophy* (1994). In his subsequent book, *Hiding* (1997), Taylor extended the use of graphic design to create hypertextual effects within the limits of a conventional bound volume and, together with José Marquez, released a companion CD-ROM video game, *The Réal – Las Vegas, Nevada*, which elicits some deconstructive influences and tendencies. Taylor’s work with technology led to a growing interest in the expanding fields of network theory and scientific studies of complex adaptive systems on the one hand, while his engagement with the visual arts and graphic design also gave rise to his own artistic experiments, whether in original book forms or as museum exhibitions.

Another well-known instance of a creative-performative, experiential blend of pedagogy, art and technics can be found in Gregory Ulmer’s work, applying Derrida’s grammatology (*Applied Grammatology: Post(e)-Pedagogy from Jacques Derrida to Joseph Beuys*, 1985; *Teletheory: Grammatology in the Age of Video*, 1989) and putting into practice the latter’s conception of ‘invention’ (*Heuretics: The Logic of Invention*, 1994, featuring some ‘Acting Lessons’). His 2003 book *Internet Invention: From Literacy to Electracy*, followed more recently by *Electracy: Gregory L. Ulmer’s Textshop Experiments* (2015), takes a more buoyant view of the contemporary shift from literacy to its digital avatar than Stiegler’s somewhat pessimistic analyses – and it can even be opposed constructively to Stiegler’s ruinous ‘telecracy’.<sup>55</sup> Describing the kind of skills and facility necessary to tap into the full communicative potential of new electronic media such as multimedia, hypermedia, social software and virtual worlds, electracy denotes a broad spectrum of research possibilities including the history and invention of writing and mnemonic practices, the epistemological and ontological changes resulting from such practices, the sociological and psychological implications of a networked culture, and the pedagogical implementation of practices derived from such explorations. In Ulmer’s own description of this ‘theoretical hypothesis’ in ‘Electracy and Pedagogy’,

[w]hat literacy is to the analytical mind, electracy is to the affective body: a prosthesis that enhances and augments a natural or organic human potential. Alphabetic writing is an artificial memory that supports long complex chains of reasoning impossible to sustain within the organic mind. Digital imaging similarly supports extensive

<sup>53</sup> See James Ash, ‘Attention, Videogames and the Retentional Economies of Affective Amplification’, *Theory, Culture & Society* 29.6 (2012): 3-26.

<sup>54</sup> Bolter and Grusin, *Remediation*, 94 (94-98 for a discussion of the game’s intermedial significance).

<sup>55</sup> Bernard Stiegler, ‘Telecracy against Democracy’, trans. Chris Turner, *Cultural Politics* 6.2 (2010): 171-80. This is a translation of the eponymous first chapter of *La télécratie contre la démocratie. Lettre ouverte aux représentants politiques* (Paris: Flammarion, 2006).

complexes of mood atmospheres beyond organic capacity. Electrate logic proposes to design these atmospheres into affective group intelligence. Literacy and electracy in collaboration produce a civilizational left-brain right-brain integration. If literacy focused on universally valid methodologies of knowledge (sciences), electracy focuses on the individual state of mind within which knowing takes place (arts).<sup>56</sup>

## Conclusion

Although, somewhat unoriginally since Heidegger, I have implicitly reclaimed the Ancient Greek concept of *tekhnè* as encompassing art or poetic craft, this should not be understood as a naive return to the German philosopher's stance in 'The Question Concerning Technology', according to which technology is significant not because of what it tells us about technology – since for him the essence of modern technology is itself nothing technological – but because of what it tells us about ourselves and our way of being in the world and 'enframing' it. Rather, since after Stiegler and others human consciousness cannot be envisaged outside technics and the mind as nothing but the internalization of our technical prostheses, emphasis on the constant reshaping of the techno-cultural bond, apprehended as an act of ceaseless remediation, should provide a dynamic framework for an all-encompassing (philosophical, anthropological, pedagogical, semiotic, etc.) inquiry into humanity (*homo technicus* in the age of VR, AR, tele-technologies, digital games, etc.) and the humanities (opening them up to aesthetic media and modes of expression which through their very fabric and form foreground such an intimate interaction). Let us not forget that the birth of, and periods of great confidence in, so-called humanism have often corresponded to peaks in techno-scientific invention and development such that these have given and renewed humanity's belief in its power to dominate the world and its fellow creatures. It is therefore appropriate to wish that today's and tomorrow's humanities 'programs' engage with humankind's techno-cultural dimension in ways that 'retain', convey, enhance and even reshape the transformative interconnectedness of our multifarious aesthetic lore across history. Or in Hélène Cixous's transhistorical imagining, no doubt in her customary form of a telepathic phone call:

Jacques Derrida informs Jaurès about the worldwide political displacement brought about by the invention of the Internet, the speeds of communication have changed, have changed everything, but not so much, internal communication has always been ultrarapid, and uninterrupted.<sup>57</sup>

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<sup>56</sup> Gregory L. Ulmer, 'Electracy and Pedagogy'; available at <http://users.clas.ufl.edu/glue/longman/pedagogy/electracy.html> [accessed 20 August 2020].

<sup>57</sup> Hélène Cixous, 'Volleys of Humanity', trans. Peggy Kamuf, in *Volleys of Humanity: Essays 1972-2009*, ed. Eric Prenowitz (Edinburgh: Edinburgh University Press, 2011), 269.

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## Remedierea (post)umaniorelor

### Rezumat

„Umanitatea nu există deloc încă sau de-abia există.” Afirmatia personalității istorice franceze, Jean Jaurès, care a avut un faimos ecou în opera lui Jacques Derrida și apoi în cea a lui Bernard Stiegler, va furniza un punct de pornire potrivit pentru reflecțiile mele asupra condiției prezente și viitoare a „umaniorelor”, luând în considerație atât pluralizarea a ceea ce diferențiază pe „noi” de alte specii, cât și implementarea programelor academice (ca și interogarea filosofică) în numele umanismului.

Acest articol investighează condiția umaniorelor în epoca digitală la fel ca pe cea dintotdeauna-deja a post-umaniorelor. Impactul deconstrucției derridiene a semnului ca „urmă tehnologică” este reamintit ca antecedent al concepției lui Stiegler, din primul volum al operei *Tehnică și Timp* până la celelalte opere, asupra umanității, ca fiind indisociabilă de tehnicitatea exterioară care a dat naștere celui de-al treilea tip de memorie „epifilogenică”. Partea a doua investighează noțiunea de „farmacologie” a lui Stiegler, diagnosticul său asupra aservirii contemporanului *homo technicus* prin tele-tehnologii și asupra modului în care acesta caută remedii socio-politice, culturale și educaționale. Pornind de la abordarea lui Stiegler și de la inflexiunea noțiunii de „remediere” a lui Bolter și a lui Grusin, secțiunea finală abordează „(post)umaniorele de remediere” ale viitorului, aducând ca exemple precursore doi practicieni creativi (Mark Taylor și Gregory Ulmer) și subliniind potențialul bogat al jocurilor video în acest proces „re(-)creativ.”