

The Enframing of Code

Agency, Originality and the Plagiarist

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Abstract

This paper is about the phenomenon of encoding, more specifically about the encoded extension of agency. The question of code most often emerges from contemporary concerns about the way digital encoding is seen to be transforming our lives in fundamental ways, yet seems to operate 'under the surface' as it were. In this essay I suggest that the performative outcomes of digital encoding are best understood within a more general horizon of the phenomenon of encoding – that is to say as norm- or rule-governed material enactments accepted (or taken for granted) as the necessary conditions for becoming. Encoded material enactments translate/extend agency, but never exactly. I argue that such encoded extensions are insecure, come at a cost and are performative. To illustrate this I present a brief discussion of some specific historical transitions in the encoding of human agency: from speech to writing, to mechanical writing, and finally to electronic writing. In each of these translations I aim to show that agency is translated/extended in ways that have many unexpected performative outcomes. Specifically, through a discussion of the digital encoding of writing, as reuse, I want to suggest the proposition that all agency is always borrowed (or 'plagiarized') – i.e. it is never originally human. As encoded beings we are never authors, we are rather more or less skilful reusers. To extend agency we have to submit to the demands of encoding and kidnap that encoding simultaneously – enabling constraints in Butler's language. Our originality, if there is any, is in our skill at kidnapping the code and turning it into an extension of our agency, that is to say, our skill at resignification – to be original we need to be skilful 'parasites', as suggested by Serres.

Key words

agency ■ code ■ originality ■ performativity ■ *plagiarist* ■ post-human

Introduction

It could be claimed that in contemporary society digital encoding is becoming the dominant way of being and doing. Digital encoding increasingly mediates, or more precisely enacts, a vast array of human endeavour. In the digitally wired world it is becoming the way we work, the way we play, the way we conduct war, and so forth. It is becoming subsumed into every aspect of our human and physical geography. It exerts control over our elevators, our cars, our shopping, our writing, our access, our entertainment, our pleasure and much more (Thrift and French, 2002). In our continual pursuit of convenience and efficiency we ‘delegate’ to digitally encoded actors the most intimate details of our lives, and, in doing so, we conveniently forget and lose track of these encodings. Under the surface of our lives an increasingly complex geography of encoding is evolving with its own emergent performative outcomes – a performativity in which human agency is but a faint echo, silently shaping our present and future possibilities for becoming. As the media theorist Friedrich Kittler (1995) suggests (with reference to electronic writing): ‘As a consequence, far reaching chains of self-similarities in the sense defined by fractal theory organize the software as well as the hardware of every writing. What remains a problem is only the realization of these layers which, just as modern media technologies in general, have been explicitly contrived in order to evade all perception. We simply do not know what our writing does’ (emphasis added). Likewise, Jacques Derrida (2005: 23), in talking about his somewhat reluctant transition from writing with mechanical writing tools to electronic writing, makes this same point:

With pens and typewriters, you think you know how it works, how ‘it responds.’ Whereas with computers, even if people know how to use them up to a point, they rarely know, intuitively and without thinking – at any rate, I don’t know – how the internal demon of the apparatus operates. What rules it obeys. ...We know how to use them and what they are for, without knowing what goes on with them, in them, on their side; and this might give us plenty to think about with regard to our relationship with technology today – to the historical newness of this experience.

In and through the minutiae of circuit board switches and binary object code a continuous stream of ones and zeros (on and off, true and false) map out this geography of the past, the present and the possible futures of our becoming. Design decisions, encoded and encapsulated in complex nests of logical statements – rules within rules within rules – enact our supposed agency based on complex relational conditions, which after many iterations of ‘bug fixing’ and ‘tweaking’ even the programmers

no longer understand. As Ullman observes:

The longer the system has been running, the greater the number of programmers who have worked on it, the less any one person understands it. As years pass and untold numbers of programmers and analysts come and go, *the system takes on a life of its own. It runs. That is its claim to existence: it does useful work. However badly, however buggy, however obsolete – it runs. And no one individual completely understands how.* (1997a: 116–17, emphasis added)

Once encoded, these design decisions (or rather the outcomes of the initial hacking and tweaking) embedded in these multifarious encoding entanglements withdraw into the background and are hardly ever revisited – even if they break down, patching and workarounds normally suffice.

Yet these encoded geographies (Graham, 2005) seem to configure and circumscribe us and our lives in more or less significant ways, defining what is relevant and what is not, what needs attending to and what not – legitimating particular ways of being whilst simultaneously delegitimizing (or rendering more or less obscure) equally valid alternatives. Or as Lessig (2006: 79) argues: ‘As the world is now, code writers are increasingly law-makers’. In and through these encoding practices of programmers and system designers an encoded ‘technological unconscious’ is emerging which sustains a ‘presence which we cannot access but which clearly has effects, a technical substrate of unconscious meaning and activity’ (Thrift and French, 2002: 312).

If Thrift and French and others are correct, then it is in and through these encoded landscapes where many of the ontological questions of our future will be determined (even if this determination is contingent and emergent). As such, this paper will attempt to render visible some of the contours of the phenomenon of encoding, i.e. present a short preliminary sketch as it were. In doing this it will, however, not only focus on digital code, important as this may be. It will rather suggest that a broader understanding of the phenomenon of encoding may render visible some of the concerns and contradictions visible in contemporary discourse with regard to digital encoding. As such, a preliminary sketch will be presented in three steps. First, I provide an outline sketch of some of the central notions of the phenomenon of encoding, as I see it – drawing on some of the work of Heidegger, Derrida, McLuhan, Butler, Latour and Kittler, amongst others. Second, I provide a brief discussion of the encoding and extension of agency from speech to writing, to mechanical writing, and finally, to electronic writing. Third, I take a small detour to look at electronic writing in the context of academic writing and plagiarism detection practices to reveal how multiple and intersecting encoded agencies imbricate with many unexpected performative outcomes. Most significant in this detour is the more general question of the original (and by implication its opposite, the

plagiarized copy) in all encoded enactments of agency. Finally, I provide some concluding thoughts.

On the Phenomenon of Code/Encoding

The central claim of this essay is that all encoding frames and enframes. In framing it allows for the extension of agency, in enframing it performatively produces that which such agency assumes, and much more besides. However, such extension, and the performativity it affords, is never secure. There is inevitably a host of parasites or kidnappers ready to take such encoded agency hostage and turn it into the extension of their own agency. In the encoded mangle of agency (Pickering, 1995) anything can happen, but not exactly. What seems most remarkable about the ongoing becoming of the world is that although every event in the present is unprecedented and singular, in a significant way, the already there becoming of the world itself – that which renders possible the birth of this event – is remarkably familiar. In a very real sense today is similar to yesterday and we have good reason to anticipate that it will be similar tomorrow, again in a very significant way – so much so that we find no need to attend explicitly to the vast majority of it as we pursue our projects in the unfolding present. This seemingly contradictory simultaneity of the singular unprecedented event *and* its apparent repetition, in the unfolding presence of everyday life is, in my view, a good place to start when considering the essential becoming of encoding.

When referring to the notion of encoding I have in mind a vast array of *normatively governed material enactments* such as: software code, logical gates on circuit boards, legal codes, writing scripts, grammar, social norms, moral codes, protocols, technological scripts, social practices, habits, etiquette, and so forth. Some of these encodings are seemingly quite rigid/explicit and may be the outcome of more or less explicit design intentions and decisions, and others are more malleable/implicit and emerge as a more or less implicit outcome of ongoing sociomaterial ordering practices. *I would suggest that encodings are norm- or rule-governed material enactments accepted (or taken for granted) as the necessary conditions for beings to become what they are supposed to be.* Two aspects of this demarcation need to be emphasized – that is, besides the obvious rule- or norm-governed basis of course. First, that encodings are enacted precisely because they are taken as the necessary conditions of becoming. By this I mean that all extension of agency (becoming) is necessarily encoded. Second, that all encodings are *material* enactments – even assumed social codes, such as moral codes or etiquette, become encodings precisely in their ongoing material enactments ‘as codes.’

Encodings do not have some original agency, in and of themselves, that can compel, or force, actors to act in certain ways rather than in others. Rather, encodings are exactly already constituted as ‘codes’ because they are accepted, or enacted, as the *necessary conditions* for beings to

become what they are supposed to be. As such, they render some forms of action/agency, if not impossible, then highly improbable, and others, if not inevitable, then exceedingly likely. Thus, being encoded embodies a certain ontological necessity for the beings so encoded – or differently stated, the beings are the sort of beings that they are because they are always already encoded as such. Although encodings are the ontological conditions for becoming, they are not inevitable as such. In a very concrete sense they are unfounded – they may be more or less made up on the spot as a bricolage of what happened to be available in the moment (Derrida, 1990). Yet once they become taken for granted as codes they tend to become more or less intractable and irreversible – exactly because they continue to be taken as the ontologically necessary constitutive conditions for becoming.

One might ask what it is that makes being encoded so compelling, or in some sense what ‘forces’ agents to take them as ontologically necessary. Encoding *translates* agency (becoming) from one event to another, thereby *extending* the agency/becoming of actors beyond the boundaries of the singular local event – but never in any precise manner (Latour, 1988, 1993, 2008; McLuhan, 1964; Donald, 1991).¹ Differently stated, encoding allows for the repetition of the past (or the elsewhere) to be actualized in the present (the here) or in an anticipated future (the not-yet), *but not as a simple copy but rather as a trace*. Software code can enact the intentions of designers wherever and whenever it runs, but not exactly. Encoding extends and translates agency but not necessarily its assumed intentionality (which was itself, of course, encoded in the first instance) – every translation is always also simultaneously a transformation (Latour, 1988, 2005). The present is always a singular event in which the past is more or less repeated as a trace rather than a simple copy – a trace nevertheless that necessitates some form of minimal repetition (or sameness) for becoming to be becoming rather than merely being a coincidental random event. It could be claimed, very cryptically, that without the material enactments of encoding, that is to say without encoded extension, there will be no being, no becoming and no history (Stiegler, 1998).

Every encoding requires, as a necessary condition, other codes for the ongoing extension of agency. This is because any encoding can only translate within a circumscribed set of constitutive conditions – or, as Foucault (2007 [1969]) would say, a statement is only an enunciation within a specific discursive formation.² Thus, the ongoing extension of agency is achieved through the ongoing (and mostly imperfect) encoding of agency from one code to another in a seemingly infinite regress – interlocking lines of codes which are always anchored in, and emerging from, the very materiality of being. Or as Kittler (2010: 31) suggests (in following McLuhan): ‘the content of a medium is always another medium’. One might suggest infinite lines of interlocking code but it would probably be more accurate to describe the relationship between these codes as being ‘nested’³ – codes within codes, within codes, and so forth. Thus, every attempt at encoding/translation is itself already encoded at a higher/prior level (which is a

necessary condition for translation to be possible in the first place). One might call every higher, or prior, level of encoding – in following Foucault (2007 [1969]) – an encoding formation. In this encoded nesting codes *encapsulate* and become *encapsulated*. Encapsulation hides complexity by covering over or rendering invisible supposed unnecessary detail – what is referred to as ‘black boxing’ in Latour’s terminology.

In and through these encapsulated nests of codes encoding makes the traces of agency endure, but not in any straightforward way. Every translation of agency is always also simultaneously a *transformation* (Latour, 1988, 2005) – and a betrayal. Transformation in two interrelated senses: (1) in performative outcomes, to be discussed below, and (2) in resignification opportunities. In the multiplicity of encoded events there are always multiple points or possibilities for the otherness of the event to assert itself. In other words, there are multiple opportunities for resignification, as Butler (1990) might say (such as interpretive flexibility, affordance malleability, reappropriation, redundancy, etc.), multiple points of breakdown (such as accidents, misinterpretations, misuse, etc.), and all sorts of other perturbations (such as noise, coincidences, etc.). Differently stated, in every encoded event there is not just sameness (the enduring trace of the code) but also difference (the trace of the other).⁴ That is exactly what makes the event singular rather than a mere repetition. In every encoded enactment there is always a more or less essential otherness (surplus, incompleteness, etc.) at stake, which is in a sense its double – elements of the enactment which do not conform to the sameness and repetition which such encoding demands. In this otherness there is also the possibility for the encoding itself to become a stake in the event. But never entirely, as any attempt to re-encode must acknowledge (cite) or somehow incorporate the already there legacy archive (with patches, workarounds, interim procedures, legacy systems, and so forth). However, this otherness does not mean that ‘anything goes’ – quite the contrary. The encoding produces a remarkable continuity which suggests at least a sufficient level of sameness (or citationality) to endure from one event to the next – this is exactly what makes language work, what enables computer programs to run, routines to persist, and so forth. Indeed, this is precisely what gives encoding its power as ‘code’. Its power to translate agency is only secured in its ongoing enactment *as code*, that is to say, in its assumed or taken for granted ontological necessity. Thus, once established there is a remarkable incentive – that of agency extension – to maintain it as the code it has become, but this is not secure. *It is always possible to be otherwise* – as revolutions, abductions, mishaps and mistakes often remind us.

All encodings are fundamentally performative, as was suggested above (Butler, 1996b). In short, by performative I mean that in its ongoing enactment encoding produces what it assumes. Encoding achieves its performativity through its assumed *ontological necessity* and its ongoing enactment (or extension) through *repetition*, or more accurately *iteration* (Derrida, 1977). Clearly some degree of repetition (or sameness) is the constitutive

condition for the translation of agency to endure, from one event to another, and therefore of extension. However, iterative repetition also immediately constrains – that is to say it becomes the necessary condition for that which is repeated to be exactly a repetition. Thus, the extension of agency is only achieved if translation conforms to the encoding that will be taken (or accepted) in the event as a repetition (i.e. to conform to the norms of the encoding formation in Foucault's terms). As such, encoding is always already a condition for any agency whatsoever, or as Butler expresses it so well: 'Agency begins where [assumed] sovereignty wanes. The one who acts . . . acts precisely to the extent that he or she is constituted as an actor and, hence, operating within a *field of enabling constraints [or encodings] from the outset*' (Butler, 1997: 16, emphasis added). As always already encoded, the agency of actors becomes more or less ordered, one might say regular or repeatable. An encoded iteration 'is the vehicle through which ontological effects are established' (Butler, 1996b: 112). As was mentioned above, we must, however, be careful not to suggest that the agency of the actors somehow exists in any way separate from, or prior to, its ongoing encoded extension. There is no agency – and therefore no actor – which is prior to encoding/extension. In the words of Nietzsche: 'there is no "being" behind doing, acting, becoming; "the doer" is merely a fiction imposed on the doing – the doing [encoding] itself is everything' (Nietzsche, 1996 [1887]: 29). Actors are the performative outcomes of encoded material enactments; they are essentially intra-relational (Barad, 2003) – that is, relations without preexisting relata. To be sure, there is always a multiplicity of encoded agencies entangled in the enactment of any particular code, excessively flowing in all directions and sometimes in unexpected or unintended ways – i.e. at any time the world could have been different. Although there are always infinite possibilities for the future to be otherwise, it is nevertheless, in a certain and important sense, remarkably the same. This, one could claim, is exactly due to the performative power of encoding, as code. In their ongoing enactment these multiplicities of entangled encoded agencies intra-act (Barad, 2003) or transduce (Mackenzie, 2002, 2006) – not only to condition action, but also to 'constitute as an effect the very subject it appears to express' (Butler, 1996a: 380).

The encoded extension of agency obviously comes at a cost – it has a double structure, as Ihde (1990) suggested. As encoded, the otherness of the other – that which is singular – becomes more or less domesticated through the necessary *sameness* of encoding (Lévinas, 1985). Time, as duration, becomes domesticated through the encoding of the clock; emotions and feelings become reduced to available vocabulary in speech; the application of the law domesticates all its objects through its categories; and so forth. But this is the cost actors have to bear if they want the reward of extension (McLuhan, 1964). Undoubtedly, all actors at some level accept that in the silent tyranny of code there is the reward of agency/becoming – and with it a more or less degree of continuity and order – which is itself a necessary condition for such agency to have any meaning in the event

it is enacted. In other words codes are first and foremost productive, not only restrictive, or, more precisely, productive because they are already restrictive – ‘enabling constraints’, in Butler’s words. Thus, we agents tend to heed its call in spite of the restrictive burden it places on us.

Before making some more general comments with regard to the phenomenon of encoding it might be pertinent to ask about the sameness/otherness that this category of encoding covers (or not). At the start of this essay the discussion was focused very much on software code. In my discussion, however, I have now significantly broadened the scope of the phenomenon of encoding. For example, one might suggest that there is surely a difference between the encoding of language and that of software code, or between software code and the material script of a tool, such as a hammer. Galloway (2004) argues, for example, that software code is very different to ordinary language as ‘[software] code is the only language that is executable.’ In a similar manner Ullman (1997b) suggests that: ‘We can use English to invent poetry. . . . In programming you really can’t . . . a computer program has only one meaning: what it does. . . . Its entire meaning is its function.’ Hayles (2005: 50), in her essay ‘Speech, Writing, Code’, tends to agree with these claims. She suggests that ‘code that runs on a machine is performative in a much stronger sense than that attributed to language’ since, she argues, ‘the performative force of language is . . . tied to the external changes through complex chains of mediation.’ Whilst one might agree with the general point one could equally argue that these distinctions, between software code and ordinary language, for example, are distinctions of degree rather than distinctions of kind. I would suggest that all code, to be code, must be ‘executable’ – otherwise it would not translate agency. What is different, however, is the nature of the necessary constitutive conditions for such execution – in particular the necessary degree of conformance or agreement to the encoding formation for the enactment to constitute an ‘execution’ rather than noise. Indeed Wittgenstein (2001) would suggest to Ullman that the meaning of all language, not just software, ‘is its function.’ To enact – that is, to encode/translate agency – all codes must necessarily conform to their constitutive formations (as suggested by Foucault) – a move in chess is only ‘a move’ if it conforms to the rules of chess, a hammer can only ‘hammer’ if it is used in the appropriate manner, java will only be a ‘programming language’ if it conforms to the syntax, and so forth. Chun (2008: 299) makes this same argument when arguing against the supposed ‘executable’ nature of software code: ‘source code is never simply the source of any action; rather, source code is only source code after the fact: its effectiveness depends on a whole imagined network of machines and humans.’ I would suggest that one can always in principle enumerate all these necessary constitutive conditions for any encoding (such as java, logical switches, English, moral codes, etiquette, hammers, and so forth) to be a valid encoding, or more precisely to be *executable or enactable*. In some cases the necessary constitutive conditions can be said to be more unambiguous and formal and in some cases they are more flexible and informal. One might

further suggest that the translation of agency can be made more perfect by making codes more unambiguous (as in software code), but that may in turn reduce the sort of agency that can be translated. Likewise, codes can be made more flexible (as in everyday language) but with the resulting risk of a loss in translation (that is to say, more opportunities for resignification).

Every encoding is already encapsulated within, and already encapsulates, other codes which are taken as necessary for its own becoming. Thus, in its recursive performativity code always already *frames and enframes*: ‘Enframing is the gathering together that belongs to that setting-upon which sets upon man, i.e. challenges him forth, to reveal the real, in the mode of *ordering*, as standing reserve’ (Heidegger, 1977: 20). I would suggest that the enframing of encoding does not only translate and reveal the world as ‘standing reserve’ (which might be the performative outcome particular to modern technology, if one would accept Heidegger’s analysis) but more generally also reveals beings as always already encoded. As Heidegger suggests, every epoch has its dominant code, the code that orders and encapsulates other codes, and thereby translates and performatively constitutes the becoming of beings, in that epoch, as being essentially this or that sort of becoming – for example as ‘resources’ in the case of modern technology, according to Heidegger. Therefore, what we find is that as we humans and non-humans implicitly or explicitly take up and draw on the agency and order which encoding renders possible it also performatively constitutes us (and reveals the world to us) as already encoded, in a particular manner of being. In short: as extended beings we are always already enframed.

Moreover, what we find, in tracing the code ‘all the way down (or up)’, is that it is not us humans that are the original source of the code; rather, our being is already what it is because it is always and already encoded in a particular way rather than another (Heidegger, 1977). Encoding, in its ongoing unfolding, has (or maybe always had) a teleology which is more original (or at least co-original) with our human agency (Mackenzie, 2002; Stiegler, 1998). One might speculate, with Bergson (2003 [1911]) for example, that an essential *elan vital* is the more original source of this incessant logic of extension/becoming. In other words, the encoded human is already an extension of a more original agency within which it is already encapsulated. As such, the phenomenon of encoding transcends the supposed agency of human or non-human actors, even if they are necessarily implicated in its ongoing enactment. This was, I would suggest, Heidegger’s (1971: 146) point when he said it is language that speaks: ‘Man acts as though he were the shaper and master of language, while in fact language remains the master of man.’ Or as Kittler (1996a: 738) suggests with reference to media:

However, I don’t believe in the old thesis that thus the media are prostheses of the body, which amounts to saying, in the beginning was the body, then came the glasses, then suddenly television, and from the television,

the computer. . . . Rather, I think, it's a reasonable hypothesis to say that the media, including books and the written word, develop independently from the body.

Kittler is not suggesting that there is no body as such. Rather, he is suggesting that the encoded human body – and human agency more generally – is not itself an original source as is mostly presumed. Or as Stiegler (1998: 141) proposes: 'The tool invents the human, or the human invents himself by inventing the tool, through techno-logical exteriorisation. But this exteriorisation is in fact the co-constitution of interior and exterior, according to a technological maieutic.'⁵

I have now presented a brief and preliminary sketch of the phenomenon of encoding. I appreciate that this sketch is neither complete nor sufficiently justified. In many respects it is an initial attempt to weave together a number of ideas taken from the work of Heidegger, Derrida, McLuhan, Butler, Latour and Kittler without trying to reveal all the connections and possible contradictions – which would be beyond the scope of this essay. In the following section I will attempt to show how agency becomes encoded in a number of translations from speech to writing, to mechanical writing, to electronic writing. This is not presented or supposed to be a historical analysis as such; it is rather merely a focus on a number of historical episodes of relevance to show how agency becomes encapsulated in different encodings and how such encoding has unanticipated performative outcomes – frames and enframes. Of particular interest is the question of originality (and by implication its opposite, the plagiarized copy).

The Encoding of Human Agency: From Speech to Electronic Writing

The encoding of the illiterate mind/agency: Iterated mnemonic patterns

It is a self-evident but non-trivial fact that when humans find themselves they are already speaking beings, already dwelling in language, as Heidegger would say.⁶ Language, it could be argued, is one of the greatest encoding achievements – which has as one of its performative outcomes the human (Heidegger, 1971). Without the encoding of language there is no world, no thought and no extension of agency (Lafont, 2000) – the embodied subject will remain trapped in the immediacy of the present and the encoded materiality of the body. Through speaking we not only express (and impress) but indeed enact a world, a self, others, and much more besides – the encoding of language is, like all codes, performative. As Heidegger asserts:

Language is not a mere tool, one of the many which man possesses; on the contrary, it is only language that affords the very possibility of standing in the openness of the existent. *Only where there is language, is there world*

... [and] Only where world predominates, is there history ... [because of language] man can exist historically. (1988: 76, emphasis added)

In primary oral cultures this claim of Heidegger is much more evident than in our chirographic and typographic culture. In such oral cultures it is self-evident that language is first and foremost a mode of action – to speak is to act, and to enact a commonly shared world (Donald, 1991; Ong, 2002). However, ‘there is no way to stop sound and have sound’ (Ong, 2002: 32) – that is to say, sound as sound leaves no public trace. The extension of agency that voice/sound offers is limited, unless, of course it becomes repeated. But how can such repetition be secured? For agency to endure in an oral culture speech needs to be encoded in mnemonic patterns – in repetitions, rhyme, rhythmic patterns, and a variety of formulary expressions (such as chiasmus and the epithetical form). In oral cultures ‘serious thought [and agency] is intertwined with memory systems’ (Ong, 2002: 32). These of course condition ‘the kind of thinking [and acting] that can be done, the way experience is intellectually organized. In an oral culture, experience is intellectualised mnemonically’ (Ong, 2002: 36; Whitman, 1958). The extension of agency becomes encoded as a narrative centred, mnemonically encoded agency mostly in the hands of the select few (the poets).

It is generally accepted that the transition from a primary oral culture to a literate (chirographic) culture happened over a very long period of time with a variety of intermediate stages (Deacon, 1997; Donald, 1991; Havelock, 1988; Ong, 2002). The development and use of these ancient chirographic codes or scripts were mostly limited to an elite group of scribes in the service of the powerful.⁷ It should also be noted that the major reason for the development of these material mnemonic technologies was for economic transactions and for administration, especially connected with increased trade and urbanization: in other words, *to extend/enact agency at a distance* in situations where agency needed to reach beyond the local oral community and where accuracy in repetition was most important – in matters of power and wealth.

The final step in the development of the western writing code was the remarkable encoding of the *phonetic* alphabet – which was invented only once by the nomadic Semitic people in approximately the middle of the 19th century B.C.E. (Goldwasser, 2010; Logan, 2004).⁸ It is interesting to note that this early phonetic alphabet was developed by illiterate workers in Egypt by idiosyncratically ‘cutting and pasting’ (using the acrophonic principle⁹) from Egyptian hieroglyphs without regard for their function or value in Egyptian – thus allowing a basic form of literacy to emerge outside the elite circles of the scribes. As mentioned above, encoding is often a bricolage of what is available in the moment, i.e. it is essentially unfounded. The Greeks made the final step (in about the first half of the 8th century) in the development of the phonetic alphabet by adding vowel sounds (required to encode Greek words) and thereby completing the encoding of speech (sound) to the written word (sight), and in doing so producing a

fully phonetic representation of all possible speech (Ong, 2002). McLuhan (1964: 84) argues that the easy-to-learn and flexible phonetic alphabet releases the individual agency from the collective ‘tribal web’ of the oral encoding, but much more besides.

The Encoding of the Literate Mind|Agency: Authorship and New Modes of Cognition

When the Greek alphabet encoded speech into alphabetic writing (in a more or less precise manner), this seemingly simple encoded translation reconstituted the actors and their agency in fundamental ways – every encoded translation of agency is also simultaneously a transformation, it has performative outcomes. Ong (2002: 77) asserts that: ‘More than any other single invention, writing has transformed human consciousness.’ Without the necessary mnemonic baggage of the oral culture the encoding of language as writing can now become more direct and concise. Thoughts can be written down and endlessly rehearsed, revised and corrected to render them more or less precise – without the eventual knowledge of the reader (Donald, 1991; Logan, 2004).

In the material encoding of the *manuscript* the narrative structure of the oral culture, centred on persons and events (as a mnemonic code), can be replaced with more general prose centred on themes and ideas (Havelock, 1988: 115). From this encoded translation a new and radically different form of cognition becomes possible (McLuhan, 1964) – what Donald (1991) refers to as a ‘theoretic culture’. For example, it is well known that formal logic only emerged in Greek culture after it internalized the encoding of alphabetic writing (Donald, 1991; Logan, 2004: 113; McLuhan, 1962: 59; Ong, 2002: 52). Moreover, for the literate Greeks (and for most of modernity ever since) sight, as opposed to sound, becomes established as the original and true source for cognition. In this regard Aristotle (1998: 4, n. 980a) argued in *The Metaphysics* that ‘sight is the sense that especially produces cognition in us and reveals many distinguishing features of things.’¹⁰ It’s a view also proposed by McLuhan (1960: report 5): ‘the phonetic alphabet alone, of all forms of writing, translates the audible and the tactile into the visible and the abstract. Letters, the language of civilization, have this power of translating all of our senses into visual and pictorial space.’

Sequential writing also has other performative outcomes, as argued by Flusser (2002). He suggests that this encoding of our senses into sequential texts – which demands from the reader and writer the ongoing synchronization of a diachronistic object – constituted the very possibility for a historical consciousness to emerge. Not because texts enable us to reconstruct the past, but because the world becomes understood as an unfolding process. That is historically, as successive symbols which continuously refer back to some prior for their meaning. He suggests that in encountering the world through sequentially encoded text the literate humans began to experience,

understand, and evaluate the world as a successive ‘becoming.’ According to him, such an existential attitude was not possible in the world prior to the text (i.e. in prehistory). He summarizes it as follows:

If one wants to decipher (‘read’) a text, one must let the eye glide along the line. Not until the end of the line does one receive the message, and then one must attempt to bring it together, to synthesize it. Linear codes demand a synchronization of their diachronicity. They demand progressive reception. And the result is a new experience of time, that is, linear time, a stream of unstoppable progress, of dramatic unrepeatability, of framing: in short, history. With the invention of writing, history begins, not because writing keeps a firm hold on processes, but because it transforms scenes into processes: it generates historical consciousness. (Flusser, 2002: 39)

This linear spatialization of the literate mind privileges an abstract spatially-oriented mode of cognition whereas speech/sound privileges a more narrative time/duration-oriented mode of cognition (Donald, 1991; McLuhan, 1964). Thus, through the interiorization of the phonetic alphabet by Greek culture, western thought (and agency) becomes encoded as being fundamentally abstract, logical, spatial and linear – encoded in this manner the world emerges as an extended thing, *res extensia*.¹¹ Furthermore, it has also been argued that this abstract logical form of cognition made it difficult for the Greeks (focused on abstract geometry) to invent the concepts necessary for the development of algebra (such as zero and infinity) – a feat that was instead achieved by the Hindu mathematicians (Logan, 2004). Even though there are many debates about the significance of the alphabetic encoding as such (Grosswiler, 2004), there is nevertheless general agreement that the sequential encoding of writing has had many very significant performative outcomes – that is, it produced the manner of beings it was supposed to express – which are now taken for granted as the way the world is (Olson, 1994).

Through the encoding of the written text emerges not only historical consciousness, the world as progressive moments of becoming, but also the self as an increasingly extended subject that authors its own becoming – thus, not only an author but also simultaneously a life that is itself continuously being authored. In the encoded performativity of writing the individual ‘author’ discovers the material conditions of her own supposed agency. In the encoded performativity of the written text we human beings become the very beings that we take ourselves to be – *as the authors of ourselves and the world*. As Kittler (2010: 34) argues: ‘we knew nothing about our senses [and our agency] until media [codes] provided models and metaphors.’

The Encoding of the Post-literate Mind|Agency: Mechanical and Electronic Writing

As literacy becomes more pervasive¹² the practice of writing, by hand, encodes a domain of action (and becoming) that is fundamentally textual,

as opposed to being verbal. In this textually encoded world the act of writing – and the surface of writing – is itself the place where thinking (and action) seems to be emerging from. In the *Blue and Brown Books*, Wittgenstein (1958: 6–7) remarks: ‘We may say that thinking is essentially the activity of operating with signs. This activity is performed by the hand, when we think by writing . . . we may legitimately employ the expression[s]. . . “we think with a pencil on a piece of paper”’, and further on he suggests: ‘if again we talk about the locality where thinking takes place we have a right to say that this locality is the paper on which we write’. The practice of writing, and more specifically the *tools of writing*, encode ‘thought’ and agency (its modality, its location, etc.) in a particular manner with particular performative outcomes. Indeed, if we attend more carefully to the multiplicity of encoded agencies implicated in the textually encoded chirographic writing practice it becomes evident that agency (and perhaps originality) is never neatly located in one place – is it in the head, in the hand, in the tool, on the writing surface, or in all/none of these?

Most certainly in some sense agency is encoded in and through the *tools* of writing itself as Roland Barthes suggests:

I have an almost obsessive relation to writing instruments. I often switch from one pen to another just for the pleasure of it. In short, I’ve tried everything . . . except Bics, with which I feel absolutely no affinity. I would even say, a bit nastily, that there is a ‘Bic style’, which is really just for churning out copy, *writing that merely transcribes thoughts*. In the end, I always return to fine fountain pens. The essential thing is that they can produce that soft, smooth writing I absolutely require. (1991: 177, emphasis added)

Thus, writing with a ‘Bic pen’ produces a sort of Bic writing and thinking, which is just copying, but the fountain pen produces elegant writing and thinking which is ‘soft and smooth’. But what happens to writing/thinking (and the agency of the writer) when writing becomes further encoded through mechanical devices, such as the typewriter?

In 1882 Nietzsche bought the recently patented Malling-Hansen Writing Ball typewriter.¹³ Nietzsche sent some rhymes he produced on his typewriter to a friend, a composer. In his reply his friend commented on the terseness of the language: ‘Perhaps you will through this instrument even take to a new idiom’, adding: ‘with me at any rate this could happen; I do not deny that my “thoughts” in music and language often depend on the quality of pen and paper’. To which Nietzsche replied: ‘You are right – our writing equipment takes part in the forming of our thoughts’. Through the encoding of the machine, writes Kittler (1999: 203), Nietzsche’s prose ‘changed from arguments to aphorisms, from thoughts to puns, from rhetoric to telegram style’. For Kittler (1999: 211), the history of the typewriter designates not simply the invention of a writing machine but rather ‘the turning point at which communications technologies can no longer be related back to humans. *Instead, the former have formed the latter.*’

In the mechanical encoded world of typescript the hand, and perhaps the supposed original agency of the author, seem to disappear, a fact commented on by Heidegger (with reference to the typewriter) and echoed by Derrida (1987: 178–9) in his essay ‘Heidegger’s Hand’.

The typewriter tends to destroy the word: the typewriter ‘tears (*entreisst*) writing from the essential domain of the hand, that is, of the word’, of speech. The ‘typed’ word is only a copy (*Abschrift*) . . . The machine ‘degrades (*degradiert*)’ the word or the speech it reduces to a simple means of transport (*Verkehrsmittle*), to the instrument of commerce and communication. Furthermore, the machine offers the advantage, for those who wish for this degradation, of dissimulating manuscripted writing and ‘character’. ‘In typewriting, all men resemble one another’.

One might suggest that what Heidegger was taking note of here (as expressed by Derrida) was in many respects the successive encapsulated encodings of the word (each previous code encapsulated in the next) from the spoken word, to the handwritten word, to the machine-typed word – as Kittler (1996b) suggests: ‘New media do not make old media obsolete; they assign them other places in the system’. In each of these iterations there is still the agency of the extended/translated speech act, but each encoded occasion performatively reproduces the agent and action in more or less fundamental ways – of course Heidegger is also posing some more fundamental questions. Very importantly, he also appears to hint at the fact that in machine writing the inscription of the body in the word (or the word in the body) seems to be ‘erased’ – this tears writing from its essential domain as a *hand (craft) work*. In mechanical writing hands do not carefully *manuscript* thought/agency but rather function to depress keys. Thinking in a sense becomes once again a matter of rhythmic repetition, but not of words and phrases but of keystrokes. As the science-fiction writer Philip K. Dick (who could apparently type 120 words per minute) once remarked to his wife: ‘The words come out of [the keystrokes of] my hands, not my brain, I write with my hands’ (Sutin, 1994: 107). Perhaps one might suggest that, once thought/agency becomes encoded in the repetitive operations of the machine – in some sense torn free from the skills of the hand – the question of authorship can again be posed in an entirely different manner. The question of what the hand might have been thinking when scripting the text now seems (when faced with the typescript of the machine) less relevant than the question of what the typescript text itself is saying when it is read. The reader comes in focus as the relevant question for which the text is the answer.

In his influential essay ‘The Death of the Author’, Roland Barthes argues:

the modern *scriptor* is born at *the same time* as his text; he is not furnished with a being which precedes or exceeds his writing, he is not the subject of

which his book would be the predicate; there is no time other than that of the speech-act, and every text is written eternally *here* and *now*. . . for him [the author], on the contrary, his hand, detached from any voice, *borne by a pure gesture of inscription (and not of expression), traces a field without origin* – or at least with no origin but [the code of] language itself. (1989: 52, emphasis added)

In writing encoded as mechanical movements it seems the death of the author is rendered complete. The biographical code of the hand (*manuscript*) becomes encapsulated and transformed into the typographical code of the typescript. Human agency becomes encoded as already being in the code of the machine. Texts increasingly become intertexts in which the author increasingly becomes ‘like a spider that comes to dissolve itself into its own web’, to use Barthes’ metaphor.

With *electronic* writing intertextuality (or intratextuality) becomes encoded into the writing practice as such – for example, in and through the seemingly simple operation of ‘cutting and pasting’. Cutting and pasting frees the composition of text from its linear encoding – as required by hand and typewriting. It is possible that contemporary native electronic writers no longer appreciate what this means. James Fallows (1982) – a journalist for the *Atlantic Magazine* – writes of his first encounter, in 1979, with this simple operation: ‘When I first saw the [word processing] system in the back room at Optek, I was so dazzled by the instantaneous deletion of sentences and movement of paragraphs that I thought I could never want anything more.’ In reflecting on his writing practice, as he moved from typewriter to word processor, he remarks: ‘The process works this way. When I sit down to write a letter or start the first draft of an article, I simply type on the keyboard and the words [and ideas] appear on the screen.’ Any idea, phrase or sentence need not be thought out in advance, it could simply be typed (or pasted from elsewhere) because it can always be deleted, amended or moved – nothing is final and everything is subject to potential revision. Encoded as electronic writing, the practice of writing becomes constituted as a patchwork of fragments that can be ‘cut and pasted’ in a more or less ‘thoughtless’ manner – in other words, the electronic text becomes constituted as never being thought as such (Heim, 1999). Or as Kittler suggests: ‘the written word develop[s] independently from the body’ (1996a: 738). Freed from the constraints of the physical paper, the paragraph, the page or the book, the boundaries of the electronic text become defused, ill-defined, permeable and plastic. ‘The end of linear writing is indeed the end of the book’, as suggested by Derrida (1976: 86). In a sense one might say that in the electronic writing code all texts become hyper(inter)text – even if the final composition might mimic the traditional linear form.

As the universe of available digital text fragments explodes writing, and the agency it implies, becomes encoded as a more or less skilful performative pastiche of fragments, cut and pasted from elsewhere. It seems that

in the electronic encoding of writing the radical intertextuality of all texts (encapsulated in the chirographic code) is rendered visible again. As Roland Barthes explains:

the intertext is a general field of anonymous formulae *whose origin can scarcely ever be located*; of unconscious or automatic quotations, given without quotation-marks . . . the current theory of the text turns away from the text as veil and tries to perceive the fabric in its texture, in the interlacing of codes. Formulae and signifiers, in the midst of which the subject places himself and is undone, like a spider that comes to dissolve itself into its own web. (1981: 39, emphasis added)

In the electronic intertext everything (all writing and the agency it implies) is constituted as more or less *reuse* – the central encoding of the electronic intertext, and all texts Barthes would argue, is reuse. In the non-linear ‘cutting and pasting’ (as reuse) something more fundamental is also happening to our sense of temporality. Instead of thinking of the text as a linear succession of words (and meaning) – words which add up to sentences, which add up to paragraphs, which add up to chapters, etc. – we instead have text fragments ‘cut and pasted’ as pre-given thought (or meaning): text fragments which are reused and woven together ‘out of context’, as it were. In the electronic intertext the text fragment does not stand in for the author; it is not a medium, it is immediate. The temporality of the reused text fragment is one of immediacy where the message is given first; it is immediately apparent, on the surface as it were, and then it is reappropriated for whatever purpose. What is paramount in the encoding of electronic writing is an elegant epigraphical phrase or fragment that says what it says immediately and apparently – that is to say, one that can ‘travel’ (be cut and pasted) wherever and for whatever it is needed. In the formation of electronic writing the writer/reuser is perhaps best described as a skilful hostage taker or kidnapper (*plagium*) of the fragment – a fragment ‘whose origin can scarcely ever be located’.

Of course the electronic encoding of the act of writing not only reconstitutes the practice of writing, it also reconstitutes the act of reading (and performatively the ‘reader’). In the electronic code reading becomes encoded as a non-linear act of ‘finding’ – not finding through scanning and skimming, but finding as an act of *random access* afforded by the materiality of digital storage and access technologies (Kirschenbaum, 2004). Search algorithms locate relevant entry points (perhaps based on algorithmically-generated keywords, or traces left by previous readers/travellers) from which the text is then recursively explored – as a sort of recursive intertextual meandering, not only within a text but also between very disparate texts, thereby unravelling the supposed link between text and context, as well as *authority*. This reading as finding, as random access, is of course conditioned by the very materiality of the archive as Derrida suggests: ‘the technical structure of the *archiving* archive also determines the structure of the

archivable content even in its coming into existence and in its relationship to the future. *The archivization produces as much as it records* (1995: 17, emphasis added). For example, the algorithms of search tools (such as Google) condition in a significant way what can be found, where and under what criteria (Introna and Nissenbaum, 2000) – as such, performatively producing visibility, legitimacy and much more.

As the assumed agency of the author (and reader) becomes dispersed and dissipates, one might conclude with Kittler (1999) that in this electronic ‘universal Turing machine’ all ‘that remains of people is what media [encoding] can store and communicate.’¹⁴ In some respects such a claim seems absurd. It is also possible that one might not find a vantage point to establish if it is or not. Nevertheless, what we do know is that in the vast encoded geography of the sociomaterial world (the vast intratext) agency is never simple to locate and that the performative outcomes of these encoded agencies are often, if not mostly, unexpected – ontological transformations rather than simple transportations (Latour, 2005). Indeed, at any point they could have been otherwise, subverting the very agency supposedly enacted. In the following section I want to take what might seem to be a little detour by looking at how different encodings of writing encounter each other in an academic context. This is done to show how this interaction – itself encoded in the electronic code of plagiarism detection systems – has performative outcomes which not only open up the question of originality/plagiarism in writing but also the question of originality/plagiarism of all encoded enactments of agency, in a more general sense.

Electronic Writing, Originality and the Plagiarist

Plagiarius: one who abducts the child or slave of another. (*OED*)

In the humanities and the social sciences the essay has for a long time been seen as the standard bearer of the quality of thought, wit and learning of the student – established in elite schools and universities as an important gate-keeping mechanism (Heath, 1993). In its early incarnation the writing of the academic essay was most probably encoded in the ‘classical episteme of imitation’ (Pigman, 1980; White, 1965).¹⁵ However, under the sway of the ‘possessive individualism’ of the Romantic age, and particularly the development of copyright law, the author becomes established as the original source (and owner) of the text (Jaszi, 1991; McFarland, 1974). With authorship encoded in this way the idea of plagiarism shifts from its classical encoding as a transgression of *attribution* (not composition) to being understood as a crime of deception – which is practiced by *copying the ideas and expressions* of the original ‘author’ (Lindey, 1952; Terry, 2007). Thus, in the contemporary age of intellectual property, and within the encoding of copyright law, plagiarism is mostly presented as the copying of another’s words (exact expressions) and presenting them as one’s own. In the

educational context plagiarism is most often seen as an ‘institutional judgment which creates its own object as an expression of the limits of tolerance with respect to norms such as propriety, originality, and authenticity’ (Randall, 1991: 535).

In practice there are probably as many views on what constitutes a plagiaristic writing practice as there are tutors. What is not disputed is a particularly dominant view that electronic writing has made it ‘easy’ for students to plagiarize (copy) and that it is considered to be a major problem – hence the proliferation of plagiarism policies, honour codes, etc. to admonish students to only submit ‘original’ work. As Hertz (1982) suggests: ‘The recurrent touting of originality . . . is no doubt a sign of the same uneasiness that produces the ritual condemnation of student plagiarists. . . . And, in one of those nicely economical turns that characterize powerful fantasies, the delinquent member is himself made to unwillingly represent an emblem of integrity, of the binding of the self and its signs.’ In other words, the production of the delinquent (the mere copier) is a violent but necessary part of creating certainty and conferring on the institution its opposite – originality. How is this encoded production of the delinquent, the *plagiarius*, and its opposite, the original author, achieved? In most cases it is encoded in the algorithm of Turnitin.¹⁶

For the Turnitin algorithm similarity of a text with a model (in its database) is equal to plagiarism (or at least to non-originality). This algorithm detects similarity when a *sufficiently long string of consecutive characters* from the original is retained in the copied version. The location, within the fragment, of the consecutive string is important due to the sampling window.¹⁷ In some cases a small amount of change in the right way (or place) will make a copied fragment undetectable, and in other cases a large amount of editing will still make it possible to detect.¹⁸ Similarity in expression is a concept encoded in copyright and intellectual property law, as was suggested above. In the software code of Turnitin plagiarism becomes encoded as detectable sequential character similarity – or, important for us, its corollary, *originality becomes encoded as undetected fragments or copies*. This encoding of plagiarism imbricates with electronic writing practices – as reuse or ‘patch-writing’ (Howard, 1995; Rice, 2003) – to performatively produce the plagiarist, the delinquent. In this encoding the plagiarist is one who keeps fragments (which happen to be in Turnitin’s database) sufficiently similar for a match to be possible and the original essay the one that is sufficiently edited to remain undetected – i.e. certified as ‘original’ by Turnitin. Thus, students now claim originality (and authorship) when they get a ‘clean’ Turnitin report – and disciplinary committees are happy to confirm this status if a Turnitin match cannot be produced as evidence to the contrary. With textual checking and matching encoded in the Turnitin algorithm certainty – and integrity – can be achieved whilst transforming the question of plagiarism and originality to the difference between detected and undetected fragments. This performative production of the original and the plagiarist (in the encoding of Turnitin) is of course

unevenly distributed. It is often students with less sophisticated electronic writing practices as well as limited linguistic skills who are configured by this encoding as plagiarists – these are often non-native speakers or those on the periphery of the community of practice who tend to keep reused fragments intact in situations of uncertainty.¹⁹ Thus, the assumed neutrality and fairness of the code (as opposed to the human errors of the tutors) now gets transformed into a more or less arbitrary judgement of the algorithm (with its assumed certainty). Moreover, the blanket submission of all assessment work to Turnitin becomes the enactment of the ‘seriousness with which the institution deals with plagiarism’ – its emblem of integrity and originality.

The performative outcome of the plagiarist as the detected copier – and by implication its opposite, the undetected copier, as the ‘original’ author – does not end there. Since the electronic text retains no marks of its emergent history – it is not a *manuscript*, it has no specific past – it can also gain new commodity value as a Turnitin ‘certifiable’ original work. The signing away of any intellectual property rights when essays are submitted (required by most universities) and the confirmation of ‘originality’ by Turnitin reconstitute the student as the *producer and owner of valuable intellectual property*. In this encoded constitutive nexus students emerge as producers of valuable commodities when they write an essay for a course – commodities which may also have a market value. Hence, once academic writing (and the originality it supposes) is encoded in this manner, students see it as a normatively legitimate action to sell their original work on the internet (for example on eBay). This especially makes sense in an age where education is increasingly encoded as a market transaction where commodity exchange is taking place (Saltmarsh, 2004; Vojak, 2006). Moreover, encoded as a commodity, it seems entirely appropriate to ‘outsource’ the act of electronic writing to ghost writers who can produce original work that is guaranteed to be original (i.e. unlikely to be detected by Turnitin).

What does this little detour reveal about the encoding of writing and the becoming of encoding more generally? The traditional academic essay is encoded in the formation of writing as the *manuscript* in which the original author is a performative outcome (how do I become an author? I produce an original manuscript). In contrast, electronic writing is encoded in the formation of writing as *reuse* in which the performative outcome is the original author as an undetected skilful reuser. This writing as reuse is a skilfulness that is encoded differently to that of ‘authorship’, as Pennycook (2007: 589) suggests: ‘to repeat a text in another context is an inexorable act of recontextualization and it is only a particular ideology of textual originality that renders such a view invisible.’ Indeed, to check for its ‘original source’ is to assume an encoding which misunderstands the type of agency such an encoding implies. The agency of reuse is a borrowed agency, an agency of kidnapping, as it were. The skilful reuser is a *plagiarist* par excellence – the one who abducts the fragment skilfully to graft onto it her own agency: more specifically, abducting the encoding that some other skilful

reuser has already abducted (that is why it is already enslaved). Also in copyright law there are those who suggest that the encoding of reuse unravels the assumptions of traditional copyright law. For example, legal theorists such as Ginsburg (2005: 381–2) argue that, in the age of electronic writing (and the use of ghost-writers), ‘authorship’ is a matter of a *trademark* where the ‘author’ is the person who presents herself as such, who succeeds in persuading the public that her personality pervades the work, even if someone else wrote it. The extension of the tutors’ agency (encoded as electronic plagiarism detection) to check the assumed originality of the texts submitted seems to have had many more or less unexpected performative outcomes such as a particular encoding of the plagiarist, the original author, academic integrity, producers of intellectual property, ghost writers, etc. Most significant for us is the encoded production of the skilful reuser (or kidnapper) as original, thus revealing the essential question of the role of kidnapping (the *plagiarius*) in the encoding of all agency – *that is to say, in any encoding who is it that is speaking/acting?*

The Enframing of Code: Some Concluding Thoughts

What is most remarkable about the ongoing becoming of the world is that although it is, and could be, completely otherwise in each and every moment, it is rather extraordinarily similar and familiar. This extraordinary continuity, we argue, can be accounted for by the fact that normatively encoded material enactments are the necessary condition for the ongoing extension of agency, of becoming. However, such encoded extension is not just a translation but also simultaneously a transformation, with many unexpected performative outcomes and opportunities for resignification. As we have seen above, the encapsulation of machine writing into a digital encoding (as electronic writing) radically reconstitutes the agency so extended, and much more. Temporality for the writer and reader are no longer sequential and linear. Texts become constituted through, and as, reusable fragments, more or less skilfully woven together. Authorship, and its associated notions of originality, authority and ownership, dissipates. In the electronic intertext the extension of agency becomes increasingly fragmented and insecure – as the proliferation and failure of digital rights management systems testify. But most significantly the digital encoding makes it more apparent that agency becomes exactly *my agency* through the skilful kidnapping of an encoding that has its sources elsewhere – it is always already plagiaristic (a ‘crime’ of *plagium* one might say).

Our detour into the imbrication of electronic writing and academic writing (and the problem of plagiarism detection) has unexpectedly opened up the question of kidnapping that underlies all encoded enactments of agency – it has revealed its necessarily plagiaristic nature. As always already encoded beings we are never authors, we are instead all skilful reusers. *To extend agency we have to submit to the existing encoding and kidnap that encoding simultaneously – enabling constraints, in Butler’s language.* Our

originality, if there is any, is in our skill at kidnapping the code and turning it into an extension of *our* agency, that is to say, our skill at resignification. One might suggest with Serres (2007) that to be original we need to be skilful ‘parasites’. Nevertheless, one needs to bear in mind that any attempt at resignification will itself be subject to kidnapping, either directly or through the encoding formation at a higher level. As Serres (2007: 13) suggests, in this logic ‘[t]he parasited one parasites the parasites . . . But the one in the last position wins this game’. However, in our parasitic cutting and pasting we must necessarily conform to the essential elements of the encoding for it to continue to function as a code – otherwise it will not extend any agency. The parasite cannot destroy the host without losing its parasitic advantage.

As our sociomaterial world becomes more complex, agency becomes increasingly encapsulated – nested as codes within codes within codes. Some of the performative outcomes disappear from view and become taken for granted as the way the world is (i.e. it could not be otherwise). This is especially true for encodings that are increasingly subsumed in nested codes (i.e. not available for kidnapping, except by those with specialist expertise, as the complex financial instruments of the recent crisis revealed). Perhaps we are seeing the emergence of a new elite of scribes – again in the service of the powerful. As agency becomes encoded in increasingly imperceptible encodings – on a digital level or nano-scale for example – the ability of humans to take it hostage becomes less and less. In a sense these encodings are becoming more and more individual (more and more concrete, as Simondon would say). As such, the traces of the human other may eventually disappear altogether – perhaps an entirely new kidnapper/parasite will emerge. We may speculate that perhaps another encoded agency has already kidnapped us humans from the start. As Kittler (1999: 1–2) suggests:

And once optical fibre networks turn formerly distinct data flows into a standardized series of digitized numbers, any medium can be translated into any other. With numbers, everything goes. Modulation, transformation, synchronization; delay, storage, transposition; scrambling, scanning, mapping – a total media link on a digital base will erase the very concept of medium. Instead of wiring people and technologies, absolute knowledge will run as an endless loop. . . . But there still are media [encodings].

It seems that the performative outcome of the massive extension of agency in the digital – also the chemical, nano, genetic, etc. – is the dissolution of the supposed human as the origin of such agency (Leroi-Gourhan, 1993). In a sense the encoding of the digital reveals the radical proposition that we have never been originally human, or at least not the original human we supposed.

Clearly, this paper is in many respects relatively speculative and tentative in its analysis. It is undoubtedly possible to interpret the theoretical

work and the historical events upon which it is based in many different ways. I want to be careful not to claim too much in the name of this category of encoding, but also not too little. I believe I have shown that encoding is indeed a useful and productive ontological category. It does some useful work but it also unmistakably enframes our understanding in significant ways (many of which we have yet to articulate or understand). It may also have many unexpected performative outcomes, but that is always the cost of extension.

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Notes

1. McLuhan (1964: 56) uses the Greek notion of ‘metaphor’ rather than the Latin of ‘translate.’ *Metaphora* is ‘a transfer’, especially in the sense of transfer from one word to a different word. It literally means ‘a carrying over’.

2. For Foucault (2007), the making of statements – within, for example, a disciplinary discourse – is governed by a vast set of rules about, for instance, who is allowed to speak, what can be spoken about, how claims can be made and justified, and so forth. These implicitly and explicitly understood rules govern the way the discourse develops. They are both restrictive and productive. All statements, considered to be ‘statements’, are already governed by a discursive formation which is its necessary condition to be taken as meaningful and legitimate.

3. In computer programming, a nested function (or nested procedure/subroutine) is a function which is lexically encapsulated within another function.

4. This essential otherness in all encoding has been accounted for in a variety of disciplines. For example, in the incompleteness theorems of Gödel in mathematics, in Paul Ricoeur’s argument on the essential surplus of meaning in a text, and the claims of the interpretive flexibility inherent in artefacts made by the social construction of technology tradition, to name but a few.

5. See also Mackenzie’s (2002) very lucid discussion of this co-originality.

6. For two contrasting (and in some ways complementary) views of the development of language refer to Deacon (1997) and Leroi-Gourhan (1993).

7. These ancient scripts (which emerged simultaneously in a variety of geographic locations) used mostly some combination of iconic symbols to more or less encode spoken language, such as pictographs, ideographs, and rebuses. Pictographs are symbols where pictures represented things more or less as they are. Ideographs are more abstract symbols to represent things. Rebuses are a combination of pictures that represent the sounds that made up the word.

8. There are of course many competing theories of the precise history of the development of the phonetic alphabet. One of the dominant theories, which is followed here, is that the phonetic alphabet emerged as Semitic adaptations of Egyptian hieroglyphics.

9. The acrophonic principle is where the consonants of a word to be inscribed are represented by pictures of objects whose names begin with those consonants. This is a system of acronyms that works smoothly for Semitic languages such as proto-Sinaitic whose words always begin with a consonant.

10. Also see Heidegger (1962: 215) and McLuhan (1962, 1964) for similar arguments.

11. For similar arguments also refer to Logan (2004) and Rotman (2002).

12. Mostly due to the printing press, which can unfortunately not be covered here – see McLuhan (1962).

13. This was necessary because his vision was slowly deteriorating. This loss of sight forced him to severely curtail his reading and writing activity. However, with the typewriter in hand he was able to continue to write – even if it did not last very long.

14. For a further discussion refer to the work of authors such as Baudrillard (1994), Hayles (1999), Virilio (2005) and, of course, Kittler (1999) – all of whom have a very different interpretation of the performative outcomes of the digital code.

15. White (1965: 75) summarizes the principles governing this ‘classical episteme of imitation’ as follows: ‘The writer should take only what he finds usable in his predecessors, should add to it whatever changes or improvements later ages, including his own, have developed, and should transform and supplement all he has gathered by the operation of his own literary genius.’

16. Turnitin is the current market leader in plagiarism detection systems. They claim that their system is used by 5000 institutions in 80 countries worldwide (covering 12 million students and educators) and that 50,000 papers get submitted to their system every day. They also claim that their crawler, ‘Turnitinbot’, has downloaded over 9.5 billion internet pages to their detection database and that it updates itself at a rate of 60 million pages per day (Turnitin website).

17. For example, experiments with Turnitin showed that if one would change one word in a sentence at the right place – often between the seventh to fourteenth word in the sentence – then Turnitin did not recognize it even if all the rest of the sentence remained exactly the same (Hayes and Introna, 2005).

18. It is also possible that nothing is detected because there is no copy of the text submitted in the database of Turnitin to compare it with. This is entirely possible because Turnitin’s database only covers electronic sources (and only that which it can index on the world wide web – i.e. publicly available documents in the right format).

19. Roig (2001) has shown in his study that even experienced academics tend to keep significant fragments intact when confronted with difficult material.

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