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The contemporary context of relativity and relativism

In this paper an analogy is drawn between certain features of Einstein's Special Theory of Relativity and the model of signification encountered in the work of the post-structuralists Lacan and Derrida. This analogy pivots on an achievement that is common to Einstein's theory and the (post-)structuralist model of the sign, namely the subversion of the conceit of having access to something "absolute" — an "absolute" spatiotemporal vantage point in the case of Einstein, and "absolute" (immediate, fully present) meaning in the case of Derrida and Lacan. To be able to demonstrate this, the functionings of the structuralist "sign" and its radicalised post-structuralist counterpart are contrasted with the traditional referential model of meaning, while Einstein's Special Theory is scrutinised with a view to establishing a basis for comparison with post-structuralist semiotics.

Die kontemporêre konteks van relatiwiteit en relativisme

In hierdie artikel word betoog dat 'n analogie aangetoon kan word tussen Einstein se spesiale relatiwiteitsteorie en die betekenismodel wat by poststrukturaliste Lacan en Derrida aangetref word. Hierdie analogie berus op dit wat Einstein se teorie en die (post)strukturalistiese model van die teken met mekaar gemeen het, naamlik om die waandenkbeeld van menslike toegang tot iets "absoluuts" te ondergrawe — 'n "absolute" tydruimtelike oogpunt in die geval van Einstein, en "absolute" (onmiddellike, volledig teenwoordige) betekenis in die geval van Derrida en Lacan. Ten einde dit te demonstreer, word die funksionering van die strukturalistiese "teken" asook die geradikaliseerde poststrukturalistiese weergawe daarvan met die tradisionele referensiële betekenismodel gekontrasteer, terwyl Einstein se spesiale relatiwiteitsteorie onder die loep geneem word met die doel om 'n basis te vind vir 'n vergelyking met poststrukturalistiese semiotiek.

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In *The agency of the letter* (1977a: 154), Jacques Lacan makes the following statement:

> There is indeed no signifying chain that does not have, as if attached to the punctuation of each of its units, a whole articulation of relevant contexts suspended 'vertically', as it were, from that point.

Commenting on Lacan's notion of a signifying chain — something that forms part of his "inventive appropriation of Saussure's structural-linguistic conceptual arsenal" — Malcolm Bowie (1991: 65-6) remarks:

> He needed a way of describing conjointly two features of language that mattered equally to psychoanalysis but that had not until then been brought into alignment. The first was its obdurate and impersonal systemic force, and the second its fecundity, the pluralizing semantic power that it enjoyed in the speech of individual persons. For these purposes the metaphor of the 'signifying chain' proves to be particularly versatile. It has a suitably penal and correctional air: the chain is what limits the speaker's freedom, and the concatenation of its links speaks of a rigid causal order in which he is powerless to intervene. Yet the chain is also mobile, sinuous and able to loop back upon itself; any one of its links can provide a point of attachment to other chains.

I shall return to the pertinence (to the present theme) of these references to the "chain of signifiers" *à la* Lacan, but here I shall merely note that they provide a key to understanding the contemporary cultural and philosophical context within which an investigation of the meaning or implications of the concepts "relativity" and "relativism" could in my opinion profitably be conducted. This is the case, I believe, because what may be called the "linguistic philosophical paradigm" — or perhaps more broadly the philosophical framework of "networks of signification" — has decisively superseded the older one, which took the centrality of consciousness as its point of departure (and the demise of which can be perceived in the desperate struggle of Husserl to ground the sciences in the endlessly re-animating conscious act of intuition). I am convinced that this frame of reference, in various guises, comprises the most encompassing context for the investigation of any and all phenomena today, including those under discussion here.

Suffice it to say at this point, then, that Lacan's Saussurean image of an endlessly extending and variously articulated "signifying chain" enables one to conceive of an indefinite (if not infinite) number of

signifying "chainlets" comprising the signifying "chain" in its entirety (something that raises an interesting question concerning the semiotic and epistemological status of the chain: is it closed or open, and if this formally exhaustive domain of meaning is closed, is it complete?)[1] The first important point is that all the links and lengths of the chain that comprises language are interconnected and pre-exist individual subjects — there is no link or length of the chain that can be said to be "unconnected", and the subject acquires the ability to speak or write by "entering" language. Even relatively useless or unused links are still somewhere "connected" to the rest of the chain. Moreover, links or lengths of chain can be detached from specific points and re-attached elsewhere. The human subject, who occupies a "position" in the signifying chain, is capable of situating him- or herself differently within language from time to time.

I want to argue here that every distinguishable length of the signifying chain may be compared with what is today commonly referred to as a "context", and that one may also think of it as a "frame of reference", in Heideggerian (1978: 116) terms as a (relational) "totality of involvements", or in Einsteinian (or Galileian) terms as an "inertial frame" (of reference) relative to which pertinent judgements regarding motion can be made (Coles 2000: 10-2; Shlain 1991: 60, 121). One would not have much difficulty, either, in showing that, today, there are other suggestive ways of representing Lacan's "signifying chain" — ways that model the interconnectedness of contexts of meaning with the purpose of highlighting different features of this all-encompassing signifying medium. So, for example, Deleuze & Guattari's (1987: 3-

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1   This is a difficult question that cannot be exhaustively addressed at present (cf in this regard Sheridan 1977: ix). Another of Lacan's metaphors for the signifying process is as revealing as that of the "chain": his image of a train (Lacan 1977: 152) moving through time and space. An additional advantage of this metaphor is that it allows one to grasp the positioning of the subject within the signifying chain/train, here envisaged as a boy and a girl sitting opposite each other in a compartment, and therefore "seeing" things from their respective "angles": the boy sees a sign at a station, "Men", erroneously as naming the station, while the girl, making the opposite "mistake", sees it as "Ladies" and "corrects" him accordingly. The moral of the story? We all understand things from the perspective of our position on or in the "train" of language, or the symbolic register.

25) botanical metaphor of the "rhizome" and therefore of a processual, ever-reconfiguring "subterranean" rhizomatic network of meanings (at different levels) is a fecund metaphor for expanding, largely invisible semiotic processes happening at multiple (social, economic, political, scientific, artistic, or literary) levels at the same time. So, too, Hardt & Negri's (2001: 298-300) conception of two intersecting axes by means of which the functioning of contemporary information or communication systems may be understood, namely the horizontal, democratic level, exemplified by the internet, and the vertical, "oligopolistic" level, exemplified by radio-broadcasting networks, enable one to come to terms with the fact that (as Lacan's train-metaphor also suggests; cf footnote 1), wherever meaning operates, one encounters countervailing tendencies of power.

The second important point is that, regardless of the frame of reference or meaning-context within which one finds oneself at any given time — that of the (Husserlian) life-world or of everyday experience, that of a specific culture or religion, that of a (natural or social-) scientific discipline, of an institution, and so on — and regardless of the tacit assumptions that govern such a frame of reference or relational totality (for example the "referential" metaphysical assumption of an independently pre-existing, concrete, material world governing the structure of everyday experience, as well as the "empirical" or positivistic approach in the natural and the social sciences), Lacan's metaphor of the "signifying chain" (and its derivatives, such as "text") applies to all these contexts without exception. There is nothing that exempts even the conceit of the ontological independence of the "concrete world" from its conceptualisation in terms of the signifying chain, or the "symbolic order". This is not to say there is nothing outside the signifying chain or what Derrida has metaphorically called the "text";[2] only that what is not available in terms of signification, or what is not symbo-

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2   In this regard it is instructive to note that Derrida's (1980: 158) famous (or notorious) remark, often translated as "There is nothing outside of the text" is misleading in this formulation. An alternative translation, namely "There is no outside-text" renders his position more accurately, namely that anything "outside" the field of possible signification or symbolisation is not approachable as a "text" (in the metaphorical sense of a "signifying complex"). Cf also footnote 3, below.

lisable, remains, by that token, unintelligible[3] — this comprises what Lacan terms the "real", as opposed to "reality", which is constituted as an amalgam of the orders of the symbolic or language, and the "imaginary" order or realm of images.

Against the backdrop of what has been said so far, I would like to argue that Lacan's metaphor of the "signifying chain" provides one with a model that resists charges or suspicions of unavoidable epistemological and semiotic relativism, while simultaneously illuminating the ineluctable relativity (contextuality, relationality) of meaning and of knowledge-claims. As I shall attempt to show, it offers the formal means to negotiate any and all processes of meaning-generation and therefore, in a sense, provides a "constant" by means of which divergent situations may be assessed or judged, analogous to the way in which the speed of light provides a constant (in an expanding universe) by means of which specific, situational space-time relations may be understood in Einstein's theory of special relativity. Moreover — and this is the upshot of the present inquiry — the notion of the signifying chain, with all it entails, enables one to negotiate the immensely complex "relativity" (of context-based knowledge, for instance) by which contemporary

3   This insight has been variously articulated by thinkers from Kant through Wittgenstein and Gadamer to Lacan and Derrida. Gadamer (1982: 432), for instance, says: "Being, insofar as it can be understood, is language". The qualification "can be understood" is all-important. Similarly, Lacan's order of the "real" denotes that which resists symbolisation (cf Bowie 1991: 94). To claim that the "real" in this sense (which corresponds with the Kantian "thing-in-itself") can be known in terms of its specifiable properties is to overlook the significance of Kant's transcendental turn (or "Copernican Revolution") as well as that of the later "linguistic turn" (for which it paved the way) on the part of thinkers such as Wittgenstein, Heidegger, Gadamer, Lacan and Derrida, namely that conceptually or linguistically articulated experience is constitutive of "reality" (as opposed to the Lacanian "real"). John Caputo (1993: 78) elaborates in an illuminating manner on the paradox concerning the "ineffable" (the Lacanian "real"), namely that one is able to symbolise it at least minimally as unsymbolisable, or as he puts it (borrowing a term from T S Eliot), as "effanineffable". In other words, we can talk about it as that which we cannot talk about. (Needless to say, in all of this, the term "language" and its equivalents are used in an encompassing sense which includes all signifiers or bearers of conceptual meaning, such as gesture, written and spoken language).

culture is characterised, and which many intellectuals mistakenly seem to regard as good reason to affirm an inescapable cultural relativism. How is this possible?

First of all I should explain that by "relativity" I do not primarily have in mind the very specialised sense that the concept bears in Einsteinian relativity physics, although I shall draw certain connections between my use of the term and its meaning in physics. As suggested earlier, my deployment of the term concerns the "relativity" of meaning, or of knowledge claims that invariably and ineluctably are context- or frame-of-reference bound, even if they can be and continually are — not without semiotic or epistemic consequences — re-inscribed in new contexts (as I shall show by means of examples which concern Einstein): no one has access to an "absolute" frame of reference or a conclusively "true" perspective (Bodanis 2001: 82).[4] By "relativism" I mean the belief that nothing which has "meaning" is really worthy of the name in any intersubjective sense, much less of the status of "knowledge", mostly because such functioning of meaning fleetingly (and arbitrarily) operates for individuals or communities of various stripes in ephemeral situations, and at best only "valid" in a situation for as long as it lasts.[5] One could say that supporters of a relativist position believe that all human experience, language or interpretation is subject to a kind of tetherless "freeplay", and not merely to the "play" of meaning — the latter position being the one that Lacan and Derrida

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4   That this is a suitably humbling thought, which serves as a *caveat* against all manner of fanatical appeals to absolutes — usually of a religious or political-ideological kind — should be obvious. But lest anyone need an informed reminder of the kind of destruction, terror and persecution to which such an ideological invocation of absolutes has all too often given rise to in the history of the human race, Leonard Shlain (1998: 292-377) recounts some such instances vividly in his gripping account of the frenzy of internecine religious conflicts during the sixteenth-century European Reformation.

5   Cf in this regard Brimer's (1992) relativistic argument that the interpretation of a Shakespearian passage by a multicultural group of students is not subject to "correction" of any kind insofar as every student's inscription of this passage in his or her own cultural situation has to be accepted as legitimate. As I shall show, this relativistic conclusion may be avoided by re-inscribing each of these interpretations in the model of "context-relativity" outlined here.

represent, where there is a "play" between stability and instability, being and becoming, systematicity and flexibility. Moreover, the kind of claims made by those who fiercely insist on the legitimacy of their "cultural knowledge" or, for that matter, their own value judgments, ultimately mistake personal or communal preferences or "meaning" and affective, gut-level biases for putative "knowledge" in the sense of intersubjectively "justifiable" chains of signification.[6] By contrast, I want to argue that the context-relativity (or -relationality) of meaning or signification and of knowledge claims does not vitiate their semiotic decipherability but may well affect their (epistemic) status as far as intersubjective justifiability is concerned. To be able to do this, a more detailed discussion of the full implications of the "signifying chain" as well as of "context" and "relativity" is required.

The concept of the "signifying chain" may only be adequately understood in the light of the Saussurean concept of the "sign", which introduced a versatile means of conceptualising the generation of meaning, compared with the traditional, metaphysically burdened referential model of meaning. According to the latter, meaning is a function of a sign (a word or a picture, for example) "referring" to an individual

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6   A chilling example of this kind of relativistic claim was afforded by the television spectacle, a few years ago, of a spectator, fortuitously caught on camera during the broadcast of a soccer match, kicking a black cat to death in full view of other spectators. Because of the outcry that ensued, the man was tracked down and when confronted about his (to many, if not most viewers repulsively horrific) deed, claimed that it was justified in the light of the belief (knowledge?) of his culture that unless one kills a black cat that has crossed one's path, one will experience bad luck for the rest of one's life. The argument I am putting forward here enables one to understand this man's claims as relativistic, given the possibility of re-inscribing his cultural beliefs in a wider context or signifying chain where the meaning of "black cat" emerges in a different light when linked to distinctions between "superstition", "knowledge" and "rationality" (or, in Barthesian terms, between "primary signification" and "secondary signification" or "myth"). "Black cat" may therefore be seen as functioning differently in relation to different frames of reference or contexts, and this difference is not innocent. It has concrete, lethal consequences in some of these contexts, including those of the sixteenth-century European belief in witchcraft and similar African beliefs persisting into the twentieth and twenty-first centuries.

thing or to a concept or idea. Depending on which of these two alternatives is affirmed, meaning is given a materialistic (and usually nominalistic) or an idealistic ontological underpinning, which cannot account referentially for the "surplus" abstract and flexible character of language as a system of meaning (*i e* that not every word or phrase in language can be referentially accommodated). By contrast, the Saussurian "sign" has proved to be capable of accommodating every conceivable system of meaning. It is well known that Saussure divided the sign into two inseparable components, namely the "signifier" (a spoken or written word, a gesture, a picture or image: anything that "signifies") and the "signified" (the abstract concept which is the flip-side of any signifier). Language as a system therefore consists of a chain of signs (signifiers with their signifieds), regardless of the metaphysical or ontological value that anyone may attribute to these. Furthermore, instead of retaining a referential relationship of meaning, Saussure showed that meaning is a function of differences: in language there are no positive terms, only differences that affect the functioning of signifiers as symbols ("cat" differs in meaning from "rat", "sat" and "mat", not because of what it refers to, but because of the transposition of phonemes or graphemes [*r*, *s*, *m* and *c*]; depending on whether the signifiers are spoken or written). For Saussure (Olivier 1993: 247) the volatile signifier ("volatile" because the word for "lion", for example, differs from language to language) was anchored in the stable signified (the concept of a lion remained the same, in his view), in this way subjecting the signifier to the authority of the signified or concept. This is, despite the revolutionary consequences of his structuralist linguistics, a conservative gesture on Saussure's part, as Derrida (1978: 281) indicates where he says that the traditional tendency to annihilate the (revolutionary) distinction between the signifier and the signified "consists in reducing or deriving the signifier, that is to say, ultimately in submitting the sign to thought ...". Needless to say, this means re-affirming the primacy of consciousness, with all the anomalies and metaphysical commitments this entails.

1. Lacan's prioritisation of the signifier and Derrida's deconstruction of context

It is hard to overestimate the full intellectual significance and revolutionary consequences of what may be termed the post-structuralist liberation of the signifier, brought about by the work of Lacan and Derrida, among others. In Lacan's thought, instead of yielding to the temptation to characterise the realm of the "repressed" as that of the signified — a temptation all the harder to resist, given the ease with which psychoanalytical thinkers could consider repressed materials as constituting the "meaning" of the subject's "symptoms", speech and actions (Bowie 1991: 72-3) — the signifier is prioritised instead, in this way ensuring the systematicity and decipherability of the signifying chain (cf footnote 12 concerning similarities between Lacan and Derrida in this regard). For Lacan the unconscious is not, as Freud sometimes tended to think of it in topographical terms, a "deep, dark chamber". The sole access one has to the unconscious is via the signifier: the unconscious is inscribed in language, albeit negatively in the guise of omissions, negations and parapraxes of all kinds. Bowie (1991: 73) explains Lacan's prioritisation of the signifier as a determination to avoid occult qualities:

> The whole drift of Lacan's thinking in this area has to do with protecting the right of systems to remain systematic. Whereas certain linguistic categories — metaphor and metonymy, for instance — maintain and enhance those rights in respect of the signifier, others infringe them grievously. The signified is the most dangerous member of the second group. Metaphor and metonymy are modes of connection in the signifying chain, principles of structure and cohesion, but the signified is an undercover agent for vagueness and pathos.

Besides, what Lacan is resisting here is the lingering influence of the obsolete philosophical paradigm of consciousness, still active in Saussure's attempt to use the signified as conceptual anchor of stable meaning, and as exemplified in the conceptual claims of the Cartesian *cogito ergo sum* — in the place of which Lacan (1977: 166) famously remarked in an obvious reference to the unconscious: "I think where I am not, therefore I am where I do not think". If one adds to this his contention that the unconscious is "structured like a language" (Lacan 1977a: 55), it should be clear that the priority of the signifier enables Lacan to sweep aside the traditional tendency to think of the subject

in substantialist terms as essentially a thinking substance, or for that matter as an epiphenomenon of material processes. Instead, the subject is in a sense "thin" or "empty" — it is, in Bowie's (1991: 76) terms, "a series of events within language", and may therefore be understood in terms of the various ways in which the signifier "human subject" or "human being" is articulated with axio-logically burdened signifieds (which, in their turn, again function as signifiers).

A case in point is the signifier "man" as putatively representative of the human species, a claim easily debunked as ideologically and asymmetrically privileging the masculine sex when the path of the signifier is followed where it leads. To put it differently: the linguistic paradigm of the signifying chain (of signifiers) enables one to think in terms of contexts of signification, or frameworks of meaning, which do not have any grounds for claiming absolute, inherently permanent meaning, but at the same time do not represent complete semantic or epistemic flux. Every relational context or framework of "relative signification" lends itself to being understood, and even when signifiers are removed from certain contexts and re-inscribed in others, they do not thereby lose meaning, but become enriched (or impoverished) by means of new connections in the signifying chain — eventualities that sometimes give rise to ironic twists in the signifying history of words.[7] Despite the unstoppable, diversifying and yet systematically

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7   So, for example, the history of the word "snob" evinces a strange itinerary: initially, in the years leading up to the French Revolution, revolutionary writers parodied the nobility's custom of adding the abbreviation "nob" to their signatures on letters to indicate their status by adding to their own signatures the abbreviation "s'nob", signifying *sans nobilitas* or "without nobility", in this way making a virtue of what had been regarded as a vice, so to speak. The word "snob" in contemporary English, indicating someone who puts on airs, implicitly claiming a certain status which he or she does not deserve, preserves and enriches the initial meaning of the term in its present context of application. Other words, such as "gay" or "amateur" seem to have undergone a virtual reversal of meaning in new contexts, although every context within which they (and other words) have functioned can be tracked down (at least in literary cultures). In the case of "amateur" its present meaning tends towards the pejorative, especially when contrasted with "professional", yet at its inception "amateur" meant more or less the same as "professional" today, namely "someone who does something well",

coherent unfolding of the traceable historical path of the signifier, that which remains "constant" (but flexible) is the signifying model of signifier/signified as related to the "chain of signification". Meanings change, but are nevertheless decipherable, understandable, because of their accessibility along this chain — albeit never with any guarantee that they will stay "the same"; that is, they are in(de)finitely revisable, and a certain degree of semiotic "entropy" inevitably occurs, especially as far as writers' or speakers' "intended" meanings are concerned.

If anything, Derrida's treatment of the signifier is even more radical than Lacan's. Here I do not want to concentrate so much on the implications of his neologism or "non-concept", *différance*, but on his rethinking of "context" in relation to communication, signs and what he calls "writing" (Derrida 1982). Suffice it to say that the term *différance* indicates the process that is productive of meaning along a "spatial" as well as a "temporal" axis — hence the oft-repeated clarification according to which it indicates "difference" (spatial) as well as "deferral" (temporal): in short, meaning is only possible because of signifying differences à la Saussure as well as temporal deferrals of decoding or interpretation of signifiers (Derrida 1982a: 19). At the same time, however — and this is no less part of *différance* — these differences and deferrals also ensure that there is no guarantee that meaning will occur (or recur); *différance* is therefore also the "basis", if not the "abyss", of the "failure

but with a rider lacking in "professional", signifying that the skill or knowledge on the part of the person described as an "amateur" derives from her or his love of the activity in question. One last example: it may come as a surprise to most people living in today's technophile culture that the word "computer" once referred to a human being, specifically to the undervalued, underpaid, patriarchally exploited but nevertheless efficient, capable women (mostly spinsters) whose sole job was to carry out laborious computations (without the "benefit" of computers in the current sense of the word). These included the women dedicated to the measurement of star locations at the Harvard Observatory in the early 1920s (Bodanis 2001: 178). The signifier in these examples is attached to signifying chains comprising a complex web of meanings — sometimes mutually reinforcing, sometimes mutually contradictory. It is the ability to follow these (sometimes tortuously tensional, problematic and aporetic) paths that enables someone like Derrida to carry out "deconstructions" of concepts such as speech and writing, forgiveness, law and justice, the gift, hospitality and the like.

of meaning" or of its "impossibility"[8] (as manifested, for example, in those phenomena that give rise to relativistic claims). In Derrida's analysis of the manner in which signifiers or "marks" function in given contexts this "quasi-transcendental" function of *différance* is presupposed throughout.

In "Signature event context" (1982), to my mind one of Derrida's most seminal essays (and "disseminative" ones, given the persistent interpretation of his work as "relativist", if not "irrationalist"), he raises the question (among many other interrelated ones) and provides a provisional answer:

> [A]re the prerequisites of a context ever absolutely determinable? … Is there a rigorous and scientific concept of the context? Does not the notion of context harbor, behind a certain confusion, very determined philosophical presuppositions?
>
> To state it now in the most summary fashion, I would like to demonstrate why a context is never absolutely determinable, or rather in what way its determination is never certain or saturated (Derrida 1982: 310).

It is important to note that Derrida is here employing the notion of "structural non-saturation", which immediately touches upon something that is crucial in his essay and to my present purpose: it is not because of any "empirical" or factual impossibility of "determining" or "saturating" a context — in the sense of setting up the prerequisites for full discursive, mutual understanding and "consensus" to be attained in a given context such as the present one of a discussion of relativity and relativism — but because of the very (structural) conditions of possibility for communication, understanding or interpretation within any and all contexts, that "saturation" of meaning is unattainable. The point is that the currently fashionable appeal to "contexts" hides the very traditional, metaphysical prejudice that, implicitly, if individuals can agree on a context of some kind, agreement or mutual communication is believed to be possible along the trajectory of the

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8   *Différance* is an example of what has become known as a "quasi-transcendental" — something that functions simultaneously as the condition of the possibility and the "impossibility" of something else (in a "pure" state; cf Bennington 1993: 276-7). There are many examples in Derrida's work of "quasi-transcendentals"; for another, concerning the ambivalent conditions regarding the "effects" of signatures, cf Derrida 1982: 328-9.

simplistic notion of communication involving a sender, a message (meaning) and a recipient. In brief, what Derrida demonstrates in complex but persuasive detail is that the very conditions that make "communication" (of meaning) or mutual understanding within any context possible also make it "impossible".[9]

It is also impossible to render an adequate account of the complexity and richness of his argument in this regard, save by repeating it *verbatim*, so I shall restrict my remarks to what seems pertinent to my present purpose. Turning to the customary notion of "writing" as a "means of communication", Derrida (1982: 311) reminds us that it is usually regarded as an extension of "oral or gestural" communication, something that, in turn, presupposes a kind of homogeneous communicational space. Writing seems only to extend the field of locutionary communication to a much wider range. This is "banally self-evident", he says. But we know that philosophers are recognisable by their Socratic questioning of the "gods of the city" — we ought to suspect the "bread-thinkers" (Schopenhauer) who routinely set out to use their wits in the service of the commonsensically self-evident, the powers that be, or of conventional/customary/politically correct, "normalising" assumptions — they are not philosophers. But Derrida decidedly is, in an exemplary fashion. Turning to a paradigmatic traditional-philosophical interpretation of writing in the work of Condillac (1982: 311-2), he uncovers all the "normal" gestures on Condillac's part, including the belief that writing is a species of communication, that picturing is a proto-writing that leads to properly graphic, written communication, which is but the expression of ideas (so that writing essentially serves thought), that absence is what motivates the invention of writing and that Condillac thinks of writing as a "mechanical" and "restricted" economy of meaning where the most space-and-time-efficient graphic investment of the writer is recouped in the reader's decoding of the writing.

9   Cf in this regard my paper, "The (im-)possibility of communication", presented at a 2003 SACOMM conference in Durban (Olivier 2004). Cf also footnote 8, because another "quasi-transcendental" is involved here.

But the notion of "absence" (all-too-obviously of the addressee) casually introduced by Condillac is not as innocent as it seems. For, Derrida points out, this is a structural determinant of all writing (in fact, of all language), and not merely something empirical which is remedied through graphic representation (writing) as a modification of communicational presence. What does he mean? Simply that, instead of characterising writing as a break in the supposed presence of oral communication, Condillac presents it as a continuous reparation and sustaining of this putatively indispensable presence. But, as something that supplements communicational "presence", writing not only ruptures it but paradoxically ensures communicability or decipherability in the absence of the writer as well as the (any) addressee through its iterability or repeatability. "A writing that was not structurally legible — iterable — beyond the death of the addressee would not be writing", Derrida (1982: 315) remarks. He continues:

> This implies that there is no code — an organon of iterability — that is structurally secret. [Wittgenstein's familiar denial of the possibility of a 'private language' comes to mind, BO] The possibility of repeating, and therefore of identifying, marks is implied in every code, making of it a communicable, transmittable, decipherable grid that is iterable for a third party, and thus for any possible user in general. All writing, therefore, in order to be what it is, must be able to function in the radical absence of every empirically determined addressee in general. And this absence is not a continuous modification of presence; it is a break in presence, 'death' or the possibility of the 'death' of the addressee, inscribed in the structure of the mark (Derrida 1982: 315-6).

These words go to the heart of the matter concerning the structural non-saturation or indeterminability of "contexts". They imply nothing less than the "radical destruction of every context as a protocol of a code" (Derrida 1982: 316). What does this mean? Simply that, if supplied with a code for deciphering a message — whether the tacit conventions governing ordinary, everyday language, a key to decoding an encrypted message or, say, the theoretical concepts underpinning a scientific terminology — one is not uniquely privileged in being able to decode or understand it. The specific context is therefore not a prerequisite for understanding the sign-sequence constituting the "message" — because all signs or marks as "writing" are by their very nature iterable or repeatable, the context of their articulation is not essential

for them to be deciphered or understood by a third party. To be sure, the latter could use various strategies for or approaches to decoding the sign-sequence or sign-configuration, such to reconstruct the historical circumstances and/or the theoretical framework of its articulation, or to take the phenomenological approach aimed at systematically denuding the sign-configuration as a phenomenon by jettisoning all layers of prejudicial assumptions. Whatever the case may be, the "message", having been removed from the context of its provenance, is ineluctably inscribed in or "grafted" onto a new context within which it will generate meaning which will either be consonant with and enrich its "earlier" meaning, or conflict with it (cf footnote 5 in this regard). In either case, meaning is generated, in this way giving credibility to Derrida's notion of "dissemination" (as opposed to the milder "polysemy" which is still reconcilable with semiotic "insemination"), with its implication of an uncontrollable "scattering of seeds" (of meaning).[10]

Thus, when Derrida (1982: 317) claims that "a written sign carries with it a force of breaking with its context" and that: "This force of breaking is not an accidental predicate, but the very structure of the written", he is preparing the way for the insight that signs are "abandoned" to an "essential drifting" the moment they have been produced by a so-called "author", which affirms the legibility of the sign in the absence of this author. Moreover, apart from this context of its production, there is the "internal" semiotic context — such as a theory, a novel or a painting — from which a sign can be removed at any time to be re-inscribed elsewhere. As Derrida (1982: 317) continues:

> … there is no less a force of breaking by virtue of its essential iterability; one can always lift a written syntagma from the interlocking chain [the same metaphor Lacan uses, BO] in which it is caught or given without making it lose every possibility of functioning, if not every possibility of 'communicating', precisely. Eventually, one may recognize other such possibilities in it by inscribing or grafting it into other chains.[11] No context can enclose it. Nor can any code, the

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10   Needless to say, it is precisely the "control" of meaning, knowledge, truth and related concepts that has always been central to western metaphysics, hence the sometimes violent (and reactionary!) reaction against Derrida's scrupulously argued, radical thinking.

11   The present context, receiving its character from the selected theme of "relativity and relativism", constitutes just such a new context onto which these sig-

> code being here both the possibility and impossibility of writing, of its essential iterability (repetition/alterity).

As may be expected, it is easy for Derrida to expand these features of the relation between signs, writing and contexts to all language in the broadest sense, including that traditional bastion or touchstone of the immediacy and reliability of "present" meaning: speech. After all, for anything to be decipherable — whether it is written, spoken, painted, filmed, "built" (as in architecture) or even given in experience (such as the illuminating example of hoofmarks, footprints and broken branches so deftly decoded by Brother William in Eco's *The name of the rose*; 1984: 23-5) — it has to display the structure of a chain of signifiers of some kind. This is the "constant" in question, presented to writers, philosophers and scientists by this new (linguistic or semiological) paradigm of thinking — a paradigm which comprises the "mobile context" within which even something as ostensibly far removed from it as "relativity" or "relativism" may be inscribed, or which could alternatively function as a key giving access to realms of meaning engendered by grafting these two signifiers onto new contexts (such as the present one). The elements of this "constant" but flexible paradigm or model are those of the sign, namely signifier and signified, and related to them, the "signifying chain", "context" and "writing" (in the Derridean sense).[12] But why do these enable one to come to an enriched understanding of relativity and relativism? A little closer attention to relativity is called for at this point.

nifiers are grafted, and within which older meanings may be enriched or impoverished by adding or juxtaposing new ones; but in any event this new context opens up other possibilities of signification and understanding.

12   In "Structure sign and play …" Derrida (1978: 280-1) formulates what may be regarded as a succinct account of the argument that I have put forward here. In brief, he shows that the structure of the sign as comprising a (sensible) signifier and an (intelligible) signified allows for an endless, unstoppable proliferation of meaning(s) — essentially what I have tried to show here by scrutinising his critique of context — but that, paradoxically, this is only possible on condition that the signifier "sign" has a determinate meaning, namely the arbitrary relation between signifier and signified. In other words, for any meaning whatsoever to be generated, and for the impossibility of restricting, limiting or "saturating" the meaning of any concept (term, word, sign, etc) to become apparent, the possibility of momentarily stabilising the meaning of a concept — in this case

2. Relativity and the subversion of absolutes

The following observation by Leonard Shlain (1991: 132) highlights the pertinence of a comparison between the effect and implications of the (post-)structuralist model of signification, outlined above, and the implications of Einstein's theory of special relativity:

> In his 1905 article Einstein nullified the concept of absolute rest as meaningless since the immovable ether does not exist — the laws of physics are the same in all inertial frames. Since everything of substance is moving relative to everything else, there is no physical location that is motionless in the universe.

that of the very concept that has made this thought-revolution possible, namely "sign" — has to be affirmed. In a nutshell, what this means is that meaning is and is not determinable. It is nothing unusual in the history of thought to reduce the sensible signifier to its intelligible signified, thus submitting sense to thought. Or one could, like Derrida (and Lacan: we may recall that his reasons for being suspicious of the signified are similar to Derrida's) use the distinction in question to destabilise the metaphysical system of which it forms part — but not by jettisoning the "signified" or conceptuality in the process, even if every signified could be shown to function as a signifier in its turn. (I was reminded by Andrea Hurst of this account by Derrida when I was setting out my own argument concerning the structural parallel between Lacan's model of the signifier and the signifying chain, Derrida's radicalisation of the notion of context, and the role of the constancy of light-speed in Einstein's Special Theory of Relativity. For this, and more generally regarding my indebtedness to her thorough knowledge of Derrida's work, in particular, I owe her thanks.) Unless one is able to discern the path where a given sign, concept or term leads, its ineluctable inscription in new contexts or horizons, totalities, or frameworks (and therefore an unavoidable proliferation of meanings) would be unthinkable. Conversely, unless this multiplication of meanings could, in principle, occur — given the arbitrary connection between the signifier and the signified — one would be unable to trace (some of) them back to "relatively" determinate, (but non-saturable) context-dependent meanings, the exemplary case being that of the concept "sign". Epistemologically speaking — and I realise that the field of epistemology is fraught with metaphysical pitfalls of all kinds — it means that we are not the involuntary heirs of relativism, but neither are we the proud and deluded possessors of an epistemic algorithm that guarantees absolute, unshakeable, permanent knowledge. We know and we don't know: our knowledge is limited to contexts that are but "weakly" (or conditionally) determinable.

By analogy, there is no subject-position in the human cultural universe that is interpretatively "motionless", that is, where interpretation does not happen. If there is one thing that humans do incessantly (at least in waking life), it is to interpret or decode their surroundings. Moreover, just as, in the realm of human experience, no one can extricate him- or herself from his/her spatio-temporal, linguistically inserted perspective in order to attain a perspectiveless, absolute, "view from nowhere", so, in the realm of physics, not even the only conceivable Einsteinian "ideal", namely light itself, can be used as a vantage point or platform for observation (as the ether had earlier been thought to offer an ideal, motionless platform; Shlain 1991: 121) because its speed is unattainable (Shlain 1991: 132). To appreciate the novelty of these insights when they were first formulated by Einstein one has to remind oneself that, in Newtonian physics, space and time were absolute — space being regarded as homogeneous, static and flat (not curved), and time as constant or invariant, unidirectional and consciousness-independent (Shlain 1991: 120-1). According to this model, light was accorded more or less the same place that Hermes had in ancient Greek mythology, namely that of a messenger — bearing information between various spatial locations at a certain speed, that is, in a specific amount of time.[13] These conceptions of space, time and light are consonant with perceptual common sense. However, Shlain (1991: 121) points out that:

> Einstein turned everything upside down by declaring that space and time are relative and only the speed of light is constant. Einstein based his entire special theory upon two deceptively simple postulates. The first is that the laws of physics take the same form in all inertial frames of reference[14] (that is, there is not one privileged inertial frame — or place in the ether — that is at absolute rest). The

13 The speed of light, 186000 miles per second, was measured by Fresnel in the early 1900s on the assumption of the ether as a place of absolute rest (Shlain 1991: 121).

14 This useful notion of an "inertial frame of reference" was formulated by Galileo in the seventeenth century and forms part of what is known as the "Galilean theory of relativity" (Shlain 1991: 60-2). All this means is that, in order to ascertain if something is moving, it has to be related to a frame of reference (for instance a room within which one is sitting, or walking to and fro). To judge if the room, in turn, is moving, one has to relate it to another, more encompassing inertial frame of reference which is, again, assumed to be at rest. If this room were to be a cabin aboard a ship (an example of Galileo's), its motion could be

second is that the speed of light is constant for all observers regardless of how fast and in which direction they are moving.

Similarly — one is now in a position to assert — in the linguistic-conceptual realm of meaning there are no absolutes either. While there is a theoretical constant comparable to c or the speed of light in Einstein's theory — the model of the signifier/signified, or the signifying chain — meaning is spatio-temporally (historico-culturally or perspectivally) relative. All meaning (and therefore any knowledge-claim) is generated (or is to be assessed) within and has to be understood relative to the counterparts of "inertial frames of reference", namely specific linguistic chains, semantic or conceptual frames or contexts; contexts, moreover, which cannot be "saturated" or stabilised in a privileged manner, but whose constituent elements (or chain of signifiers) are continually re-inscribed in new contexts, just as light is continually powering away from every observer, regardless of the speed at which she or he is moving. Analogically speaking, just as space and time were shown by Einstein to be relative instead of "absolute", meaning, "reality" and knowledge, instead of being absolute, depend on how and where a perceiving or interpreting subject is situated relative to ("open") contexts or signifying chains. By means of the model of the signifying chain, meaning may be traced along the defiles and rhizomatic networks of signifiers, in this way enabling one to assess the status of claims to meaning and "knowledge".[15]

ascertained in relation to the "stationary" land, and so on. Thus, one may speak of movement within each frame, which is itself taken to be at rest for the purpose of measuring movement.

15 I deliberately put "knowledge" in quotation marks here, because I'm not sure whether it would not be better to think in terms of "potentially intersubjective or shareable (not necessarily shared) meaning" rather than "knowledge", given the unfortunate connotations of "permanence" and unshakeability that attach to the term "knowledge". All too often what is claimed to be knowledge in this sense is later unmasked as beliefs or "meaning(s)" operating quite satisfactorily within a specific context until a better, more inclusive or explanatory theory (which gives rise to new beliefs) is formulated, usually to address incongruities or anomalies that have arisen in the light of new evidence (of the kind that Kuhn refers to; cf Kuhn 1970). Einstein's theories are cases in point, and so is the very "rational" belief in the flatness of the earth (which I refer to further on) during a time when evidence to the contrary was not persuasively available.

This means that it is impossible to proscribe or preclude the continual generation of meaning in relational contexts where knowledge claims turn out, on closer inspection, to be relativistic (such as those on the part of the cat-killer referred to in footnote 6). At the same time, however, such claims can be re-inscribed in new, more encompassing relational contexts which enable one to discern their contextual relativity (and concomitantly, in some cases, their relativism) while tracing their connectivity with perspicuous, if not explanatory signifying chains. We are not in a position to choose between these two types of framework within which meaning is generated and knowledge claims are made — we have to continue relating them to one another, not neglecting either, lest understanding of the "freeplay" of relativistic claims be sacrificed on the altar of foundationalist epistemologies, or alternatively, lest temporarily stabilising theoretical frameworks[16] and the re-contextualising interpretations they allow be irrevocably exposed to the disintegrative decay of communicationally prohibitive, relativistic claims invoking complete incommensurability.

These parallels between the implications of the "signifying chain model" and Einstein's Special Theory of Relativity are further reinforced when we consider the shift in thinking of which the concept of "field" is symptomatic across a wide range of intellectual activities, from physics through visual art to the human sciences. In a nutshell: just as in physics the "field" was shown to be more important than — in fact, to be a prerequisite for — the existence of "particles",[17] so

16 See in this regard Andrea Hurst's (2002) illuminating study of the contradictions, in Heidegger's rectoral address, between a philosophy of science that sets up precisely the salutary model (of "taking a stand" or establishing a "relational frame", combined with the recognition that time will eventually ruin this "stand") I am talking about here, and an ideology predicated on the (im-)possibility of a totally "unified" people.

17 Cf in this regard Shlain's (1991: 245) observation:

As a result of insights garnered from both relativity and quantum mechanics, the field more than the particle came to be recognized as the true nexus of reality […] In Einstein's formulation of the special theory it was the field of light itself that determined the structure of space and time. Quantum physicists discovered that "things" constructed out of matter originated in fluctuations of insubstantial fields of energy.

too in painting, as well as in structuralist linguistics, the "field" was shown to be inseparably conjoined with, if not presupposed by the functioning of entities, things, objects, words, sentences, and so on within the field demarcated by the canvas or by the chain of signifiers comprising the system of language. Shlain (1991: 248-9) shows, for example, that one's initial disconcertion in the face of Jackson Pollock's abstract swirls makes way for understanding when, instead of searching for represented objects, we understand his canvases as setting up an energy-field without any centre or hierarchical spatial co-ordinates.[18] In physics this is matched by the concept of a "field" within which things in the form of particles can first take shape, while the Saussurean concept of language or Lacan's symbolic order (the chain of signifiers), within which meaningful configurations first become possible, can be equally consonant with this sense of the "field". Without the field constituted by the chain of signifiers, no signifier, in isolation, would or could signify anything — there are no positive terms in language, only differences, and these comprise the "field" in question.

A more accurate formulation of the relation between a field and the entities that manifest themselves within it, in poststructuralist terms, would be to say that the field and the entities — whether these are particles, signifiers or discernible swirls of paint (or images) — are inextricably intertwined: not only does recognising a signifier as such, for example "cat", or "woman", presuppose the "field" or chain of language, but the latter makes sense only as an insubstantial "something"

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18   Shlain (1991: 248) captures the remarkable parallel between the concept of the "field" in physics and the revolutionary abstract expressionism of Pollock in formulations such as the following:

> Pollock's work reiterates a profound truth the physicist discovered: The field is more important than the particle, the process supersedes the object [...] Pollock's vision, like the field in physics, is an invisible tension, made out of nothing, that cannot be captured and placed under the microscope for scrutiny. Pollock's painting is not a *res*. In physics, the field becomes manifest only by its effects on the behavior of things within it. Pollock found a way to express the same notion with paint [...] In Pollock's most famous paintings there are no things, merely the expression of energy and tension [...] They have no center or hierarchy of interest but instead give all areas of the picture equal importance [...] His works approximate the principle of the field as conceived in physics.

which, in its turn, presupposes signifiers and processes of signification which first alert one to the functioning of the encompassing field. Without these, one could not speak of language, just as one would not, in physics, postulate the supposed "primacy" of the "field", were it not for the *res* or physical things which are said to be its effects. It is merely the persistent tendency to think in oppositional or binary terms that impels even astonishingly insightful thinkers to accord primacy to the one or the other, instead of — like post-structuralist thinkers — thinking them together.[19]

3. Grafting relativity onto new contexts

The manner in which newly established, but "unsaturable" contexts are continually re-inscribed in new, equally unsaturable contexts where their initial meaning is both preserved and changed in the manner of a quasi-Hegelian *Aufhebung* ("quasi-", because there is never any question of teleological progress towards any final, all-encompassing synthesis; cf Derrida 1982a: 19-20) is strikingly demonstrated by events in the subsequent theoretical history of Einstein's famous equation at the heart of his special theory, namely $E=mc^2$.

Einstein had already upset the applecart of theoretical physics by positing an equivalence between energy and mass multiplied by the colossal figure of the speed of light squared (Bodanis 2001: 6-8; 48-54; 68-9; 73-85; 184-219). But not long afterwards, he himself was led to re-inscribe this formula in a more encompassing field — that of "general" relativity — as a result, it seems to me, of some further lateral thinking on his part concerning the implications of his formula regarding gravity and the behaviour of light. It had been well-

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19   These considerations raise the interesting and important question of why people seem to have an irresistible tendency to think in binary terms, instead of accepting what seems to me — and here I am following thinkers such as Heidegger, Merleau-Ponty, Lacan, Derrida, Foucault, Lyotard, Deleuze, Kristeva, Zizek, Caputo and Copjec — the ineluctable ambivalence of the human world and its implications for meaning, knowledge and moral action? The answer to this question, I believe, would throw light on many phenomena regarding human behaviour, not least of which is the persistence of ideological mystification (racism, patriarchy, capitalism, socialism, etc) on the part of large numbers of people.

known in physics that light has no mass or weight (Coles 2000: 29, 71), but consists of photons (conceived of as "pure" energy), in the language of physics. But if there is an equivalence between energy and mass (multiplied by c^2), then one might expect to find that light, too, behaved like ordinary, "massive" bodies in fields of gravity. This thought is linked to the insight, in Bodanis's (2001: 205) words, "that the more mass or energy there was at any one spot, the more that space and time would be curved tight around it". In Newton's physics, and even in Einstein's special theory, light was thought of as proceeding along straight lines, but if space and time were to curve under the influence of mass or energy (these being equivalent), then light could be expected to curve as well. These considerations resulted in Einstein's formulation of his more complex General Theory of Relativity in 1915, in which $E=mc^2$ was inscribed in relation to other components. Bodanis (2001: 205-6) explains:

> The equation that summarizes this has great simplicity, curiously reminiscent of the simplicity of $E=mc^2$. In $E=mc^2$, there's an energy realm on one side, a mass realm on the other, and the bridge of the "=" linking them. $E=mc^2$ is, at heart, the assertion that Energy = mass. In Einstein's new, wider theory, the points that are covered deal with the way that all of "energy-mass" in an area is associated with all of "space-time" nearby, or, symbolically, the way that Energy-mass = space-time. The "E" and the "m" of $E=mc^2$ are now just items to go on one side of this deeper equation.

What one witnesses here is the curious "logic" of lifting a signifier (in this case a composite one, namely $E=mc^2$) from one context and "grafting" it onto another: it remains the same and simultaneously changes through being inscribed in a new context. Without retaining the meaning that it has in the special theory, it could not be fruitfully transposed to the wider context of the General Theory of Relativity, but at the same time, by being related to space-time, as well as to the gravity and acceleration of the "real" physical world (instead of the conditions of pure theory and thought of the special theory), it also changes by being enriched by and enriching those concepts together with which it has been woven into a new, more complex chain of meanings.

Needless to say, like all scientific theories, Einstein's new, general theory required confirmation through testing — it had to be "falsi-

fiable", in Popper's terms, even if ultimately confirmed.[20] How this happened, and who was involved, is fairly well-known;[21] suffice it to say that it entailed testing the theory in terms of the prediction that light would be curved by passing close to a massive body such as the sun — something that could only be done by measuring the deviation, if any, of the light indicating the positions of distant stars in relation to the sun (which could, for obvious reasons, only be done during a solar eclipse), from their positions at night, when light from them does not appear in the vicinity of the sun. But Einstein's theory was, and has since been confirmed on many occasions; the important point for my present purposes being that this inscribed the signifier "Einstein", as well as that of "relativity" and of $E=mc^2$ yet again in a new context, because, as Bodanis (2001: 213-7) and Coles (2000: 56-61) both show, without the spectacular media communication of the confirmation of his theory's "prediction" that light would be found to "curve" around the sun, neither Einstein's name, nor the term "relativity", would have become household words. Again, grafting these signifiers onto new (historical) contexts, their meanings have been amplified by paradoxically remaining the 'same' and changing.

Moreover, the "sliding" of the signifier, $E=mc^2$, along various chains of signification did not end there, nor does one have any reason to suspect that it will ever stop its historical and/or theoretical sliding or drifting. I shall mention only five more such instances of grafting $E=mc^2$ onto new contexts. First, therre is Cecilia Payne's "discovery", through her reflections on $E=mc^2$ in the 1920s, that (contrary to what physicists believed until then), the sun does not consist largely of iron, but has such a colossal energy output due to its predominantly hydrogen

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20 It would take longer, ironically, for $E=mc^2$ to be "experimentally" confirmed (in a truly devastating manner) — I shall turn to this presently.

21 A wonderfully informative and humorous account of these events, involving Einstein's disastrous Jonah of an assistant, Freundlich, as well as Arthur Eddington, is given by Bodanis (2001: 204-19; cf also Coles 2000: 33-61). Both these authors highlight the manner in which Einstein, who might otherwise have remained an obscure, if scientifically acclaimed physicist, attained the status of an icon because of world attention being focused on him through the media at the time of the eclipse expeditions. This is a "context" very different from a narrowly scientific one, although it depended on Einstein's prowess in the latter.

mass (Bodanis 2001: 173-83). Secondly, we have Subrahmanyan Chandrasekhar's discovery, through similar reflections, that about 6 billion years from now, the sun and all the planets in our solar system, will end (as Robert Frost so perspicaciously foresaw in his poetry) in fire and ice when the final energy outbursts of our sun occur (Bodanis 2001: 195-203). Thirdly in the 1940s, there is Fred Hoyle's lateral use of $E=mc^2$, together with the notion of implosion, to solve the tantalising riddle of the origin of life through the creation of carbon, oxygen, iron, and so on by imploding and exploding stars (Bodanis 2001: 184-91). Ironically — and this is the fourth instance of a re-contextualisation of Einstein's fecund formula — Hoyle's creative reflections on the link between $E=mc^2$ and the origin of life had as their point of departure his awareness of the formula's integral importance in the development of an atom bomb (a source of death on an unprecedented scale: the antithesis of life) in America's so-called Manhattan Project. Without the theoretical implications of $E=mc^2$ the atom bomb would have been unthinkable. It is not possible to recount all the stages and dramatic events of the race between Germany — with none other than Werner Heisenberg leading the Nazi project — and America here (Bodanis 2001: 93-169); the point is that $E=mc^2$ has been inscribed in meaning-preserving and meaning-modifying contexts of the most diverse kinds imaginable, on a spectrum stretching from life to mega-death.

But one could go even further in listing the theoretical-historical re-inscription of Einstein's theory in new contexts by including a fifth, of a philosophical-aesthetic kind. The unlikely manner in which revolutionary artists anticipated Einstein's similarly revolutionary theories in physics constitutes a splendid example of how the "path of the signifier" sometimes leads, by way of novel connections and what Derrida calls "grafting", to startling insights concerning the connections between contexts of meaning (or frames of reference) previously thought to be incompatible — just as Einstein's own work leading to his Special Theory of Relativity in 1905 was the outcome of such novel conceptual juxtapositions in physics that, as Foucault would say (1972: 224), his fellow-physicists initially did not recognise that it was even "within the true", that is, that it belonged recognisably to a legitimate field of research within the discipline (Bodanis 2001: 73; 77-8).

In his startlingly innovative study, *Art & physics: Parallel visions in space, time, and light* (1991), Leonard Shlain (to whom I have already referred in my discussion of the concept of "field") constructs a conceptual framework or context that admirably demonstrates the claims of post-structuralists like Lacan and Derrida that signifiers can be detached from the chain of signification and attached elsewhere — that is, that they may be removed from their "home" context (which is therefore "unsaturable") and grafted onto different ones in a manner that amplifies their meaning while retaining the meaning with which they were initially invested. Shlain's book covers the immense field from Ancient Greece to the present day with a view to drawing a parallel between iconic artistic representations of reality and abstract, alternately analytical and synthetic theoretical approximations of its physical structure. His central thesis is that artists may be shown to have uncannily anticipated fundamental changes or shifts in the understanding of reality which were only later articulated in physics, and he fleshes this out by way of a detailed study of pertinent artists and physicists, including Einstein.

The implications of Einstein's theories were anticipated, Shlain (1991: 101-37) shows, in the art of Manet, Monet and Cézanne. From 1863 onwards, Manet's painting violated the laws of perspective which had been taken for granted since the Renaissance, including his use of multi-directional lighting, his elimination of the "middle ground" in the representational space of a painting, his "camouflaging" and curving of the horizon line, and his obscuring of the "guiding" verticals — thus leaving viewers visually rudderless. As Shlain (1991: 104) reminds one, Manet's unconventional constructions subverted Aristotelian logic as well as Euclidean (and Newtonian) space, and with these the entire thought-framework which had governed the modern epoch since the Renaissance.[22] What is more, in addition to introducing the idea of curved space (which is an important part of Einstein's General Theory), Manet anticipates in his *Le Déjeuner sur l'herbe* the kind of foreshortening

22 The fact that the historical context within which Manet was working had undergone a major shift is also evident in the way that he (like his contemporary Degas) eventually eliminated the horizon line completely from his paintings, capturing the kind of random, candid, non-composed moments that a contemporary invention, the camera, had made commonplace (Shlain 1991: 107).

of perspective and flattening of shapes that a thought-experiment involving the visual effects of travelling at the speed of light conjured up (Shlain 1991: 130).

Monet, in his turn, anticipated a corollary of Einstein's theories of relativity through his implicit treatment of time in his different "series" of paintings (for instance of Rouen Cathedral), namely that time comprises a fourth dimension, that of duration or sequentiality, without the addition of which the location of things in space is inadequately indicated (Shlain 1991: 108). In other words, he intuited what Minkowski would later (in 1908) call the "spacetime continuum". It is therefore not surprising that, as in the case of Einstein's work, light is of central importance in Monet's work, and that his determination to catch the light-suffused moment in paint results in his smudging of boundary lines in a manner consistent with the predicted *sfumato* (instead of traditional *chiaroscuro*) visual effects of lightspeed-travel (Shlain 1991: 112, 130). Moreover, Monet's preoccupation with capturing the fleeting impression of the moment or "now" in a series of successive moments — something uncannily reminiscent of Husserl's phenomenological analysis of time-consciousness as well — by means of his style of "Instantaneity" corresponds to the predicted effect of moving at lightspeed, namely the dilation of the present moment to the point where past and future merge with, or are "contained" in it (Shlain 1991: 110, 131).

In the case of Cézanne, the manner in which time seemed to "slow down" and eventually "stopped" or froze into a "motionless everlasting now" in the development of his painting (Shlain 1991: 113; 131-2) bears a striking similarity to Einstein's suggestion that, "objectively" speaking, "the distinction between past, present and future is only an illusion, however persistent" (quoted in Shlain 1991: 132). Further similarities with Einstein's work are apparent from Cézanne's treatment of light (which abandoned the traditional angle of declination) as well as his use of multiple perspectives in a single painting (which questioned the notion of a privileged place in space) and, concomitantly, his subversion of the "integrity of the straight line" (Shlain 1991: 114-7).[23]

23 Shlain (1991: 117-8) summarises these artists' achievements as follows:
    Manet first curved the straight line of the horizon, Monet blurred
    his straight boundaries, and Cézanne splintered the straight edge of

It does not seem to me to be an exaggeration to say that few people would have anticipated this grafting of Einstein's theories onto a novel context — that of art history — as performed by Shlain. In the process one witnesses again the strange ambivalence of meaning: in order to be amplified in relation to art history, his concept of relativity had to remain what it was/is, but once having been inscribed in novel chains of signification, it will never be exactly the same as before, since it has been enriched and made more complex. Only someone with a referential, and ultimately untenable, "atomistic" theory of meaning could argue against this.

Of course, each of the books that I have referred to in connection with Einstein's theories and their relevance to a divergent array of issues establishes, in its turn, a unique combination of signifiers, comprising novel frameworks of signification or meaning within which Einstein's $E=mc^2$ is inscribed in a complex, different and completely non-saturable manner — given the diversity of the personal, literary, scientific, philosophical or conceptual pre-understanding(s) that each reader brings with him or her to these texts.

Solomon (1994: 165) affords one insight into something else that is at stake here where he points out that to be "rational" often entails making certain judgments that may be proved "wrong" by subsequent generations with different kinds of information (and therefore frames

his tables. What we see at the focusing point of vision are clean-edged objects arranged around the vanishing point intersection of the upright vertical and rectilinear horizontal. The view from the periphery of vision — that is, the wider, more encompassing one — is unfocused and curved and has more than one point of view. These three artists presented just such a view. Their revolutionary assaults upon the conventions of perspective and the integrity of the straight line forced upon their viewers the idea that the organization of space along the lines of projective geometry was not the only way it can be envisioned. Once people began to see space in non-Euclidean ways, then they could begin to think about it in new ways too.

If the questions these three artists raised were misunderstood by their contemporaries it was only because no one at that time could know that the whole conceptual framework of reality was soon to be supplant. It would take the elegant calculations of an Einstein years later to provide the proof in black and white of what had been stunningly accurate artistic hunches expressed in form and color.

of reference) available to them, although at the time, given the information or "knowledge" at their disposal, they may have seemed to be perfectly "rational" on the part of the people of the era in question. To illustrate his point, he adduces the example of the ancient belief that the earth was flat which, given the evidence available at the time, was the most "rational" belief to hold; to believe in a spherical earth, although "true" from a later perspective, simply did not seem rational within the astronomical context of the era. One could also say that, in the context of ancient Greece, given all the elements of meaning (or "knowledge") available at the time, it made sense to believe that the earth was flat. According to this approach, which rejects any possibility of ever being in a position to claim incontrovertible or absolute "knowledge" (cf footnote 15), knowledge amounts to iterable or repeatable structures of meaning which are generated by articulating specific signifying chains which, in turn, may be grafted anew onto historically novel contexts, a process that could repeat itself indefinitely. Even the "reconstruction" of what might be called a "past context of discovery" (for instance the historical-scientific situation within and despite which Einstein formulated his own theories) is undertaken within a historically novel situation, where different factors come into play. The same may be said of the "context of justification" — it may indeed follow what appears to be the "same" logical and scientific path, but each reader, writer, student of science or scientist who "repeats" the trajectory of signification along which the "justification" is carried out does so within a historically new situation, where the signifying process is at least potentially made more complex by his or her awareness of new developments in the field in question (apart from those [more numerous?] cases where lack of awareness or insight may prevent the "reader" from doing justice to the theory in the first place, and where relativistic claims are more likely to occur; cf footnote 5 in this regard).

I believe that, just as Einstein's inscription of E=mc^2 in his General Theory resulted in a theory that was more encompassing (involving as it does gravity and acceleration, and conceiving of space-time as dynamic) and therefore had more explanatory power than the Special Theory, one could formulate a "general theory of cultural practice" (or "cultural dynamics"), which would incorporate the theory of meaning

that the model of the signifying chain offers.[24] This model of signification, aligned with diverse, spatio-temporally (historically) changing cultural practices would enable the philosopher, anthropologist, semiotician or cultural theorist to map patterns of change in space and time (that is, in history) according to the sometimes surprising, mostly unpredictable signifying paths followed by the signifier. In this way an encompassing *Critique of cultural reason* could be written (with acknowledgement to Kant).

24 Needless to say, one could cite several thinkers — among them Barthes, Lacan, Derrida, Lyotard, Foucault, Joan Copjec, Slavoj Zizek and Kaja Silverman — who have already commenced, in different ways, with the formulation of such a theory of cultural practice.

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