

**A Deliberate Resurrection  
of Matter**

Thomas Pynchon - Gravity's Rainbow: A Transhumanist Vision  
(*Postmodern Science; the Deathly Grammar of Word and  
Consciousness*)

How alphabetic is the nature of molecules  
(Gravity's Rainbow, 355).

**Hartwin Gebhardt**  
*January, 1995*

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## CONTENTS

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Section 1: *Assembly*

1.1	Abstract	1
1.2	Abbreviations and Conventions	3
1.3	Introduction	8
1.4	'Postmodern' Science: From Clockwork to Chaos	18
1.4.1	First and Second Laws of Thermodynamics: Energy, Entropy, and Heat Death	22
1.4.2	Einstein's Relativity	24
1.4.3	Gödel's (First Incompleteness) Theorem	27
1.4.4	Heisenberg's Uncertainty Principle	31
1.4.5	Chaos	38

Section 2: *Hauptstufe* (Mainframe)

2.1	The (Uneasy) Authority of the Scientific Discourse	45
2.2	Limits of Cross-pollination	57
2.3	Our Digital Pact With Death	67

Section 3: <i>Brennschluss</i> - Gravity's Rainbow
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3.1	Inside the Metropolitan Organ	74
3.2	The Man's Office in Our Head	82
3.3	The Aggregat as Postwar Metaphor	89
3.4	Götterdämmerung	94
3.4.1	His Time's Assembly	95
3.4.2	Entropy Management ( <i>The Primal American Act</i> )	99
3.4.3	The True Nature of Control ( <i>The Penis We Think Is Our Own</i> )	102
3.4.4	The True Nature of Synthesis ( <i>A Sinister Cryptography of Naming</i> )	106
3.4.5	Postwar Reality ( <i>The Rapid Flashing of Successive Stills</i> )	118
3.4.6	A Transmarginal Opening ( <i>The Ultraparadoxical Phase</i> )	124

Section 4: <i>Descent &amp; Impact</i> - Death & Resurrection
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4.1	The Meaning of Breakfast as ...	130
4.2	To Hear with a Revolutionary Heart	133
4.3	It isn't a Resistance it's a War	146

Section 1: *Assembly*

1.1 Abstract

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Title:

A Deliberate Resurrection of Matter. Thomas Pynchon -  
Gravity's Rainbow: A Transhumanist Vision (Postmodern Science;  
the Deathly Grammar of Word and Consciousness)

Section 1 will be a mostly descriptive engagement with the concept of 'postmodern science', and will thus both quote and interpret scientific debate extensively. Although 'chaos' has been constituted as a formal discipline only after the publication of Gravity's Rainbow (GR), it has been included in the overview of postmodern science since it has both direct and

indirect bearing on issues included within the scope of the thesis.

Section 2 will deal with the use of postmodern science, and the 'scientific discourse' in general, within philosophical and artistic / literary activity. Special attention will be given to both limits and implications of this use. Section 2 will also develop the link with GR, and Pynchon's metaphorical use of the scientific discourse.

Section 3 will deal more specifically with GR and will analyze various themes and topics in the light of the preceding discussion in Sections 1 and 2.

Section 4 will focus on the broader connotations of GR and on possible avenues of 'escape' from cultural, economic, political and, even more elementary, *linguistic* processes and systems, in both definition and oppression of (and via) 'self'.

## 1.2 Abbreviations and Conventions

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The following abbreviations designate works by Thomas Fynchon:

- V - V.
- 49 - The Crying of Lot 49
- GR - Gravity's Rainbow
- SL - Slow Learner
- VL - Vinelands

Any page number not associated with a specified text refers to Gravity's Rainbow.

The following abbreviations indicate general reference works used:

- Collier's - Collier's Encyclopedia, The Crowell-Collier Publishing Company, 1964.
- Compton's - Compton's Interactive Encyclopedia (on CD Rom), Compton's NewMedia, 1994.
- Flew - Antony Flew (ed). A Dictionary of Philosophy. London: Pan Books, 1979.

**Other terms and abbreviations to be used:**

*A4* - the rocket; also V2

*as such* - loosely indicating *on its own*, removed from (conscious, formal) associations and contexts, for the purpose of identifying distinctive, internally specific characteristics.

*E* - Energy (as in  $E = mc^2$ ); both work and heat can be considered different forms of energy.

*entropy* (thermodynamics) - The measure of the unavailability of a system's thermal energy for conversion into mechanical work; it is often loosely defined as the tendency of any closed system towards maximum 'disorder'.

*entropy* (information theory) - The Measure of Information: *entropy* is the amount of information in a source. The entropy of any source is the smallest number of bits (from binary digits) able to represent the source in a message.

This concept of 'entropy' should not be confused with thermodynamic entropy. Unfortunately confusion has often arisen not only because of the sharing of terms, but also because of certain wholly coincidental similarities existing between formulae involving thermodynamic entropy and early versions of information entropy. The binary, digital nature of information

theory has been explored somewhat by Pynchon in 49, even though with the express disclaimer of using any similarities with thermodynamic entropy in a metaphorical sense only.<sup>1</sup>

The conception of entropy as explored and used in this thesis will generally deal with *thermodynamic* entropy, unless specifically stated otherwise. This also applies in most of the cases where binary oppositions are explored.

*FTS* - faster than sound (adapted from the use of *FTL* to connote 'faster than light' speculation, a popular convention in Science Fiction writing)

*heat death* - State of uniform distribution of energy which all closed systems, including the universe, tend towards; the absolute minimum temperature reachable would be 0° Kelvin (*Absolute Zero*), or -273,15° Celsius.

*performativity* - Performance is conventionally measured according to input / output ratio. Perfect performance, which is impossible to achieve in practical terms, would be indicated by a 1 / 1 ratio, or 100% efficiency. A car for instance might be running at thirty percent efficiency; that means that thirty percent of the energy contained in its fuel is transformed into work, while the rest is lost via friction, heat loss, etc. (In V

<sup>1</sup> The equation for one, back in the '30s, had looked very like the equation for the other. It was a coincidence. (49, 72) [...] 'Help,' said Oedipa, 'you're not reaching me.' 'Entropy is a figure of speech, then,' sighed Nefastis, 'a metaphor' (49, 73).

(285) a crash test dummy describes the late 19th century definition of a human being, "with Newtonian physics pretty well assimilated and a lot of work in thermodynamics going on", as a heat-engine about 40% efficient.)

*'postmodern' science*<sup>2</sup> - A conception of science, arising out of recent (mostly 20th century) developments, which has abandoned notions of absolute objectivity, is aware of the significant role played by the observing entity, and is also conscious of the limitations of scientific powers of prediction and control. Of importance for the purposes of this thesis are the first two laws of thermodynamics, Einstein's Concepts of Relativity, Gödel's First Incompleteness Theorem (mathematics), Heisenberg's Uncertainty Principle (Quantum Theory), and the fairly recent development of Chaos Theory. A short descriptive overview can be found in Section 1.4. Postmodern science and its wider implications will be more closely examined in Section Two.

*"pretext"*<sup>3</sup> - A worldview and ultimate explanation which allegories, and possibly most texts, assume exists, and use as absolute authority; the bible thus functions as pretext for Christians, the Koran for Muslims, etc.; a

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<sup>2</sup> From Lyotard (1979, 53).

<sup>3</sup> From: Quilligan, 1979, 100. Quilligan's definition of 'pretext' includes both the anteriority of the sacred text, and its (invoked) ability to redeem a 'fallen' allegorical language use.

deconstructive approach might facilitate the 'discovery', or creation, of a pretext, or subtext (possibly one of many) for less obviously dogmatic texts.

*Them* - The inanimate structures GR identifies as destructive, oppressive, 'evil' in an impersonal sense; 'Them / They / Their' will be indicated by the use of capital letters.

*The Word* - The paramount role of the 'Word' (language) in the determination of human affairs, as also encountered in GR, will be considered. The grammar of language and human identity, it will be proposed, is the most elementary dynamic active on all levels of human endeavor.

The Word, "money" and "shit" are defined in GR as one of "the three American truths" (28). Money, made out of paper, dead wood, is everything life (living green) is not; it represents Their failed attempt to defeat death. It regulates commerce, and embodies Their (and our) obsession to get something for nothing; it perfectly expresses the relationship with the world GR critiques. 'Shit' represents the cyclical nature of life, and thus has to be repressed, and wiped away with toilet paper; shit in GR is associated with all repressions, either directly or affiliated somehow with catharsis.\*



\* The influence of the earliest forms of 'naming' should not be underestimated. For instance, the Egyptians divided the day and the night into twelfths, whereas the Sumerians, who invented written language "liked to count in sixties"

### 1.3 Introduction

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By way of analogy: the fact that universal thought, in all its domains, by all its pathways and despite all differences, should be receiving a formidable impulse from an anxiety about language - which can only be an anxiety of language, within language itself - is a strangely concerted development; and it is the nature of this development not to be able to display itself in its entirety as a spectacle for the historian, if, by chance, he were to attempt to recognize in it the sign of an epoch, the fashion of a season, or the symptom of a crisis. Whatever the poverty of our knowledge in this respect, it is certain that the question of the sign is itself more or less, or in any event something other, than a sign of the times. To dream of reducing it to a sign of the times is to dream of violence.

Derrida<sup>5</sup>

In the Parliament of Life, the time comes, simply, for a division. We are now in the corridors we have chosen, moving towards the Floor... (536).

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(Ford, 1963. In: Ferris (ed), 1991, 35). These conventions are still, significantly, with us in our measurements of time.

<sup>5</sup> Writing and Difference, 1978, 3.

The project of this thesis started out as an exegesis of the relationship between *postmodern science* and *postmodern literature*, and the tension with the traditional realist world view, focussing on Pynchon in general and Gravity's Rainbow in particular. Thus it was supposed to be a theoretical exploration situated somewhere in the gulf separating the two cultures,<sup>6</sup> while using Pynchon's fiction as useful vehicle. Yet on closer reading of his work it became apparent that such a tactic would entail an unconscionably selective reading; meaning that Pynchon's fiction *itself* far transcends such a narrow approach.

It will become clear that in pursuit of its own concerns Gravity's Rainbow conceptually adopts a somewhat similar approach, regarding a host of master discourses including (as one of many) precisely the tension between traditional (Newtonian) science and postmodern science (and their allied ideologies). Thus the focus of the thesis has happily shifted squarely onto Pynchon, and in particular his masterpiece Gravity's Rainbow.

The conclusions drawn in the course of this project will however be related to the professed paradigm shift separating mechanist and postmodern science, and the question will be posed whether, as many vociferous supporters of the latter seem to take for granted, this shift will *necessarily* manifest itself in a New World Order. In other words, will the 'fundamental

<sup>6</sup> The sciences, and the humanities or arts. From CP Snow's by now in/famous Rede Lecture of 1959 (The Two Cultures, 1993).

interconnectedness of all things' *a priori* lead to sweeping changes on all *human* fronts. (Fynchon's GR deals with this hopeful notion rather dismissively.)

Postmodernism itself is frequently posited as a radical break from all preceding thought systems. This thesis will contest that view, and will posit the continued existence of the 'scientific discourse' as the ultimately authoritative discourse, and as a continuation of the Enlightenment project; as well as the existence of far older political and economic forces directing and controlling both the scope of scientific concerns, and the development and use of its technological 'offsprings'. Thus it will be the contention of this thesis that science has the *authority*, but not the *power* of older master discourses, and that power still resides on the level of political and commercial control.

We, "God's poorest and most panicked creature" (465), says Fynchon, are the one animal cursed with the knowledge of its own inevitable death (230). Throughout human history, and according to GR at an accelerating rate, we have become so obsessed with our awareness and fear of death, that we forget to 'live'. We end up devaluing life because it leads to death, and invent hereafters; instead of appreciating the here and now even more. We can go two routes, and we have chosen death over life. Very few are able to resist the cultural current sweeping us towards zero. Geli Tripping, the apprentice witch, is one of only a few to do so. It has come so far in the Hexenstadt Nordhausen, that

as with one either chooses to become a bureaucrat, or one leaves to

choose the world. There are two distinct sorts of witch, and Geli is the World-choosing sort (718).

Geli chooses the world, life, yet she is the exception. Most follow their program, and chose death. This is the pact with death Pynchon diagnoses in (and through) his fiction, a pact with death that has permeated all our culture and history, and is found in religion, in politics, in culture, in commerce.

Pynchon, this thesis is arguing, diagnoses the root of our tendency to privilege death over life in language itself, and especially in *written* language. Language re-presents, and by installing a gap in the immediacy between experiencing and living life directly, and by being conscious of this in a manner which differentiates between past, present and future, language and *consciousness* predispose us towards alienation from the lived moment. In addition, individual identity itself implies a gap between the I and everything that is non-I (including 'you') and subsequently throughout history we find both the tyranny and solitude of the ego, and the tendency to constantly favor 'the impersonation of life' (via the word) over life itself. Sir Stephen Dodson-Truck, who has a love of the Word (and who is impotent) sees the genealogy of language analogous "to the development of an independent ego by the very young child" (206). Yet the independent ego is anything but 'independent', being defined and indeed *uttered* by the grammatical structure of

language even before it 'speaks itself' (in both senses of the word).

The increasing alienation from life via the word, and more particularly the *printed* word, is most clearly established in GR in the following episode, wherein Tchitcherine acts as an agent of the Turkish alphabet observing an *Ajtys*, a singing duel between prospective lovers. He realizes that the elaborate mating game played by the young couple is only 'alive' while being played, while in the service of 'life'.

The boy and girl go on battling with their voices - and Tchitcherine understands, abruptly, that soon someone will come out and begin to write some of these down in the New Turkic Alphabet he helped frame ... and this is how they will be lost (357).

Language thus finds its original, or most basic, 'meaning' in its allegiance with social interaction, sexual attraction, with life itself. As soon as it becomes part of another context, namely the merciless march of print and its allied concerns of politics and commerce, it switches its allegiance to death. What results is increasing uniformity, conformity, and words becoming less and less able to 'work' in order to bring humans together (as still happens in the case of the *Ajtys*, although an occasional word battle with particular nettle might lead to a permanent estrangement between players).

Yet while the progression of print and its corresponding dead paper can be seen in terms of increasing cultural entropy, if one is so inclined, it is not simply reducible to physical, or inanimate, forces, but rather something experienced more directly in *human* terms; such as fear, hope, despair, love. And it is precisely within this locale of *human* affairs that Pynchon locates his fiction, suggesting that certain forces and mechanisms in *addition* to the purely scientific, and superseding them in immediacy, have to be considered in an analysis of contemporary human life. Despite the profusion of scientific metaphor and allegory permeating and indeed characterizing Pynchon's fiction (and also that of many of his critics) it will be the assertion of this thesis that Pynchon *uses* these to elucidate and legitimize concerns that might properly be termed ecological. The term chosen to describe these concerns is 'transhumanist', meant simply to indicate a transcendence of more *simplistic* forms of humanism, as well as to differentiate it from the more widely used 'ecological'.

The thesis will attempt to show that Pynchon is critiquing something distinctly human, something that *within us* runs contrary to the evolutionary thrust of life, based on our awareness and fear of our own death. It will attempt to show how Pynchon perceives our destructive alliance with what he might term 'zero', or simply physical annihilation, as a desperate and quite futile attempt to *avoid* death. Pynchon has often been read as using entropy *as such* as an explanation of the human condition; this thesis will try to show that he in fact

criticizes our 'alliance' with 'universal entropy', meaning that he does not necessarily consider this alliance unavoidable and wholly determined. He uses entropy as *metaphor*, and criticizes our self-definition via this metaphor. We are, according to GR, most certainly 'trapped' within our egos, within language and consciousness, yet there are certain strategies we may employ to transcend our culturally determined ego boundaries, the "albatross of self" (623); though by necessity only temporarily so. The postmodern, non-totalizing aspect of Pynchon's fiction prevents it from simplistically viewing human history as a march entirely and irrevocably determined (in both senses of the word) towards heat death.

Pynchon's critique of human actuality can be compared to a certain extent with Nietzsche's definition of decadence and nihilism, as epitomized (in Nietzsche, but also in a more sweeping manner in Pynchon's GR) by Christianity. Nietzsche identifies Socrates, and the tradition of analysis one may posit to have started with Socrates, as the moment in Western history when a new era of decadence was embarked upon. This critical attitude towards mechanist science is presently being echoed by postmodern philosophers; an extensive rediscovery of "Pre-Socratic" communication theory, as expressed by Gorgias de Leontini (c. 483-375 BC),<sup>7</sup> is under way. Postmodern philosophers consider de Leontini's famous three sentences, based on the

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<sup>7</sup> Collier's, vol 7, 82.

thinking of Heraclitus and the Sophist school of thought, as possibly more in line with postmodern science's present claims than subsequent Greek philosophy.<sup>8</sup>

Fynchon posits what might be termed the *Socratic Moment* in a more sophisticated manner, placing it within the grammatical structure of language and human identity itself. The evocative sense of tragedy permeating his fiction is a type of 'Götterdämmerung' awareness of our, humanity's, built-in predilection towards resurrecting dead matter, rather than experiencing 'living'; this finds its most evocative expression in the simple fact that his fiction itself is a symptom (and a major player) of the language game.

Language can be seen as the most fundamental human technology (tool use) on which all subsequent technologies are modelled. Science as a form of language can thus be understood as a rigidly systemized variation of the language 'game' itself. In *Inventing Reality: Physics as Language* (1988), Bruce Gregory compares the hardest of 'hard sciences,' physics, with language, attempting in that way to explain the 'failure' of physics to provide certainty, as well as its increasing concern with abstraction and self-referentiality (while, seemingly paradoxically, becoming more and more successful where applied

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<sup>8</sup> 1. *Nothing exists (it only becomes)*. 2. *If anything did exist it would be unknowable (for it has no stable nature)*. 3. *And if anything existed and were knowable, it would be incommunicable (for it would change before it could be communicated to another mind)* (ibid).

technology is concerned. Computers, microwaves, television, genetics, etc. are all directly linked to advances in particle physics and other postmodern science).

Pynchon uses the scientific discourse, and the undeniable authority of its efficacy, in order to expose the metadiscursive contradictions permeating the cultural, political and economic aspects of our Western Civilization. He is thus *using* science, as it always may have been used, to advocate his own agenda; in this case, this thesis posits, a *transhumanist* agenda.

Pynchon has designed a mechanism in the forms of elaborate systems and metaphors whose purpose is to make the reader aware of that special place beyond systems of codes and information where our humanness resides. [...] In other words, Pynchon's fictions employ machinery to expose the very un-machine-like machinery of the reader's consciousness at work (Porush, 1985, 117).

The thesis will however attempt to show quite clearly that Pynchon is in no way simply anti-science, anti-technology, or even anti positivist. In fact he accepts fully the authority of science as the only possible 'master discourse'. What he does criticize in his powerful fiction is something entirely different, namely what we, humanity, have done (consciously or not) with our 'power'; or rather what our innate 'death wish' has done to us and the rest of creation.

His perspective is sweeping, his analysis detailed, his verdict severe. Because of his exhaustive scope and experimental literary style he is often 'misunderstood', or incompletely understood; the difficulties encountered by many of his readers have often led to a hasty assumption that his work does not encompass a single vision, or that it cannot be read *as if* it does. I am not necessarily claiming that Pynchon has *set out* to criticize humanity, either contemporary or *as such*, and that he is in fact aware of what may be called 'Pynchon's Pretext'; this may well be the case, but it is after all not the task of the writer to 'explain' (never explain *away*) or even comment on his own work. This is the task of literary criticism (in order, hopefully, to appreciate the depth and scope of the literary text even more).

#### 1.4 Postmodern Science

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In the words of Goethe, "The history of a science is a science itself" (Kline, 1980, 524).

For every action there is an equal and opposite reaction.

Isaac Newton

"Shit," said Leni, "They're all in it together" (Gravity's Rainbow, 400).

With the Enlightenment, a mechanistic world view assumed ideological dominance. The world and everything in it, including us, was part of a gigantic clock-like machine, running smoothly in incredibly intricate, but determined (and thus at least in principle determinable) paths. If we knew all the details of an event (cause), we could predict its consequences (effect) with exact accuracy. The place left for a god was the position of watchmaker who, once having constructed the watch, now sat back and observed it without having to interfere in its running. The image of the universe as an elaborate clockwork, epitomizing mathematical precision, order, and harmony was eventually assimilated by the prevailing theology, even though certain heliocentric claims were at first considered blasphemous; by simply ascribing different realms to science and theology

however, both the newly efficacious scientific, and the already established and still immensely powerful ideological, could prosper.

When Newton conceptualized his laws of mechanics, incredibly powerful in their simplicity, descriptive accuracy and predictive authority, a certain world view became the foundation of the industrial revolution that followed, which fused the new empiricism with the old 'idealism'. Symptomatic of this discourse was the French Encyclopedia project led by Diderot. It set itself the task of recording all human knowledge which would, it was confidently hoped, culminate in the logging of *all* knowledge.

This absolute 'faith' in the principles of objective knowledge, a material universe, and determined (and, more significantly, *determinable*) causality continued well into modern scientific thought. When Einstein asked his famous question, 'did God have any choice when He constructed the universe?' he positioned himself firmly within this discourse.

It is hard to overstate the impact these [mechanist] physical images have had in shaping our world view. The doctrine that the physical Universe consists of inert matter locked into a sort of gigantic deterministic clockwork has penetrated all branches of human inquiry (Davies & Gribbin, 1991, 6).

This way of looking at *people* however, if practised exclusively or carelessly, may come to involve a reduction; the

*function* of individuals within a system can become their single most important determining factor. But just as an analysis of the constituent notes of a song does not totally explain the phenomena of melody or harmony, so does an individual, if seen only as *part* of a greater *whole*, lose her position as *whole* in *her own right*. Various critiques of these potentially alienating characteristics of society have always existed (*Sturm und Drang*, Romanticism, Marxism, Anarchism, Gestalt Psychology, Existentialism, etc.) as have attempts to re-integrate 'us' into society. (The prevalence of psychology in industrialized societies, as well as a proliferation of consumerist fads and religious cults bear witness to this.)

The undeniable power of traditional scientific thought, and its translation into technology and production, has perpetually ensured its survival as the dominant discourse. Lately though (for the past hundred years or so) a new way of seeing things has arisen from the ranks of science itself. Mechanist worldviews as epitomized by Newton were at first challenged by Einstein's relativity, and then by the ambiguities of quantum theory. Many of Einstein's contemporaries rejected his theories, just as he himself never came to accept what he called "the fundamental dice game".<sup>9</sup>

(The following vignette might be useful in imparting a more intuitive grasp of the postmodern attitude towards 'reality':

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<sup>9</sup> In: Ferris (ed), 1991, 809.

Three cricket umpires are discussing LBW decisions. The first, a Newtonian, says, "I call it the way it is." The second, a Relativist, says, "I call it the way I see it." The third, a 'postmodernist', says, "The way I call it, *it is.*")

The existing critiques of contemporary culture, such as Marxist and Feminist critiques, which I will call 'social', are now being reinforced via a new Environmental consciousness, which in turn is bolstered by the postmodern sciences. Yet these sciences have been equally successful, indeed *more* successful, than their progenitors in the development and use of commercially viable technology.

Are we thus dealing here simply with a new, more *accurate* attempt at 'realism', based on an emerging recognition of the role and methodology of the observer, a new awareness of the 'linguistic' characteristics of matter, which in turn will allow for even greater power and control over both nature and ourselves? To what extent do the postmodern sciences impact *relevantly* on human actuality? Are efforts such as this thesis testimony to the same old mercantile game, and merely attempts to (re)anchor the study of literature and the world as represented via art to the solid rock of hard science (even though it has turned out not be so 'solid' after all)? Does the new science indeed offer us any real, non-arbitrary alternative to the old mechanistic paradigm? Or are other factors, social, economic, political etc, more immediately relevant to the 'human

condition'? These and related concerns will be discussed more fully in Section 2.

#### 1.4.1

##### The First and Second Laws of Thermodynamics

Energy can neither be created nor destroyed; it merely changes its form (1st Law of Thermodynamics; principle of the conservation of energy).

A closed system spontaneously tends to alter its internal distribution of energy so as to make the entropy always increase to a maximum value at the expense of available energy (2nd Law of Thermodynamics).

Entropy: Measure of the unavailability of a system's thermal energy for conversion into mechanical work.<sup>10</sup>

Energy, although it cannot be destroyed (or created), tends spontaneously and irreversibly (unless influenced from the 'outside') to flow from hot to cold, and in a closed system the more energy is 'lost' in such a way, or more accurately, transformed into a different form, the less will be the potential

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<sup>10</sup> Definitions taken from Collier's, vol 22, 275.

of the system to do work. *Entropy* measures this loss. Thus it is a loss of work-potential, not energy.

A *closed system* is one which is isolated from its surroundings; that simply means that no energy exchange (in any form, whether as heat or work) occurs between the system and its surroundings - nothing goes in, nothing comes out. Both the first and second laws of thermodynamics apply specifically to such closed systems. A more detailed discussion of the limitations of these laws if applied to non-specific settings can be found in Section 2.2.

An important implication of the second law of thermodynamics is the specific inclusion of the workings of time; the implication being the irreversibility of time. (Even though time can be said, since Einstein, to 'slow down' if speeds approach the speed of light. Yet since the speed of light can never be matched by a traveller, and is furthermore an absolute upper limit, this is not significant; time can *not* be reversed.<sup>11</sup>)

Boltzman's hypothesis<sup>12</sup> (that the entropy of a system is related to the probability of finding it in a particular state)

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<sup>11</sup> Hawking (1988) explains how the existence of intelligent beings is dependent on a thermodynamic "arrow of time" (143), and that this necessarily always points into the future. "Imaginary time" (ibid) does not distinguish between past and future, but "real time" (144), in which *we* exist, is inexorably tied to a one-way process.

<sup>12</sup> Taken from Flew, 107.

often leads to statistical interpretations of entropy; meaning, that it is taken to measure the *disorder* of a system. In its information theory incarnation, for instance, entropy can be regarded to *decrease* as information about the system it refers to increases. The tendency towards heat death however, and gloomy interpretations of decay and corruption associated with this, are based on the original thermodynamic definition of entropy. (More of this in Section 2.3).

#### 1.4.2

#### Einstein's Relativity

We might say that the principle of the conservation of energy, having previously swallowed up that of the conservation of heat, now proceeded to swallow that of the conservation of mass - and holds the field alone.

Albert Einstein<sup>13</sup>

The realization (subsequent to the above) of the law of equivalence of energy and matter is usually expressed as  $E = mc^2$  (E is the energy contained in a stationary body, m is its mass, and c is the speed of light). The value of  $c^2$  is about (186-000

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<sup>13</sup> From an essay titled "E = mc<sup>2</sup>". In Ferris (ed), 1991, 58.

miles per second)<sup>2</sup>. Thus every gram of matter must 'hold' correspondingly huge amounts of energy. Only in radioactive disintegration, however, does this become evident. If an atom M is split into two atoms M' and M'' they separate with tremendous kinetic energy. If this kinetic energy is taken from them, in other words if they are brought to rest and the energy of their motion is calculated, this energy amounts to about one tenth of 1% of the energy of M. Thus we can express this as  $M = M' + M'' + x$ ; x being the energy released, amounting to approximately one thousandth of the energy of M. This is the energy released during a nuclear explosion, and despite being comparatively infinitesimal x is still enough to do what we now, since the flight of the Enola Gay, know it can do.<sup>14</sup>

Two major implications of the theories of special and general relativity are directly concerned with gravity. Firstly, the Newtonian notions of absolute space and time are considered no longer valid, and secondly, as a consequence, gravity is no longer considered a force *as such*.

This is the essence of Einstein's view of gravitation. What a body does, it does because of the nature of space-time in its own neighbourhood, not because of some mysterious force emanating from a distant body. [...] The most interesting point about it

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<sup>14</sup> Ensign Morituri in GR just wants to go home to his wife and daughters in Hiroshima... (473).

is that it makes the law no longer the result of action at a distance; the sun exerts no force on the planets whatever. [...] The law of gravitation has become the geometrical law that every body pursues the easiest course from place to place, but this course is affected by the hills and valleys [in space-time] that are encountered on the road... (Russell, in Ferris (ed), 1991, 201/2).

In the light of this, the following assertion in Gravity's Rainbow will be reevaluated carefully in Section 4.

Gravity, taken so for granted, is really something eerie, Messianic, extrasensory in Earth's mindbody (590).

'Relativity' is conventionally simply understood as implying that two people observing the same phenomenon from different perspectives may reach differing conclusions about the phenomenon, which nevertheless both remain *true*. It must however not be forgotten that the parameters of this statement, as well as the methodology of observation used by our two observers, are strictly defined. Two spectators at a rugby match, for instance, no matter how divergent their observations of a section of contentious play, cannot be said to inhabit physical perspectives of sufficient dissimilarity to make any significant impact on their disparate perceptions. *Human* 'relativity' should therefore

at best be considered a metaphoric usage of the term indicating discursive variation. (More of this in Section 2.3.)

### 1.4.3

#### Gödel's (First Incompleteness) Theorem<sup>15</sup>

In any formal system S of arithmetic, there will be a sentence P of the language of S such that if S is consistent, neither P nor its negation can be proved in S.<sup>16</sup>

Adler (1972; in Ferris 1991) defines mathematics as the purest, most abstract expression of scientific principles.

Mathematics is pure language - the language of science (435).

As such mathematics reflects the nature of our most basic scientific assumptions. Until Kurt Gödel formulated, proved and published his 'First Incompleteness Theorem' in 1931, it had been accepted that mathematical principles were axiomatic, and fundamentally different from all *ordinary* language statements.

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<sup>15</sup> GR posits *Murphy's Law* as a "brash Irish proletarian restatement of Gödel's Theorem" (275).

<sup>16</sup> Definitions taken from Flew, 133.

Gödel however proved the existence of formally undecidable propositions in any formal system of arithmetic, leading to a radical re-evaluation of the activity and methodology of both mathematics and mathematicians, culminating in somewhat 'coy' statements such as the following:

It can be said that mathematics is whatever mathematicians are doing (ibid, 436).

Adler (ibid) describes this vaguely defined mathematical discipline, this quest of the doubting mathematician, wracked with skepticism and apprehension, as fraught with still *additional* danger and uncertainty, since Gödel's Theorem, as follows:

The mathematician learns early to except no fact, to believe no statement, however apparently reasonable or obvious or trivial, until it has been proved, rigorously and totally, by a series of steps proceeding from universally accepted first principles. And even the first principles have been exposed as uncertain. Again, it is not a matter of semantics. Nor is it a matter of the pronouncement that it is fallible human beings who are doing the thinking and hence the product of their thought is fallible. This is true, but too obvious to be very fruitful - not a statement likely to force us to take a large piece of our picture of ourselves and of our world and alter it radically. Gödel's Theorem does precisely that. It proves that there exist meaningful mathematical statements that are

neither provable nor disprovable, now or ever - neither provable nor disprovable, that is, not simply because human thought or knowledge is insufficiently advanced but because the very nature of logic renders them incapable of resolution, no matter how long the human race survives or how wise it becomes. There is no way to escape this conundrum. It is not a question of sophistry of any kind. The theorem itself was proved some decades ago, and recently the first example of an undecidable mathematical statement was found. Called the Continuum Hypothesis, it is the assertion that in a set-theoretic sense there exist no sets with more elements than the integers but fewer than the set of all real numbers. So there it stands - an assertion that to the end of time cannot be proved and yet cannot be disproved. The philosophical implications are devastating (439).

Yet despite these 'devastating philosophical implications', there still and unquestionably (and unquestioned) "exist meaningful mathematical statements that are neither provable nor disprovable, now or ever"; thus *meaning* is removed from the realm of the *absolute* mathematical proof and found somewhere else (now and forever?). Kline (1980; in Ferris 1991) quoting Hermann Weyl (1944), now gladly and without much apprehension defines "mathematizing" in a post-Gödel universe as

a creative activity of man, like language or music, of primary originality, whose historical decisions defy complete objective rationalization. The

hope of finding objective, infallible laws and standards has faded. The Age of Reason has gone (524).

Yet despite these '(t)reasonable' disclaimers regarding the Age of Reason, Kline concludes his article with the following, hinting at the enduring potency, and increasing performativity of the mathematical enterprise:

The continuing effectiveness of mathematics suggests [...] that effectiveness can be used as the criterion of correctness. Of course such a criterion is provisional. What is considered correct today may prove wrong in the next application. [...] Yet, do not our successful voyages to the moon and our explorations of Mars and Jupiter, made possible by technology which itself depends heavily on mathematics, confirm mathematical theories of the cosmos? How can we, then, speak of the artificiality and varieties of mathematics? Can the body live on when the mind and spirit are bewildered? Certainly this is true of human beings and it is true of mathematics. It behooves us therefore to learn why, despite its uncertain foundations and despite the conflicting theories of mathematicians, mathematics has proved to be so incredibly effective (ibid, 525).

Thus Kline, like Adler, finds post-Gödel meaning in mathematics' continued and unimpaired efficacy in producing technology, and thus determining its meaning from its "next application". Yet it is certainly a different type of legitimacy

if compared with earlier absolute notions of truth and knowledge. 'Postmodern' is the term chosen by Lyotard (1984), who specifically refers to Gödel, to describe this new scientific approach. Lyotard argues however that a stage of performativity has already been successfully negotiated and left behind; I will argue against this (in Sections 2.2 and 2.3) and posit performativity as still *the* defining postmodern characteristic.

#### 1.4.4

#### Heisenberg's Uncertainty Principle

Heisenberg's much celebrated Uncertainty Principle concerns the parameters of a sub-atomic particle (i.e. velocity and position). The more accurately the *one* is determined, the more uncertainty there is in the other, since measurement always implies an interaction (such as a photon of light bouncing off the particle under scrutiny); and this 'looking' *must* disturb the particle.<sup>17</sup> The implications of this are quite startling to anyone living in the traditional Newtonian world. The role and methodology of the observer suddenly assume major importance,

<sup>17</sup> Slothrop in GR encounters what might be the dead girl Bianca in the dark: only when the light comes on can he see, only then the possibilities become fixed *by his act of looking*, are reduced to *one* and only one actuality (531/2); yet we as readers are kept in the dark, since no final depiction of 'reality' is given.

since they quite literally co-determine the 'reality' observed; observer and observed can no longer be separated into easy categories. In other words, no absolute scientific objectivity can be maintained, and the principle of complete and certain predictability is replaced by statistical laws of probability.

Now, the scientist by interacting with her subject matter, co-creates the 'reality' she observes. No longer can one speak of science as describing a world beyond itself, clearly demarcated from itself, 'out there' somewhere, waiting to be discovered and described. Now reality is the product of interaction between scientist and subject matter, to be constantly revised and experimented upon. The emphasis is on the *dynamic* thus created, constantly in flux and not to be 'fixed' beyond a probability spread. This does *not* imply that 'anything goes' however, but rather that within a certain possibility spread no fixed meaning can be located unequivocally (similar to there being no finite number of numerical values between 0 and 1). It is the question of the parameters of '0' and '1' however which can be quite adequately calculated via the mathematical formulae of quantum mechanics.

There are two possible ways of interpreting the quantum uncertainty. Firstly, one could view the particle paradox merely as an implication of the fundamental nature of 'looking', and its natural limitations. This would mean that 'reality' exists whether we look at it or not, that although we are unable to pinpoint the exact position, momentum, etc, of a subatomic

particle, or even say anything definitive about its nature *between* measurements, this is not in itself radical enough to warrant a scientific paradigm shift. We might be unable to 'fix' our elusive particle, but it is nevertheless *somewhere*; it still *exists* in an unambiguously 'real' (if unknown) space and time.

This assessment of the situation is however contradicted from within science itself, and more specifically, by the dual nature of subatomic 'particles'. Only if we *measure* electrons / photons / etc, can we properly speak of them as *particles*; between measurements an electron, for instance, can only be thought of in terms of a *wave* - this is so because it clearly and unambiguously exhibits the *properties* of a wave (interference, refraction, etc). The very act of measurement thus in a very concrete sense actually *constitutes* the particle, actually confers on our electron the properties, and hence the identity of, a particle. The description of a variation of the famous 'double-slit' experiment might help to anchor this quite amazing scientific 'paradox' (in terms of accepted 'common sense') in our consciousness more clearly.<sup>18</sup>

If a beam of electrons (or any other subatomic 'particles', like a beam of light quanta) is directed at a screen, we will observe a pattern on that screen. This pattern can be thought of as a manifestation of the electrons as *particles*, and also as the

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<sup>18</sup> Good accounts of the double slit experiment can be found in Davies (1988, 64-68) or Brink (1985).

location where our *measurement* takes place. On its way from the electron source (an electron 'gun') to the screen, the electrons travel in the form of a wave. This can be proven in the following way. If we place a shield containing two slits between electron source and screen, the pattern observed on the screen will reflect its passage through the two slits. In addition, the pattern observed will also bear evidence of *interference*, which means that the electrons travel as wave. Interference here means that some of the electrons travel through the one slit, and others through the other slit, and that both sets interfere with one another so as to create the specific pattern on the screen.<sup>19</sup> This is attested to by the fact that if one closes off *one* slit, one gets a certain pattern *X*, and if one then closes off the other slit instead, one gets a pattern *Y* - interference is proven by the observation that a simple overlaying of patterns *X* and *Y* does *not* produce the same pattern we get when *both* slits are open. Thus the sum of individual patterns is different from the whole of the *actual* double pattern; this is the case because when both slits are open, interference takes place.

First it was assumed that this simply indicated that single electron particles travel in *wave formation*, but this is disproved by the following variation on the experiment. If only a *single* electron is shot out from the source, the same things

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<sup>19</sup> To speak of 'electrons travelling through slits' is, as we shall see later, inappropriate; yet as a way of thinking about the situation, this description should suffice.

happen. This means that a single electron travels *also* as a wave, and is likely not just to be *anywhere* within the parameters of that wave's function, but to literally be *everywhere*; while travelling, it is spread out, in a sense, (in a non-spatio/temporal way) *throughout* that wave's probable area.<sup>20</sup>

To reiterate: Our single electron will, if slit *A* is closed, pass through slit *B*, and land somewhere within the pattern as observed when a whole stream of electrons is fired through slit *B*. If slit *A* is opened and slit *B* is closed, the electron will pass through slit *A*, landing within the slit *A* pattern. If both slits are open, common sense indicates that the electron should pass through *either* slit *A* or slit *B*; however, this cannot be said to be the case, since our single electron falls within the interference pattern - in other words, the electron *interferes with itself*. The mere *possibility* of being able to travel through two slits causes the electron to change its path.

If we therefore continue to think of the electron *exclusively* in terms of being a particle, we would have to come to terms with it somehow *knowing* that it could have travelled through the other slit, and acting on this knowledge changing its direction. Scientists opted for the lesser evil, and instead of granting the electron 'consciousness' and 'agency', chose to

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<sup>20</sup> I am talking about only the scenario where our electron actually passes through a slit; a certain percentage of the time it will of course bounce off the shield instead of finding a slit.

regard it as both particle *and* wave, depending on whether it was being measured or not.

Science has had to concede a new and major role for the previously detached scientist in determining observed 'reality' for some time now.

The old science which pictured nature as a crowd of blindly wandering atoms, claimed that it was depicting a completely objective universe, entirely outside of, and detached from, the mind which perceived it. Modern science makes no such claims, frankly admitting that its subject of study is primarily *our observation* of nature, and not *nature itself* [my emphases]. The new picture of nature must then inevitably involve mind as well as matter - the mind which perceives and the matter which is perceived - and so must be more mental in character than the fallacious picture which preceded it (Jeans, 1947, 287).

Jeans here still differentiates between observing mind and matter observed. Later thinkers of much more radical persuasion have challenged even that, but the uncertainty recognized by Jeans in 1947 is nonetheless still the imperative which forces the elementary review of more comfortable perspectives. Davies and Gribbin (1992) recognize a

... profound change in perspective that has accompanied the move towards a post-mechanistic paradigm. In place of clodding particles of matter in a

lumbering Newtonian machine we have an interlocking network of information exchange - a holistic, indeterministic and open system - vibrant with potentialities and bestowed with infinite riches. The human mind is a by-product of this vast informational process... (302).

The first half of this statement, up to the moment where the applicability of Newtonian mechanics' to the sub-atomic universe has been rejected, seems quite reasonable and merely descriptive. Then however Davies and Gribbin become guilty, if guilt is not too strong a notion, of speaking in vague and insufficiently defined terms. (A proper critique of this tendency to extrapolate wildly from contextually specific and strictly defined [and thus limited] scientific concepts is attempted in Section 2.3.)

We have seen however that on a seminal level there is considerable ambiguity about the nature of matter as we have become used to thinking about it. Still, nobody has ever fallen through a threshold, yet. On the technological level all these speculative issues are mostly ignored, since as long as a *workable* result, and that means product, is achieved, it can be argued that the more involved issues should be left to the theorists, since not scientific *theory*, but *technology* shapes our reality (not to mention economics, yet).

## 1.4.5

Chaos

Chaos Theory is a product of the 1970s and has arisen out of the recognition that many systems act in seemingly unpredictable ways.<sup>21</sup> Thus 'chaotic systems' are systems that are intrinsically indeterminate, since errors grow at an accelerating rate. The weather is such a system; hence the famous example of the flaps of a butterfly in China affecting the weather somewhere across the world (in London, or Cape Town, or the Caribbean) the next day or week or month. Therefore

no [chaotic] system can *in principle* be described with perfect precision... We stress that this is not just a human limitation. The universe itself cannot 'know' its own workings with absolute precision, and therefore cannot 'predict' what will happen next, in every detail. Some things really are random. [...] it should not be forgotten that nature is not, in fact, deterministic anyway. The indeterminism associated with quantum effects will intrude into the dynamics of all systems, chaotic or otherwise, at an atomic level (Davies & Gribbin, 1991, 35).

Yet Chaos Theory, although attracting the most diverse areas of human enterprise such as "business executives [making] decisions about insurance" (Gleick, 1987, in Ferris (ed), 1991,

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<sup>21</sup> Gleick, 1987, in Ferris (ed), 1991, 456-473.

460) still has *predictability* as its scientific goal; chaos theory, quite simply, is aimed at the *elimination* of randomness.

The modern study of chaos began with the creeping realization in the 1960s that quite simple mathematical equations could model systems every bit as violent as a waterfall. Tiny differences in input could quickly become overwhelming differences in output - a phenomenon given the name "sensitive dependence on initial conditions" (ibid, 462).

Thus while once again emphasis is placed on a lack of *extreme* exactitude and *absolute* predictability, does this merely serve to hide an even greater ability to predict and model in *approximate* fashion.

In the study of the annual occurrence of childhood diseases, for instance, and using both Poincaré maps and newly developed 'chaotic' mathematics, yearly variations in measles, which had until now "seemed inexplicable", suddenly begin to reveal some 'order', and

some predictability becomes possible in light of the deterministic nature of the model (ibid, 471).

Hence:

Chaos was the set of ideas persuading all these [diverse and disparate] scientists that they were members of a shared enterprise. Physicist or biologist or mathematician, they believed that simple, deterministic systems could breed complexity; that

systems too complex for traditional mathematics could yet obey simple laws; and that, whatever their particular field, their task was to understand complexity itself (ibid, 467).

One of the 'complexities' chaos theorists had to grapple with is

how a purposeless flow of energy [as implied by the 2nd law of thermodynamics] can wash life and consciousness into the world (ibid).

Entropy therefore seemed a particularly vexing problem to the 'chaoticians', since it

fails miserably as a measure of the changing degrees of form and formlessness in the creation of amino acids [the basis of 'life'], of micro-organisms, of self-reproducing plants and animals, of complex information systems like the brain. Certainly these evolving islands of order must obey the Second Law. The important laws, the creative laws, [thus have to] lie elsewhere (ibid).

Life itself therefore is one of the subjects chaos theory engages on a number of levels, seeking to understand how, despite universal entropy, life may arise and prolong itself. Chaoticians do not hesitate to make grand claims regarding their discipline, such as those by Joseph Ford,

self-proclaimed evangelist of chaos: *Dynamics freed at last from the shackles of order and*

*predictability.... Systems liberated to randomly explore their every dynamical possibility.... Exciting variety, richness of choice, a cornucopia of opportunity* (quoted by Gleick, *ibid*, 466).

The same Joseph Ford defines evolution as "chaos with feedback", answering Einstein's famous question as follows:

God plays dice with the universe, but they're loaded dice. And the main objective of physics now is to find out by what rules were they loaded and how can we use them for our own ends (*ibid*, 470).

How our 'own ends' are decided upon remains not just unanswered, but unasked, whereas the wisdom of using whatever powers we have stays equally unexplored and does not even seem questioned.

Chaos has managed to define life both in terms of randomness and order, entropy and self-replicating complexity.<sup>22</sup>

The universe is randomness and dissipation, yes. But randomness with direction can produce surprising complexity. And as Lorenz discovered so long ago, dissipation is an agent of order. [...] Such ideas help drive the collective enterprise of science forward.

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<sup>22</sup> The definition of 'life' is a complicated matter, and not one this thesis will attempt. (One could for instance posit the entire system earth as a single entity; "Earth is a living critter", *GR*, 590). Conceptions of 'consciousness' however will be explored in more detail.

[...] For any one scientist the ideas of chaos could not prevail until the *methods* [my emphasis] of chaos became a necessity (Gleick, *ibid*).

The 'methods' of chaos have become a 'necessity' because scientists find themselves increasingly confronted by anomalies they find impossible to ignore. Chaos has allowed us, or forced us, to realize that 'dissipation is an agent of order' to the extent that *life itself* is an 'interesting pattern', having developed out of entropic dissipation.

Somehow, after all, as the universe ebbs toward its final equilibrium in the featureless heat bath of maximum entropy, it manages to create interesting structures. [...] Nature forms patterns (*ibid*, 467).

Thus chaotic pattern formation is universal, indeed the very "*laws* [my emphasis] of pattern formation are universal" (*ibid*, 469), which in turn follow the flow of energy from active to less active; thus our own evolutionary, chaotic development seems an agent of entropy after all, or at the very least *enabled* by entropy. Davies & Gribbin (1992, 8) perceive of 'reality' as

... a shadowy and paradoxical conjunction of waves and particles, governed by the laws of chance rather than the rigid rules of causality.

Gleick adds to this the notion (first put forward by Leibniz) that dissipation, or entropy, is an agent of order. Yet 'order' is a pattern formation *we* recognize, and cannot really be

considered by necessity (if at all) to supersede entropy. We could therefore equally say that 'order is an agent of entropy'; the point of this rather semantic exercise being that the perspective of any such statement is not simply a straightforward matter, but rather carries with it a host of discursive implications and complications. (Section 2 will discuss these concerns more fully.)

Section 2: *Hauptstufe* (Mainframe)

[R]emember didn't you sneak away from camp to have a moment alone with what you felt stirring across the land ... it was the equinox ... green spring equal nights ... canyons are opening up, at the bottoms are steaming fumaroles, steaming the tropical life there like greens in a pot, rank, dope-perfume, a hood of smell ... human consciousness, that poor cripple, that deformed and doomed thing, is about to be born. This is the World just before men. Too violently pitched alive in constant flow ever to be seen by men directly. They are meant only to look at it dead, in still strata, transputrefied to oil or coal. Alive, it was a threat; it was Titans, was an overspeaking of life so clangorous and mad, such a green corona about Earth's body that some spoiler *had* to be brought in before it blew the creation apart. So we, the crippled keepers, were sent out to multiply, to have dominion. God's spoilers. Us. Counter-revolutionaries. *It is our mission to promote death.* The way we kill, the way we die, being unique among the Creatures. It was something we had to work on, historically and personally. To build from scratch up to its present status as reaction, nearly as strong as life, holding down the green uprising. But only nearly as strong. Only nearly, because of the defection rate. A few keep going over to the Titans every day..." (GR, 720).

## 2.1 The (Uneasy) Authority of the Scientific Discourse

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Postmodern science, as we have seen in the introductory overview, differs markedly from previous scientific practice. Yet to what extent can these differences be said to radically change the way ordinary citizens view and experience the world? To what extent are the forces and theories governing the highly specialized work of scientists related to the forces shaping and influencing human reality? It has become fashionable to speak of the scientific discourse as *only one of many*, as on a par with other discourses. Yet I wish to define a perspective from which it will seem quite clear that the scientific discourse *is* different. Science is (still) 'God', albeit a less potent god.

First of all, what do I mean by 'scientific discourse'? Over the last four or five centuries a way of thinking, a way of 'knowing' (epistemology) has established itself which is strongly based on observation, experiment, induction and deduction, systematic accumulation and organization of what we today call (scientific) facts and figures. This epistemology concerns itself with all observable, or somehow material subject matters, and what distinguishes it specifically from other discourses is a strong adherence to an exact methodology. What has allowed it to come into prominence is that it confers upon those who practice it unprecedented *power*; namely the power to predict and control. Quite simply: *science works*.

Of course it can be argued that certain ideological or religious discourses have given great power to those who pursue them, have in fact changed the world greatly; and yet the power of these discourses has generally been *power over people*, not power over matter, power over nature. Needless to say, scientific power can lead directly to power over people as well, and usually has, and one could equally argue that this anticipated control over others has indeed fuelled the rise of science, and also that science, and the scientist, have always been controlled by non-scientific, ideological interests, from the first ploughshare to the first pencil; and all this may very well be correct (and will be dealt with as the thesis progresses). Yet it is the unprecedented success of the specifically *scientific* enterprise that has led to the world we live in today. The scientific discourse is qualitatively different from other discourses in that it does not *as such* adhere to some moral principle, or to some collection of religious tracts, but simply to its own efficacy. The authority of science lies in its performativity.

*Postmodern* science, despite emphasizing the limits of human knowledge and power, is successful not only because it describes with seemingly improved accuracy the state of reality as we perceive it, but also because in applied form it allows us even greater control over the physical universe.<sup>29</sup> Thus postmodern

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<sup>29</sup> Einstein, who could never accept postmodern uncertainty, states in a letter to Max Born, dated 7 September 1948:

science is governed by the same principle as its predecessor. It is first and foremost *science*; and it has to be justified by its performativity. It differentiates itself just as much from endeavours such as astronomy, alchemy or religion as did its more mechanist progenitors,<sup>24</sup> although it may very well attach itself to similar philosophical or ethical presumptions. Most important is that it attributes the *worth* (or legitimacy) of its truth claims still and unequivocally to its position as *scientifically accurate* discourse. Certainty, objectivity and predictability in an *absolute* sense may have disappeared, but the authority of science has not.

For instance Fritjof Capra,<sup>25</sup> who explores the connections and similarities between Eastern mysticism and the new physics, not only leaves the continued authority of physics intact, but specifically relies on it to substantiate his assertions. Indeed it is the authority of science which allows a re-evaluation of Eastern mysticism (as conforming more accurately than other thought systems to scientific 'truths') rather than the other way around. Capra, like a host of others (of which a few will be

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*Even the great initial [practical] success of quantum theory does not make me believe in the fundamental dice-game... (In Ferris 1991, 809).*

<sup>24</sup> A lot more so, in fact, than someone like Newton did, who *spent as much time studying alchemy and numerology as he did formulating his laws of motion (Ferris 1991, 810).*

<sup>25</sup> In: The Tao of Physics, 1976; 3rd ed 1991.

mentioned here) advocates a new thinking, a new philosophy, a new belief system, and uses the unimpaired authority of the scientific discourse, specifically the 'new' science, which he considers useful, to advocate his "ecological worldview" (ibid, 358).

Capra falls under a general grouping of environmentally concerned authors, rejecting the old ways of doing things, and rejecting also the old philosophies and religions. Thus although science has the authority and legitimacy he needs, he needs these in order to advocate a secondary discourse, or pretext. Science is once again the tool used for power-purposes, and even though we may well sympathize, we should equally maintain a *critical* disposition. Capra states,

I believe that human survival in the face of the threat of nuclear holocaust and the devastation of our natural environment will be possible only if we are able to radically change the methods and values underlying our science and technology. I advocate the shift from an attitude of domination and control of nature, including human beings, to one of cooperation and nonviolence (ibid, 367).

'Human survival' is thus proposed as a type of basic canon, and radical "change of the methods and values underlying our science and technology" a stated goal; and although absolute certainty has disappeared as a scientific basis, there is always an increasingly accurate approximation to aspire to. Capra takes great care, in the afterword to the third edition (1991), in

which he addresses critiques of the initial publication, to make this clear.

Scientists do not deal with truth (in the sense of a precise correspondence between the description and the described phenomena); they deal with limited and approximate descriptions of reality. The most beautiful expression of this criterion I have found is one by Louis Pasteur: "Science advances through tentative answers to a series of more and more subtle questions which reach deeper and deeper into the essence of natural phenomena" (ibid, 367).

Ideas of progress and increasing precision are thus maintained, as is a thoroughly 'scientific' rejection of everything nebulous and fuzzy.

... there is certainly nothing vague or fuzzy about these [mystical] experiences. In fact, the term *enlightenment*, which we used to describe the era of the new Cartesian, scientific approach in eighteenth century Europe, is one of the oldest and most widely used terms to describe mystical experience (ibid, 369).

And just to make certain that the orderly way in which scientific revolutions (including the *postmodern* scientific revolution) proceed is not misunderstood:

The new theory does not invalidate the old one in an absolute way; it merely improves the approximation. For example, quantum mechanics did not show that

Newtonian mechanics is wrong; it merely showed that Newtonian physics is limited. ... One of Newton's key discoveries, maybe *the* key discovery, ... was the discovery that there is a uniform order in the universe. As legend has it, Newton realized in a sudden flash of intuition, when an apple fell from a tree, that the force that pulls the apple toward the earth is the same force that pulls the planets toward the sun. That was the starting point of Newton's theory of gravity, and that insight - that there is a uniform order in the universe - is not invalidated by quantum mechanics or relativity theory. On the contrary, it is confirmed and even enhanced by the new theories (*ibid*, 370/1).

Ideas of order and symmetry clearly are maintained, as is the unquestioned positioning of the human perspective, and human interests in particular, as supreme. The principle of causality is equally maintained, and though ideas of solidity, matter and objectivity are replaced by flux, energy and subjectivity, are notions of scientific accuracy as fundamentally superior maintained.

The new, or postmodern science, is seen as paradigmatically different from the old, but on the same timeline, part of the same ever increasingly accurate system of thought, a more recent, more accurate development of the same progressive (and always progressing) scientific discourse. The notions of unity, environmental concern, process, flux, becoming, the involvement of the previously removed observer, the integration of human

consciousness into the equation, all these may be quite admirable on their own (and indeed the author unreservedly professes his sympathy) yet what saves them from obscurity, from a status of vague superstition and nonsense, is their relation (real or imagined) to the scientific discourse.

Similarly, in a host of new publications advocating more inclusive philosophies, there is no move away from science as master narrative. Authors advocating the new ecological world view typically derive authority from their standing in the scientific community.<sup>26</sup> This can become problematical when the secondary discourse advocated is not *intrinsically* linked to the veracity of the primary, scientific discourse used as source of authority. Some, like Bryan Appleyard, are criticized for their cautionary tone or dissenting views, and appear discredited not by their often incisive critiques, but rather by their lack of scientific status. In the preface to the second edition Appleyard ascribes the controversy his book caused<sup>27</sup> to "the fact that this critic was not a scientist" (Appleyard, 1992, xi).<sup>28</sup> His often

<sup>26</sup> Bohm (1984); Davies (1988); Davies & Gribbin (1992); Gregory (1988); Hawking (1988); Heisenberg (1974); Jeans (1947); Penrose (1989); Powers (1982); Strauss (1972); and many others.

<sup>27</sup> Culminating in one British government minister's "hilarious" (Appleyard, 1992, xi) public and official disassociation from its views.

<sup>28</sup> Understanding the Present, 1993 (1st edition 1992). Appleyard's main assumption is that

sophisticated arguments are disregarded simply because he has no 'proper' scientific standing; while an undoubtedly brilliant scientist like Stephen Hawking is seldom criticized even if his non-scientific argumentation is flawed.<sup>29</sup> The point here is

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*science has been more successful and effective than any other form of human knowledge, this has made it the primary determinant of our way of life and of our attitudes to the world and other people. This is dangerous because science itself has no morality or faith and can tell us nothing about the meaning, purpose and significance of our own lives (xii).*

Based on this fairly uncontentious view, with which I agree, he argues the following, with which I do not necessarily agree:

*Hard scientific truth denies us a place in the world, an ultimate significance and a sense of the worth of our own actions, it subverts values by insisting upon the contingency of all that we do and are (xii/xiii).*

And also  
*that liberal democracy is the embodiment of a scientific society (xiii).*

<sup>29</sup> Hawking laments the reluctance of (post)modern philosophers to attempt the formulation of inclusive, scientifically informed philosophical master-discourses; culminating, in the second last paragraph of the chapter 'Conclusion', in the following philosophically naive commentary:

*In the eighteenth century, philosophers considered the whole of human knowledge, including science, to be their field and discussed questions such as: Did the universe have a beginning? However, in the nineteenth and twentieth centuries, science became too technical and mathematical for the philosophers, or anyone else except a few specialists. Philosophers reduced the scope of their inquiries so much that Wittgenstein, the most famous philosopher of this century, said, 'The sole remaining task for philosophy is the analysis of language.' What a comedown from the great tradition of philosophy from Aristotle to Kant! (A Brief History of Time, 1993, 174/5; 1st edition 1988).*

simply that the scientific discourse continues to be the dominant discourse, privileging its official spokespersons. To the extent, quite commonly, of disregarding its own rules (for instance such as not confusing the message with the messenger). The extent to which different disciplines intermesh, and on which level they do intermesh, thus becomes of major importance.

Cassirer (1956, 197) insists that no competition exists between physics and ethics, and that to move from quantum indeterminism to free-will speculation means yielding "to the facile tendency to unify and simplify all problems"; accordingly he asserts (drawing on Kant), that boundaries should not run into each other, or distortions of the fields of knowledge will result.

Cassirer might have been responding to the then popular, and popularizing, efforts of proponents of Quantum Theory (such as Werner Heisenberg, Niels Bohr, Wolfgang Pauli) to spread a new, less militaristic and positivistic world view, based on indeterminism and interconnectedness. The significance of these new theories in challenging positivist attitudes were however even then, during the heyday of their popularity in the immediate postwar period, severely limited. Indeed, Heisenberg recounts

Hawking fails to recognize the movement away from 'grand philosophy', which could be seen as the major *achievement* of 20th century philosophy, as a quite conscious process; it seems Hawking too falls into the trap of extending his unquestioned scientific authority into the realm of the philosophical.

Bohr's alarm at the cheerful acceptance of Quantum Theory (and its potential philosophical implications) by a congress of positivist philosophers, and Pauli's subsequent acute observation:

The positivists have gathered that quantum mechanics describes atomic phenomena correctly, and so have no cause for complaint. What else we have had to add - complementarity, interference of probabilities, uncertainty relations, separation of subject and object, etc. - strikes them as just so many embellishments... (Ferris, 1991, 822).

What many early proponents of postmodern science, who often see themselves as fighting for a more humane and ecologically more responsible worldview, fail to take into account properly is that there is something fundamentally positivist about not only traditional *positivist* science and *positivist* philosophy, but also about *postmodern* science and philosophy. Indeed it is the contention of the thesis that analytical language practice itself, aiming like all scientific endeavors at increased accuracy and subsequently increased technological and economic efficiency associated with this advance, is based on a fundamentally positivist dynamic.

While it seems to me quite legitimate to use quantum indeterminism as *analogy*, and thus allow boundaries to become more permeable, more flexible, Cassirer's critique seems correct in the sense that it points towards the extremely tenuous

relationship existing between highly specialized fields of scientific study and human 'reality'.

Lyotard, in defining postmodernism as "incredulity toward metanarratives" (1984, xxiv), calls on the authoritative weight of Gödel's Theorem to substantiate his assertion that legitimate knowledge has moved from an economically prescribed phase of performativity to a phase of fairness, play, and 'paralogy' (potentially free flow of information, and infinite creation of new language games, including scientific language games). While his analysis of the new (postmodern) scientific *technique* is quite correct, he seemingly discounts the continuing dependance of science on commerce; a dependance which is growing rather than diminishing, since more and more sophisticated, and hence expensive, equipment is needed to further advance and refine scientific knowledge (to invent new scientific 'games'). Indeed, Hawking states quite unequivocally:

We already know the physical laws that govern everything we experience in everyday life.... It is a tribute to how far we have come in theoretical physics that it now takes enormous machines and a great deal of money to perform an experiment whose results we cannot predict.<sup>30</sup>

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<sup>30</sup> In a 1980 lecture titled "Is the End in Sight for Theoretical Physics?", quoted by Gleick (1987) in Ferris (ed), 1991, 461.

Jameson (in his foreword to Lyotard, 1984) similarly critiques Lyotard for ignoring the economic dynamics of scientific research, and locates a more 'proper' engagement with contemporary society, one which might lead to genuine reform of "the [false] 'permanent revolution' of capitalist production" (xx), as situated on the level of the (roughly Marxist) "political" (*ibid*). Again, and while the acceptability of a Marxist pretext is certainly debatable, the inflation of the significance of the slender link existing between hard science and human actuality seems a valid and profound concern.

## 2.2 Limits of Cross-pollination

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The causal way of looking at things ... always answers only the question "Why?", but never the question "To what end?" No utility principle and no natural selection will make us get over that. However, if someone asks "To what purpose should we help one another, make life easier for each other, make beautiful music or have inspired thoughts?", he would have to be told: "If you don't feel it, no one can explain it to you." Without this primary feeling we are nothing and had better not live at all.

Albert Einstein (1 September 1919)<sup>31</sup>

We as humans are different in many ways from both our forebears and other earthly life forms, most radically in our awareness of our own temporality; that is, our existence in time culminating in our death. This is a result of our consciousness (the sapient in Homo Sapiens), and language-aided memory. We represent via speech what was, and what might be, and with the written word our existence in time is assured. So is our eventual individual death. Yet we create structures that survive death,

<sup>31</sup> From a letter to Max Born (in Ferris 1991, 809). It is precisely the dynamic of such 'primary feelings' that should be examined by philosophy. Einstein uncritically posits a (roughly) humanitarian pretext, going as far as disqualifying all those not agreeing with his 'primary feeling' from the right to exist.

and theories that might help us explain death to the point where we explain it in terms of transition, rather than the end of existence. This is a function of religion. Science on the other hand is securely lodged in the realm of the physical, the material, and its success in manipulating the material world has bestowed great authority upon it.

However, to draw on scientific theory to validate the privileged positioning of the human perspective and its religious views (or any other metaphysical or ideological views, or even theoretical critiques of literary texts) is an extremely problematic tactic. The quote by David Forush (1985) in section 1.3 of this thesis goes from the following quite reasonable assertion:

Pynchon has designed a mechanism in the forms of elaborate systems and metaphors whose purpose is to make the reader aware of that special place beyond systems of codes and information where our humanness resides (177).

to make the following, certainly disputatious, statement:

His work is not a positivist's rat maze, but a particle physicist's cloud chamber, where normal commonsense expectations about the mechanics of the universe break down (ibid).

culminating in this summary:

In other words, Pynchon's fictions employ machinery to expose the very un-machine-like machinery of the reader's consciousness at work (ibid).

Porush cannot reasonably be suggesting that "that special place beyond systems of codes and information where our humanness resides" is akin to a cloud chamber, since a cloud chamber is very much *within* "systems of codes and information"; only these have left behind certain *meta*-scientific assumptions (such as the absolute objectivity of the scientist, or the absolute predictability of the phenomena observed within the cloud chamber). The authority and legitimacy of the science *itself* however remains unimpaired. Thus the analogy offered by Porush will have to be amended considerably.

A similar logical discord applies to the opening quote by Werner von Braun in GR. Von Braun argues from the first law of thermodynamics ('Energy can neither be created nor destroyed, only transformed') to an expressed faith in perpetual spiritual existence after death.

Nature does not know extinction, only transformation. Everything science has taught me, and continues to teach me, strengthens my belief in the continuity of our spiritual existence after death (1).

Simply looking at the word 'extinction', and von Braun's uncritical importation of it from a clearly defined scientific application into the vague arena of generalized human language

use, bears testimony to the dangers of any carelessly performed interdisciplinary activity (a pitfall this thesis is painfully aware of and tries hard to avoid). Spiritual existence after death (and I assume von Braun means self-conscious, individual existence) does of course not necessarily follow from the first law of thermodynamics, which deals with measurable, physical energy; although neither does the opposite.

These particular concerns remain within the realm of the *meta-physical*. The von Braun quote immediately introduces one of the central themes of GR, namely the relationship between science and human actuality (in which the metaphysical, unlike in science, plays a crucial, direct, and even dominant role). The point of convergence of physical, scientific transformation and Human death, although medically quantifiable, occurs necessarily, for us, on the level of the *human*. Whether *all* attempts at incorporating the metaphysical into the realm of science have to be rejected outright remains debatable; the way von Braun goes about it in the above quote certainly has to be dismissed as illegitimate. The concern with death however is an abiding constant in both the ordinary human and the scientist; as well as in the artist, of course.

The use of the thermodynamic concept of entropy (a topic of crucial importance in any approach to GR) by writers and philosophers is extremely popular and widespread. Entropy as literary *metaphor*, although undoubtedly eminently useful in describing (for instance) death, decay and alienation as

*perceived by* whoever chooses to use it, should not be confused with the strictly defined scientific term. The continued authority of the scientific discourse does not per se imbue the *metaphorical* use of entropy with any special status. Only if the same strict boundaries that limit the scientific use of entropy are observed, if in effect entropy is used in its specific *scientific context*, can we view it as authoritative.

Entropy applies to closed systems, and to closed systems only. In so far as the universe is taken to be a closed system, it applies to the entire universe. Yet the universe is both on a spatial and temporal level so vast that any form of *universal* entropy might, to both the human race and life in general, as well not exist. In so far as we as humans both inhabit closed systems in more immediate terms, and deal with them *directly*, it however becomes another matter.

The earth, for one, is not a closed system. It is precisely our vicinity to an external energy source, the sun, that has chaotically given rise to life on earth. Universally, entropy (most probably) reigns supreme; locally, open system earth has managed to defy it with the help of the sun.<sup>92</sup> Our use of coal and oil (previous life forms) as energy source constitutes an

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<sup>92</sup> Worship of the sun might thus seem an entirely logical form of religion; yet one has to remember that such religions usually worship the sun as some form of god, involving complex rituals and, more importantly, the projection of a divine personality or essence; rather than simply 'appreciating' the sun as (unconscious, 'inanimate') source of life.

indirect use of solar energy, as does our breathing, eating and drinking. All life on earth (with the possible exception of life-forms near geothermal ducts on the ocean floor) is thus in various ways a product of photosynthesis. Yet humans, as well as all other living beings on our planet, form part of a host of systems and sub-systems, all interconnected on some level or other and forming a delicately balanced global ecosystem. Thus if we were able to identify certain of these systems as essentially corresponding to the thermodynamic model of a closed system, we would also legitimately be allowed to expect them to be subject to some or other form of entropy; similar (in essence) to thermodynamic entropy.

For instance: a car is a mechanical device, a machine, able to perform mechanical work because of the fuel in its tank.<sup>99</sup> As the fuel runs out, the car is unable to perform any more work until it is replenished. A car is thus an (artificially created) 'closed system', used and controlled by us, which is periodically 'opened' in order to restore some energy to it and allow it to continue working. Should fuel run out one day as it must, oil being a limited resource, and should we be unable to synthesize fuel some other way, the car will have, to all intents and purposes, died a (permanent) heat death. But while the car is

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<sup>99</sup> The example of the internal combustion engine derives added significance from its role, elaborated upon in GR at extraordinary length, within the global economic dynamic of oil production and consumption.

running, we could say that 'entropy' is continuously increasing in the system car, until it is at its maximum. At that moment the car will have stopped (and died a heat death). If it is filled up, in effect resurrected artificially, it becomes another closed system once again and the process is repeated.

In this example of how one might extrapolate from the second law of thermodynamics and apply it to something concrete, metaphorical license has already been taken, and a physicist might already have objections (pertaining, for instance, to the additional effects of tire degradation, etc.). Yet since the parameters of the analogy have been carefully defined, it seems to me that the essence of the thermodynamic original has been retained, and that this has thus been a permissible metaphoric use of the thermodynamic concept of entropy.

Should one, however, directly attribute certain destructive human characteristics or the behaviour of serial killers or the spread of Aids to a vaguely defined entropic principal, this would constitute a wholly improper tactic. Entropy does not sweepingly mean 'everything decays', or 'all life leads to death'; it simply is *the measure of unavailability of a closed system's energy for conversion into mechanical work*. Should someone wish to draw *justifiable* parallels from this definition to any situation or condition, the same strict parameters will have to be applied.

This is not an attempt to prescribe to any creative artist the use of the word entropy; but should our creative artist wish

to base his or her use of entropy on, and benefit from the authority of, the scientific discourse, then the rules of same must apply. In other words, *entropy* in a scientific sense only has meaning (and the power of its meaning) if defined in a distinct way; should someone wish to sustain the meaning (and its power) the distinct definition will necessarily also have to be maintained. *Connotative* language use as customary in literature is different from the *denotative* scientific practice, yet still relies on a causal relationship between primary meaning and connotated meaning, and therefore is subject to limitation, especially if the primary meaning is part of a strictly defined (denotative) discourse.

Yet entropy is simply a word, and we are free to use it in whatever way we wish. Nevertheless the *origin* of the word has a specific history, and the authority associated with it continues to adhere to the word even if it is used in a different context. Thus a skilful writer might use the word, including its endless denotations and connotations, and more importantly use the *authority* of the word, while actually *misusing* it. An audience or a readership not versed in the particulars of the word might thus be misled into attaching special status to it, and with it possibly to the entire 'message' of the text which contains it.

Gleick (1987, in Ferris 1991) suggests *chaos* as a more appropriate metaphorical model for understanding life, the universe and everything else, than the more widespread utilization of entropic decay.

[T]he second law [of thermodynamics] has had a life of its own in intellectual realms far removed from science, taking the blame for the disintegration of societies, economic decay, the breakdown of manners, and many other variations on the decadent theme. These secondary, metaphorical incarnations of the Second Law now [in the light of the more appropriate Chaos Theory] seem especially misguided. In our world complexity flourishes, and those looking to science for a general understanding of nature's habits will be better served by the laws of chaos (467).<sup>34</sup>

But does complexity flourish, and is it continuing to do so? And couldn't one see chaos, and its 'side effect', which we designate 'life', simply as, in its turn, a side effect of entropy? And if this was so, and I think such a case could be made, shouldn't the same objections and qualifications apply as those regarding the metaphoric use of entropy? It seems to me that while one could answer in the affirmative to all these questions, does the central objection to a hierarchy of scientific metaphor Gleick proposes remain simply this: they will remain *metaphors* whichever ones are used, and therefore subject to the laws of language first, and laws of science second.

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<sup>34</sup> A substantial 'chaos cult' exists already. In Germany alone over seventy titles exploring chaos were available in 1993.

*That this [order in chaos] seems a little predeterminable increases the fascination [non-experts feel toward chaos] (Peter Brügge in: Der Spiegel, 39/1993, 156).*

'Laws of language' have far greater implications, in the analysis of GR, than traditionally suspected. Metaphor, as used by GR, deviates from the classical interpretation, since it loses its connection with a redeeming, privileged, more proper language use (the rational, scientific) and instead becomes primary. Derrida (1972, 270) sees metaphor as determined (erroneously) by traditional philosophy

as a *provisional* [my emphasis] loss of meaning, an economy of the proper without irreparable damage, a certainly inevitable detour, but also a history with its sights set on, and within the horizon of, the circular reappropriation of literal, proper meaning.

In GR metaphor reveals itself as primary, and all "literal, proper meaning" as, in turn, provisional, derivative, secondary; therefore the circle is broken and a 'circular reappropriation' reveals itself as fictional, fallacious. Thus GR falls squarely within the Nietzschean project of the revaluation of all values, or the Derridean project of deconstruction, making visible the underlying, pretextual assumption of the prevalent discourse.

### 2.3 Our Digital Pact With Death

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Life is what happens to you while you're busy  
Making other plans

John Lennon<sup>35</sup>

They can't keep us from dying, so They lie to us  
about Death (728).

If one transposes the Digital model (0/1) over the life of an individual in time, one may equate the moment of conception as 0 and the moment of death as 1. Life is what happens in between. Yet human history has arrived at a point where the 1, the end, the product of living, has come to define all that goes before (life). Thus it is the product which defines its own creation, as is the case with the V2,<sup>36</sup> which further echoes its (fake) timewarped identity in its FTS characteristics. One of the implications of the Second Law of Thermodynamics is precisely that time is a one-way process, during which energy tends to move irrevocably towards less active forms. The mistake 'we' have made is to focus on the end, the lowest state we as humans tend

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<sup>35</sup> From the song "Beautiful Boy (Darling Boy)", 1980, dedicated to his young son Sean. On: The John Lennon Collection. EMI Records Ltd., 1989.

<sup>36</sup> *There was that backwards symmetry again, one that Pointsman missed, but Katje didn't. "A life of its own," she said (301).*

towards, namely death, and to ally our entire being with this. Thus we live as if we are dead already.

The physics of entropy as understood metaphorically, and as incorporated into our human essence, tends to consider only the initial and final state of a process, not the "dynamic events leading from one to the other" (Zamora, 1989, quoting Arnheim, 67). If we uncritically transfer such an attitude to the management of human affairs, we end up with life as we find it in GR. That means, a society employing a binary logic, like a digital computer; in 49 we find that it is precisely this way of thinking which prevents Oedipa from some kind of resolution, or peace.

She had heard all about excluded middles; they were bad shit, to be avoided; and how had it ever happened here [in the USA], with the chances once so good for diversity? For it was now like walking among matrices of a great digital computer, the zeros and ones twinned above, ahead, thick, maybe endless. Behind the hieroglyphic streets there would either be a transcendent meaning, or only the earth. In the songs Miles, Dean, Serge and Leonard sang there was either some fraction of the earth's numinous beauty (as Mucho now believed) or only a power spectrum. Tremaine the Swastika Salesman's reprieve from holocaust was either an injustice, or an absence of wind; the bones of the GIs at the bottom of Lake Inverarity were there either for a reason that mattered to the world, or for skin

divers and cigarette smokers. Ones and zeroes. So did the couples arrange themselves. At Vesperhaven House either an accommodation reached, in some kind of dignity, with the Angel of Death, or only death and the daily, tedious preparations for it. Another mode of meaning behind the obvious, or none. Either Oedipa in the orbiting ecstasy of a true paranoia, or a real Tristero. For there either was a real Tristero beyond the appearance of the legacy America, or there was just America and if there was just America then it seemed the only way she could continue was, and manage to be at all relevant to it, was an alien, unfurrowed, assumed full circle into some paranoia (49, 125/6).

Pynchon writes of a society that doesn't take the *process* into account, that has adopted a binary code of thinking (0/1) rather than focussing on what happens in between, the *dynamic* Arnheim speaks about.

Language, or the Word, is the most fundamental human characteristic, and the most fundamental human tool used. It determines the relationship between us and 'reality', and the necessary distancing of language-as-mimesis positions us as fundamentally alienated from 'life'. This has both facilitated and to a great extent caused our historic specificity today, which in turn is defined by an anti-life pact with death, caused by our *fear of death*, and the misconception that our eventual death *necessarily* defines the life preceding it.

This error in attitude is the basic mistake on which They have built our human actuality. It is the remnant of pre-scientific misunderstandings and superstitions, having developed along with our entire Western Civilization out of fantasies about time running backwards or standing still, about magically controlling nature with the correct formulas or spells, *against* its own laws rather than by using them.

Jacob Brownowski differentiates between these two attitudes by calling them "black magic and white magic" (in Ferris, 1991, 810). The older one (black) attempts to move and control nature by uttering the correct magical spell, which will then *break* natural law. The other (white) attempts to move and control nature by uttering the correct scientific formulae, which will then *use* natural law. Both are, of course, searching for control, and looking constantly for the correct language that will allow them to exercise this control. Science has allowed us to find the 'correct' spells to move nature, yet control now as then remains vested in the *grammar* of language, rather than the *subject* of any particular linguistic dialect.

Similarly, in a scientific sense, this human 'mistake' can be understood as a pact with universal entropy; which, though being a scientific fact within its strictly defined and limited parameters, does not define, or indeed unduly influence, our existence *as such*. However, our fear of death has come almost totally to define the state of our consciousness and the structures of our societies. Thus our thinking is erroneous

because it is quite literally backwards; we live as if our death *causes* our life, rather than the other way round.<sup>37</sup> This mistake corresponds to our identity as humans, which we mistakenly take to be primary; and both postmodern science's emphasis on the role and agency of the observer, and our fantasies of being in control merely reinforce this, far from offering us any new avenues to 'freedom'. Human consciousness, or subjectivity, is a *result* of grammatical structure, not the cause of it.<sup>38</sup> Thus the seed of 'backward thinking' is already present in our very identity as humans. The only possible liberation from determined identity therefore necessarily involves a liberation from identity *as such*, a dissolution of ego, as in the use of drugs, while making love, during a dream, etc. These marginal states of consciousness are by definition a threat to Them, who attempt to control identity in all its facets.<sup>39</sup>

They, the almost omnipotent and wholly malevolent forces in GR, are never identified as individuals. This is because They are structures, forces, patterns, positions; and not the *people* who

<sup>37</sup> Pynchon says in the introduction to Slow Learner (1984):

*When I think about the property [entropy] nowadays, it is more and more in connection with time, that human one-way time we're all stuck with locally here, and which terminates, it is said, in death (14/5).*

<sup>38</sup> *Language is not the function of the speaking subject; it is a product that the individual registers passively (Saussure, quoted by Thiher 1984, 70).*

<sup>39</sup> *Within Western culture we have strong negative attitudes toward ASCs [Altered States of Consciousness]: there is the normal (good) state of consciousness and there are pathological changes in consciousness (Tart, 1969, 2).*

inhabit the positions, sign the death contracts, or commit the atrocities. 'They' are self-replicating structures allied to death, both determining 'reality', and individual identity, or self. The first proverb for paranoids states: "You may never get to touch the master, but you can tickle his creatures" (237); this is so because even the most powerful member of the ruling class, of those responsible for any single aspect of increasing alienation, is ultimately only a creature of the inanimate structure. This applies equally to obvious representatives of death such as Hitler or Stalin, or to Pynchon's fictional creatures such as Blicero and Jamf. All contribute to the process of increasing 'entropy', of course, but to posit control within such individuals themselves would imply becoming the victim of the illusion of control (and the victim of the Monte Carlo Fallacy<sup>40</sup>).

Pavlovian behaviourism as explored in GR posits a secure grip on "ideas of the opposite" (48) as a prerequisite to mental health; this simply means the socialized ability to be able to think in accepted binary oppositions, and thus see (and think in terms of) an accepted / acceptable world and social universe. The 'mentally ill' ("our madmen, our paranoid, maniac, schizoid, morally imbecile": 49) all thus almost *literally* live in their

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<sup>40</sup> The "*Monte Carlo Fallacy*" (56): that falls of a dice or of bombs are interconnected; there is "*no link, no memory, no conditioning*"; yet the resultant patterns correspond to the statistical rules of the Poincarè equations.

own universe. And so do many of those paranoid souls existing on the margins of the establishment, such as artists, poets, writers; and other types of discursively 'independent' thinkers (such as dope fiends and other criminals).

Why these mountains? Why this sky?

Send it up. Watch it rise. See it fall. Gravity's rainbow.

Send it up. Watch it rise. And fall. Gravity's angel.

(for Thomas Pynchon)<sup>41</sup>

Section 3: Brennschluss<sup>42</sup> - Gravity's Rainbow

3.1 Inside the Metropolitan Organ<sup>43</sup>

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The impulse to empire, the mission to propagate death, the structure of it, kept on. Now we are in the last phase. American Death has come to occupy Europe. It has learned empire from the old metropolis. But now we have *only* the structure left us (722).

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<sup>41</sup> Laurie Anderson (with Peter Gabriel and William S Burroughs). From "Gravity's Angel". On Mister Heartbreak. Warner Brothers (CD), 1984.

<sup>42</sup> A term indicating the moment when the A4 rocket's boosters cease their firing; and thus freefall, and accompanied indeterminism and lack of control, begins.

<sup>43</sup> Slothrop having sex with little Bianca suddenly feels as if he is "*inside his own cock*" (470); here paedophilia becomes a metaphor for colonialism.

It is this structure that replicates itself across what we call Western Civilization. America, upon its 'discovery' by Columbus, was a new continent, a new world, and potentially a new beginning. Yet the structures of death have incorporated America, and indeed have reached a new height of efficiency there, enabling Them to move back across the Atlantic to assist their progenitors in their death mission. Thus colonialism reveals itself as one more cog in the wheel of the churning imperial death-dynamic.

Original Sin's "latest name is Modern Analysis" (722), a continually improving proficiency in dividing 'creation' into its dead constituent parts, something Europe fell prey to long ago.

America was a gift from the invisible powers, a way of returning. But Europe refused it (ibid).

This refusal was its "Subsequent Sin" (ibid). Now America has returned to Europe, and a new cycle is about to begin. Will now "our new Deathkingdom be the moon?" (ibid), will the colonization of space, as fantasized about in television hits such as Star Trek, be next?<sup>44</sup>

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<sup>44</sup> Starfleet's "Prime Directive" (not interfering with the 'natural' evolution of local sentients) is time and again rendered meaningless; this might not be a meaningful critique however, since 'sentience' as defined by GR itself implies colonial aspirations.

The colony's initial function in the propagation of Empire and its relationship to Metropolis is established in the following way; the colonies are

the outhouses of the European soul, where a fellow can let his pants down and relax, enjoy the smell of his own shit. Where he can fall on his slender prey roaring as loud as he feels like, and guzzle her blood with open joy. Eh? (317).

In the colonies structures may be established responding more closely to the zero ideal, since atrophied old ones are not in place yet to resist, by the sheer magnitude of their inertia, the next step, and 'America' exemplifies this process above all other ex-colonies. Indeed the colony is more than just "Cheap Labor and Overseas Markets", as Marx "that sly old racist" suggests (ibid). Yesterday's colony America has become today's colonizer, returning to Europe with a vengeance.

Europe however still remains the origin of "the conspiracy of carbon" (351); Europe is the North, the terrible land allied to the other side, "where death rules, allied to the breath of ancestors, fossil fuel, oil, dead matter" (524). WW2 represents "the end of a long European dialectic" (261), a rearrangement of structures leading to a more efficient state of affairs. (More in Section 3.4.1.)

The Herero Schwarzkommando, or Erdschweinhöhlens, consist of three factions. They are either "Empty, Green, or Neutral" (673).

The Hereros are "a little schizoid after von Trotha" (363); after the 1904 to 1906 slaughter the 'empty' faction has decided to commit tribal suicide (317), not wanting to live in the new inanimate world. They call themselves *Otu-kungurua* instead of *Owa-kungurua* (316), a change in prefix which according to Pynchon indicates a move from the living to the non-living. The Empty Ones are working on the rocket as part of their masterplan to destroy, to finish what von Trotha has begun. To them, "tribal death" makes more sense than "Christian death" (318). Yet the "Pre-Christian Oneness" Ombindi, the leader of the Empty Ones, projects into the tribal past is as self-deluding as any "Christian con" (321), and thus their mission is in the grip of the same forces propelling the rest of the destruction occurring throughout the zone both during and after WW2.<sup>45</sup> Pynchon identifies the tendency towards death as *human as such*, and no human is exempt from it.<sup>46</sup>

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<sup>45</sup> A Herero village is structured like a mandala (a Hindu symbol signifying the wholeness of the universe) containing male / female / soul / sex & birth (563); yet it is also the target sight of (among others) a Kamikaze plane (691), as well as representing the assembly structure of the rocket.

<sup>46</sup> Livingstone, in the "subconscious of Darkest Africa" (587), flashes a Masonic high-5 to the chief, who recognizes it and "returns it, all smiles" (ibid). The Masonic rituals, although the lodge is now only a tired businessmen's club, are old and based on primary human symbols.

The 'neutral' Erdschweinhöhler faction simply allows itself to be led by whatever forces happen to be dominant at the moment, while the 'green' faction, led by Oberst ("Oberhauptberlinerschnauze"; 660) Enzian, attempts to recover some or other life-affirming identity through its association with, and possibly salvation by, the rocket.<sup>47</sup> Enzian wants his people to

find the Centre again, the Centre without time, the journey without hysteresis, where every departure is a return to the same place, the only place... (319).

As a boy Enzian uses his language's name for God ("Ndjambi Karunga", 100) as an expression for 'making love'; for him all binary opposition, and indeed the tyranny of his own ego, disappear when he and Blicero are making love, and 'God' is created, who is 'everything'; yet older Hereros remember that Ndjambi Karunga is both "the bringer of evil and its avenger" (322) - and so Enzian's rocket project is also tainted by an allegiance to Their activity.

This is not to say, of course, that the entire green faction is to be equated with the Empty Ones; but any organized form of resistance, simply by echoing goal-orientated *planning*, is forced to adopt Their techniques and configurations. Resistance in GR is

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<sup>47</sup> Enzian is looking for the "True Text" (525) that will explain it all, and wants to involve all the Zone-Hereros in this search, which will necessitate the abandonment of tribal suicide.

by necessity not just a spontaneous and individual exploit, but an un(self)conscious and indeed egoless one. Human consciousness and the accompanying knowledge of Death is primary in the self-destructiveness of humans, even *representative* of the deathwish of conscious thought; which is only suspended in experiences like making love, during which self-awareness, ego, individual identity itself disperses. *Then* the I becomes a kind of open-ended *we* and fuses with an overriding plural consciousness; this whole escape is however only possible if the ego not only lets go, but is *let* go, and control is well and truly lost. (Control is discussed in section 3.4.1.)

While Slothrop lives aimlessly (while being only semi-conscious) in the hills of the postwar Zone, he finds a mouth harp, which seems to be the very same he lost down the toilet at the Roseland Ballroom at Harvard, during an episode revealing both his fear of blacks and his fear of losing control over his anal territory.<sup>48</sup> The toilet is the locus of control, a place where daily transactions take place cementing society, the middle class, and especially the *white* middle class, for whom a visit to the toilet means "transacting ... something vaguely religious" (66).

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<sup>48</sup> The episode features both a young JFK and a young Malcolm X, together in this deeply significant room, the place of unconscious types, mythologies, happenings, transactions, etc.

Shit, now, is the color white folks are afraid of. Shit is the presence of death, not some abstract-arty character with a scythe but the stiff and rotting corpse itself inside the whiteman's warm and private own *asshole*, which is getting pretty intimate. That's what that white toilet's for. You see many brown toilets? Nope, toilet's the color of gravestones..." (688).

Slothrop's rediscovery of his harp seems to indicate that he has managed to jettison some of the identity imparted on him during his early life (and completed by his stay at Harvard, which is about cementing contacts rather than education as such).

At one stage he plays bagpipes, "the Imperial instrument" (622), and soon somebody starts to leave food for him - realizing what is going on, he suspends playing immediately. He is not interested in becoming some kind of authority, priest, imperial agent; "he knew enough about solitudes and night-voices to figure what was going on" (ibid). Yet at that stage of his escape he is still unable to abandon his old self totally.

He's been changing, sure, changing, plucking the albatross of self now and then, idly, half-conscious as picking his nose - but the one ghost-feather his fingers always brush by is America. Poor asshole, he can't let go (623).

Katje is someone who is even more unable to let go of her "Self" and pass into the "All" (662). For Katje, her masochism in *holding on* (to her self) and not 'submit' is reassurance of her

humanity. "There are things to hold onto" (663), familiar things like smells, sounds, etc. For Katje, unwilling to strip off the necessary garments of self to experience natural abandon, Pan by necessity will always be "a lousy lover" (657).

### 3.2 The Man's Office in Our Head

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Pynchon writes of a world in which humans *do* have a 'choice', an alternative, simply owing to our evolutionary connection with life; but being humans, we carry the seeds of death in us to a far greater extent than, for instance, the ant does. And our deathwish is closely allied to the Word, to the distancing of language *via* language, as consciousness implies. And even more so the *written* word, which unifies, stultifies, homogenizes to a far greater extent than the spoken word.

Blobadjian comes to see that the New Turkic Alphabet is only one version of a process really much older - and less unaware of itself - than he has ever had cause to dream. ... And print just goes marching on without him [...] and so the magic that the shamans, out in the wind, have always known, begins to operate now in a political way... (355/6).

Thus both the printing press and today's global communication network play a supporting role to ubiquitous 'entropy'. The Word, or language *per se*, is fundamentally allegorical, and thus a world that takes this allegory as 'real', as 'true', and is able to represent an extra-textual reality, must come into conflict with its own contradictions.

Therefore the seeds of betrayal we all, including members of the counter-force, carry within us are simply this: we are all human, inscribed in and by language, and thus fundamentally

unable to transcend textual reality. Reality is *always* textual reality. No escape.<sup>49</sup> Pynchon writes with this in mind, consciously, thus his fiction (like all allegorical and semi-allegorical writing) "engenders, in turn, a supplementary figural superposition which narrates the unreadability of the prior narration" (Madsen, 1991, 8; quoting De Man). 'Narration' simply refers to the subject matter dealt with in the particular allegory, and 'reading' to an act of allowing the referent / signifier gap to become closed (or contracted). Allegory thus exposes the "referential contract" (ibid) existing within its scope, its world. The superpositions Pynchon's allegories in GR inhabit are ambitious, seeking to survey just about 'everything'.

Cooper considers Pynchon's use of entropy, compared with others, as "the most sophisticated and scientifically informed" (1983, 6). The analysis of GR (Section 3) will not disagree with this excessively, yet not so much because of Pynchon's scientific insights as because of the limitations he places on its use.<sup>50</sup> He

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<sup>49</sup> Derrida develops a similar notion in Of Grammatology, 1967.

<sup>50</sup> Pynchon's early story 'Entropy' (contained in Slow Learner) on the other hand makes a much more uninformed use of the concept of entropy. Pynchon himself acknowledges this in the foreword, saying

*do not underestimate the shallowness of my understanding. For instance, I chose 37 degrees Fahrenheit for an equilibrium point because 37 degrees Celsius is the temperature of the human body. Cute, huh? (13)*

does not, to reiterate, reject the scientific as such, yet he recognizes the crucial difference between 'inanimate' truth, found in science, and human reality (and on this level he positions his fiction). Indeed, Pynchon's 'human reality' might not be subject to any 'truth' at all, since it exists essentially on the level of the animate and metaphysical. Yet the continuing movement in human history is one that attempts to incorporate the animate into the kingdom of the inanimate, that attempts to quantify human reality in the same way science has quantified nature.

Zamora (1989) reads Pynchon's very critique, his very accusation *against* the contemporary mechanisms of history, as if he (Pynchon) actually subscribes to them, embraces them. Zamora accuses Pynchon of ethical nihilism, of refusing to ascribe blame to even the most monstrous action as encountered in his fiction; in effect to have succumbed to an ethical form of 'entropy' (Zamora means something like *lethargy*) and to have revealed himself as a fascist in the process.

The confusion of history with private mysteries is the fascist's justification. Death is the awaited reality; life is only "foreplay". Pynchon's entropic novel is filled with such death dreams, and there is no life-confirming vision, whether historical or

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and stating that even thirty years later  
*my grasp [on entropy] becomes less sure the more I  
 read (14).*

narrational, to counterbalance them. Gravity's Rainbow succumbs to entropy in its style as well as in its content (Zamora, 1989, 70).

Indeed, Pynchon does *not* use the metaphor of entropy as overriding metaphor, but criticizes precisely this increasing tendency in our contemporary world. GR is a deeply political, and dare I say it, a deeply moral book; in it Pynchon does not simply criticize capitalism, or communism, and goes even beyond a critique of both the positivist Enlightenment project and the feminist critique of Patriarchy. He looks at the entire history of humanity, indeed at humanity itself, and 'takes it from there'.

Far from reducing everything to a state of ethical relativism, where everybody is equally innocent, equally determined, he accepts that there is something about humans, about the entire human race, which has led us, indeed a very inclusive '*us*', to an alliance with death, with entropy, with all the excesses of human history. His perspective is thus one of almost Christian inclusiveness; we are all born guilty and weak in the presence of money (and other 'American truths', especially the Word) though we are capable of surprising acts of defiance *despite* ourselves. Yet we all, including the Counterforce, have a "branch-office of the man's" (712) in our brains;

They [the Counterforce] are as schizoid, as double-minded in the massive presence of money, as any of the rest of us, and that's the hard fact (712).

One of the unpleasant, painful implications of this view must strike those who would cast the first stone as particularly unpleasant. Pynchon does not succumb, despite his grand perspective, to any belittling or even justification of 'fascist' atrocities; *of course* the Nazi's are guilty of atrocities, but so are we all, and by implication 'the Jews' themselves (who in a cruelly ironic twist can be considered the originators of monotheism, which of course is a significant phase-changing (mis)step in the march towards death).

We must also never forget famous Missouri Mason Harry Truman: sitting by virtue of death in office, this very August 1945, with his control-finger poised right on Miss Enola Gay's atomic clit, making ready to tickle 100,000 little yellow folks into what will come down as a fine vapor-deposit of fat-cracklings wrinkled into the fused rubble of their city on the Inland Sea... (588).

Pynchon locates both Jews and Nazis on the same time line, as part of, and victims of, the same sickness. In V radiation test dummy SHROUD, in conversation with Profane, predicts that humans have not far to go to be like him and SHOCK (a crash test dummy). Referring to Auschwitz, and bodies piled high like cars in a junkyard, he states: "it's already started" (295). Questioning the twisted *human* version of cause-and-effect, he says:

Who is to say whether I am here so the people can read the meters or the radiation in me is because they have to measure. Which way does it go? [Schlemiel Benny Profane replies:] It's one way. All one way. [SHROUD:] Mazel tov. (Maybe the hint of a smile?) (286).

The need to measure, to divide the 'creation' into smaller, increasingly inanimate parts also surfaces while the engineers of the Reich are constructing the rocket.

The very need to measure interfered with the observation. That should have been a clue right there (452).

Yet of course it isn't, and the rocket project proceeds, leading to the eventual, pivotal bombardment of London. This is described in typically Pynchonesque terms, in terms of portentously lifeless structures, indeed structures-as-lovers, echoing the life-affirming Ajtys in perverted and inanimate fashion; the structures on both sides of the channel 'mate' in order to produce as their terrible offspring the postwar firmament, one step closer to death:

... because sending the RAF to make a terror raid against civilian Lübeck was the unmistakable long look that said *hurry up and fuck me*, that brought the rockets hard and screaming, the A4s, which were to've been fired anyway, a bit sooner instead... (215).

Here the prancing V2 "Pfau Zwei" (peacock two) becomes male, with the zero point at the centre of its target as its "purely

feminine counterpart" (223) exposing secret lusts driving the planet to terminal orgasm.

And a sense of dismay, *and guilt*, pervades all of Pynchon's work, dismay at what we are becoming, at what we have done to ourselves, and the world. Pynchon adopts a perspective which is sufficiently removed from all factions and ideologies, not in order to reject responsibility, but to find the connection, the connection between *all things*.

This 'paranoid' enterprise positions him among the ranks of world-builders, of those who have the courage, or psychopathology, to assume that all is connected. He thus creates a grand metanarrative which rejects or redefines all the others before it. In Lyotardian terms, this would make him a 'modernist' (although using postmodern literary techniques); certainly not the last modernist in a postmodern world.

### 3.3 The Aggregat as Postwar Metaphor

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A screaming comes across the sky (2).

These are the opening words of Gravity's Rainbow, and with them the narrative launches us straight into the cauldron of Blitztime London. In addition, the first five pages of the text serve to lay the foundation of what is to follow. First published in 1973 the entire novel exudes cold war fears of bombs, of *The Bomb*, striking out of an innocent sky at any possible moment. The V2 (or A4) is thus really the forerunner of later generations of rockets, all immensely powerful, incredibly destructive, and *faster than the speed of sound*. This difference is of great importance. It means that the sound of approaching death arrives only *after* the rocket has already hit. It therefore means that the opening sentence of the novel is indicative of death having already struck. Pynchon thus introduces the odd *apparent* time reversal FTS entails, and immediately problematizes simplistic notions of reality. We know from the second law of thermodynamics that time cannot be reversed; yet for us as humans (that is, 'subjective' creatures) FTS implies precisely that: a reversal of time.

If one hears the approaching rocket, one is still alive. Death comes without warning. Later in the novel the toilet becomes an early warning system of Their arrival in search of

dope fiends; They shut off the water first to prevent the flushing of evidence (694). The V2 does not offer this luxury.

Those who are potential victims of the rocket, both the WW2 inhabitants of London and the entire human race in 1973, have to live their lives under the constant threat of sudden, instantaneous annihilation without warning, of hearing "the one word that rips apart the day" (25). Pirate knows that there is nothing he or anyone can do, and that one therefore might as well *not* be worried; yet he morbidly speculates, for a second, what the sensation would be if it were to hit one exactly on the head,

- for a split second you'd have to feel the very point, with the terrible mass above, strike the top of the skull... (7)

before hurrying back indoors, which of course offers no safety either. (More on 'human meaning' in section 4.1.)

To Them, the death-sowing V2s are merely a convenient form of exchanging information. "Incoming Mail" (6) is contained as part of the V2 package, probably containing information on the newly synthesized rocket fuel developed by the international "rocket cartel" (566); it is no coincidence that the various headquarters of the petroleum corporations (BP, Shell) are used as operations bases; *on both sides*.

*A Rocket-cartel.* A structure cutting across every agency human and paper that ever touched it. Even to Russia ... Russia bought from Krupp, didn't she, from

Siemens, the IG....

Are there arrangements Stalin won't admit ... doesn't even *know about*? Oh, a State begins to take form in the stateless German night, a State that spans oceans and surface politics, sovereign as the International or the Church of Rome, and the Rocket is its soul. IG Raketen (566).

Quite clearly, the V2 is not any individual's 'baby'; "it was a corporate intelligence at work ... - they were all equally at the rockets mercy" (402). And so we come to the essence of Postwar (postmodern?) / consumer / capitalist society. It is the *product* that creates, retroactively, reaching back in time; it creates the very process of its creation, and thus itself. All of this in the service of multinational Them, in the service of the human deathwish, in the service of entropy, Zero: and death is thus the final 'product', the basic product, on which productivity as dynamic is based.

The Rocket fulfils a multitude of functions. It signifies the new phase Their project is entering, since it is both determined (before Brennschluss) and uncertain (after), thus signalling the scientific progression from Newtonian to statistical science. It is also a manifestation of our cultural obsession with death, since henceforth, in the Postwar era, one lives with the threat of The Bomb; thus it shows how reality has been modified to reflect Their vision. Yet this imminence of death also works to counter their project somewhat, since it

makes visible certain aspects of the death-culture (similarly to the Slothrop's perversion), while also heightening an appreciation of life and causing paranoid insights normal periods deny us.

The novel ends with the last moments of a rocket's descent onto the heads of an audience in a movie theatre; indications are that the narrative is addressing the reader directly, asking 'us' to sing a long-forgotten hymn (760) in an impotent attempt to at least 'soften' the imminent impact. This is similar in its incongruity to a West Indian tenor singing a German Christmas carol in an English church in wartime Britain; the countless daily "acts of surrealism" committed by "the Empire" makes this one really "a minor one" (129). Yet the terrible logic behind such acts of surrealism is only too apparent.

Slothrop appears paranoid about a V2 with his name on it, surmising that since nothing remains of them after impact (apart from the occasional postal article) they *all* might have his name on it. He thus becomes a type of postwar everyman, typifying the postwar reality.

The Pavlovian Pointsman asks whether

Postwar [will] be nothing but "events", newly created one moment to the next? No links? Is it the end of *history*? (56)

GR is thus hinting at the postwar universe, which is the *postmodern* universe, separated from the previous age by the final

*modernist* convulsion, WW2, which sees the *death* of an age, which cements the death of god, the death of the previous master discourse, the death of clearly defined cause-and-effect relations.

### 3.4 Götterdämmerung<sup>51</sup>

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In der Tat, nichts hat bisher eine naivere Überredungskraft gehabt als der Irrtum vom Sein, wie er zum Beispiel von den Eleaten formuliert wurde; er hat ja jedes Wort für sich, jeden Satz für sich, den wir sprechen! – Auch die Gegner der Eleaten unterlagen noch der Verführung ihres Seins-Begriff: Demokrit unter anderen, als er sein *Atom* erfand... Die 'Vernunft' in der Sprache: o was für eine alte betrügerische Weibsperson! Ich fürchte, wir werden Gott nicht los, weil wir noch an die Grammatik glauben....

(Nietzsche, Götzendämmerung, 28)<sup>52</sup>

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<sup>51</sup> The Germanic gods lived under the tragic awareness that they would have to abandon their feasting in Valhalla one day, and go out to do battle with the Titans at the time of the *Götterdämmerung*; a battle they were fated to lose. Thus despite their divine status they were subject to transcendental laws superseding their own authority. (This very 'human' awareness of the limitations of (all) power was lost with the coming of Christianity.)

<sup>52</sup> *Indeed, nothing up till now has had a more naive persuasive power than the fallacy of being, as it for instance has been formulated by the Eleatics; it really is contained in every word, every sentence we speak! – Even the opponents of the Eleats fell victim to the seduction of their own definition of being: Democritus, among others, when he invented his atom... 'Reason' within language: o what an old, deceitful crone! I am afraid, we will not get rid of God, because we still believe in grammar... [own translation].*

## 3.4.1

His Time's Assembly<sup>53</sup>*Mutants Will Be Born*

Pynchon describes a society which through the chaotic vagaries and coincidences of history finds itself at a certain point, at a certain moment, at a certain time during which a new phase of progression towards death is beginning. This progression is facilitated by the increasingly close relationship between human-made structures and death. This changeover between phases is negotiated by the convulsion of WW2, which allows for the creation of a new order, which in turn might facilitate the drift towards death with greater efficiency.

The most cataclysmic trauma of the twentieth century, World War Two, is thus revealed as 'merely' Their internal negotiation for new territory and new distribution itineraries. Schwarzkommando leader Oberst Enzian recognizes this in one of the unpredictable Epiphanies insufficiently socialized citizens are prone to have in GR. In a sudden brainwave he understands that the war-ravished landscape, the bombed-out factories, are not destroyed, but merely "reconfigured" (520). The war between nations, or economic interests, is only staged by Them to take on the appearance of chaotic destruction, and what is really occurring is a crisis of allocation and priority

<sup>53</sup> Slothrop is sent into the Zone "to be present at his own assembly - perhaps, heavily paranoid voices have whispered, *his time's assembly*" (738).

among the different Technologies, Plastics, Electronics, Aircraft, and their needs which are understood only by the ruling elite... (521).

Once these crises have been negotiated, a new set of patterns favouring Their agenda of constant approach to Zero will be in place. Entropy of course is the physical principle involved, the inanimate thermodynamic law mirroring the human movement towards greater homogeneity, less diversity, less movement or energy exchange, less 'work' done, less life. Yet this is the case only because of our unfortunate and erroneous interpretation of death (and entropy), not the actual workings of the thermodynamic principle itself.<sup>54</sup>

The ghost of assassinated German foreign minister Walter Rathenau (assassinated because he was Jewish) speaks very eloquently to his audience of IG Farben industrialists and Nazis, who cheerfully make use of a spiritualist seance (and Rathenau's privileged perspective as ghost) in order to advance Their knowledge and power. The 'conspiracy of death' pervading all facets of contemporary culture, especially industry and commerce, is articulated by Rathenau, who has the reputation of being "the architect of the cartelized state" (164) and "a corporate Bismarck" (165); in addition, he is

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<sup>54</sup> Such an assertion would once again imbue an inanimate law with agency, with consciousness, indeed with an identity for all intents and purposes 'evil'. Entropy after all is not the 'devil'; it merely is.

a philosopher with a vision of the postwar State, [who] saw the war in progress as a world revolution, out of which would rise neither Red communism nor an unhindered Right, but a rational structure in which business would be the true, the rightful authority - a structure based, not surprisingly, on the one he'd engineered in Germany for fighting the World War (165).

Rathenau explains GR's vision of a misdirected civilization constantly progressing towards death as follows:

The real movement [of human civilization] is not from death to any rebirth [as in nature]. It is from death to death-transfigured. The best you [his audience of selected members of 'Them'] can do is to polymerize a few dead molecules. But polymerizing is not resurrection. ... [We have] [t]he persistence then, of structures favouring death. Death converted into more death. Perfecting its reign, just as the buried coal grows denser, and overlaid with more strata - epoch on top of epoch, city on top of ruined city. This is the sign of Death the impersonator. These signs are real. They are also symptoms of a process. The process follows the same form, the same structure. To apprehend it you will follow the signs. All talk of cause and effect is secular history; and secular history is a diversionary tactic. ... You must ask two questions. First, what is the real nature of synthesis? And then: what is the real nature of control?" (166/7).

The questions of synthesis and control will be dealt with in more detail. GR's vision of increasingly refined inanimate structures of human Civilization however becomes immediately apparent in Rathenau's speech. Our tendency to re-animate and preserve, via representation and a proliferation of 'dead' structures, is well advanced on all fronts of human enterprise as permeating Pynchon's paranoid landscape. What Rathenau's ghost terms 'secular history', the diversionary tactic, is the scientific discourse. It may very well be accurate, but it is nevertheless a 'diversionary tactic', since it diverts the attention away from the more immediate power dynamic.

Slothrop is sent into the Zone

to be present at his own assembly - perhaps, heavily paranoid voices have whispered, *his time's assembly* (738).

Yet something has gone wrong with his particular 'assembly', due to the unpredictability of events such as occur during 'abnormal' times, as WW2 clearly is.

When laws of heredity are laid down, mutants will be born ... [leading to the A4] spontaneously generating items like the S-Gerät (275).

The Butterfly Effect chaoticians speak about thus might actually throw a spanner in the orderly progression of Their

plans. "In ordinary times, the centre always wins" (264). These however are extraordinary times. (More in sections 3.4.6 and 4.)

### 3.4.2

#### Entropy Management

##### *The Primal American Act*

[E]veryone promises ya somethin' for nothin', right? yes now oddly enough, that's the main objection engineers and scientists have always had to the idea of [...] perpetual motion or as we like to call it Entropy Management - here, here's our card - well, sure, they've got a point. At least they *had* a point. Up till now... (260).

These are the words of a black market information salesman in GR, who is in effect promising something for nothing; he is, it seems, making the mistake of combining the thermodynamic concept of entropy with the information theory version of entropy,<sup>55</sup> in the process defining the consumer society as based on the (false) promise of perpetual motion to the point where

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<sup>55</sup> 'Postwar' is also the Information Age, where the false promise of an inversion of entropy has turned information itself into the currency of the age.

*Information. What's wrong with dope and women? Is it any wonder the world's gone insane, with information come to be the only medium of exchange? (258)*

'paying' has become "the primal American act" (604) more basic than orgasm, or even dying. Cheating death is in the Christian sense however only possible through divine grace, and thus the consumer society is based on Faustian premises of a pact with the 'other side'. Thus "consumers need to feel a sense of sin" (652) in order to believe in the reality of their (Faustian) 'salvation'.

Contemporary society has allied itself with death, has built its structures, mythologies, continuities upon *this* fact: we die. The logical consequence of such a movement is the consumer society, driven by the, necessarily always vain, hope of getting something for nothing, of circumventing the irreversible tendency of energy to always move to a less organized state and thus cheating death somehow, by eating, drinking, buying, *consuming* itself to eternal life.

Naturally, the whole perspective such a state of affairs entails is skewed. Life, or rather *living*, should be the focal point; not standing apart, untouched by everything one comes into contact with, but touching, changing, learning, *moving*, acquiring energy or heat (heat as *positive* metaphor, possibly more appropriate than entropy?) from the rest of living creation; losing, dissolving one's stagnant, clearly defined ego-boundaries in hallucinatory drug orgies, or dreams, or of course more ideally love and sex. When we stop moving we are dead, just like molecules in a stable, closed, *dead* system which only move if they are manipulated from the outside; in this world, we are

moved, as if we were dead already. Thus resistance to this 'outside' manipulation (which disseminates the convenient illusion of *inside* control) for instance via unpredictable defiant movement, is *one* way of affirming one's 'animateness'. The information society we are entering is no move away from the old destructiveness either, since information entropy is only *falsely* collated with thermodynamic entropy.

Any plan, any agenda, any conscious attempt at resistance carries little chance of success, since any ego-involvement carries the seeds of death with it. Therefore we find in Pynchon's fiction the great profusion of characters who simply *move*, although it isn't clear to them where to and why; schlemiel Benny Profane in V, who simply does not get along with inanimate objects, machines and the like, being something of an archetype. Yet since we all carry the life-denying grammar of death within us, resistance is difficult and spurious at best. Characters like Profane, who keep on moving and somehow refuse a 'proper' identity, seem to echo the dynamic of life rather than the stillness of death; not *despite*, but *because* of their aimless, random, non-teleological movement. To reiterate: in a closed system molecules move in chaotic fashion, spontaneously, in the process always to a less active stage while giving off heat; yet when heat is pumped into the system (via the sun, for instance), thus opening it, they might move around for a long time; not indefinitely, since the universe is also a closed system moving towards heat death, but on a human scale so close to 'indefinitely' as to make no real difference. By the quirk of

consciousness / language we ally ourselves with death, and so mirror a closed system instead of an open one; only by unconscious, random movement can we escape this, and that means we have absolutely no control over our resistance, control itself being Their own basic tool.

### 3.4.3

#### The True Nature of Control

##### *The Penis We Think Is Our Own*

The state of human affairs upon entering the phase-changing convulsions of WW2 (as uncovered by various paranoid questers in GR) differs from previous states in the crucial sense that gods or spirits are no longer thought to move and control matter. During the first seance encountered in GR a message comes through from the 'other side' (of death).

It's control. All these things arise from one difficulty: control. For the first time it was *inside*, do you see. The control is put inside. No more need to suffer passively under 'outside forces' - to veer into any wind. As if...

A market needed no longer be run by the Invisible

Hand, but now could *create itself* - its own logic, momentum, style, from *inside*. Putting the control inside was ratifying what de facto had happened - that you had dispensed with God. But you had taken on a greater, and more harmful, illusion. The illusion of control (30).

The less harmful illusion of a god moving and controlling nature has been replaced with a more harmful one of internal, human control. The *moving* can be understood and predicted by science, and the laws uncovered are 'true', or defined as 'knowledge'. The *controlling* in turn can be effected by those who have access to knowledge, and the political and economic ability and will to use it, and if used or invested 'wisely', both political and economic power will increase. Performativity thus continues to determine success. Political and economic power per se is a *result* of earlier access to, and correct use of, knowledge.

What is being born during the delivery convulsions of WW2 is a new illusion, the quantum illusion of control, of prediction, of internalizing agency, of focusing on the role of the scientist / observer, whose act of observation creates the particular reality observed. The photon / bomb impacts are counted, quantified; the paths remain uncertain, really irrelevant, as long as predictions can be made.

The Rocket was an entire system *won*, away from the feminine darkness, held against the entropies of lovable but scatter-brained Mother Nature (324).

This is the illusion the rocket cartel thrives on.

Significantly, They are not interested in using Slothrop's gift to save life. This possibility is never even considered in GR, since such a consideration would imply greater agency than any of Their creatures possesses. The extent to which existing structures and forces govern the 'free' actions of even the most powerful person in GR is underestimated. Control is an *illusion*, since the power to 'move' (belonging to science) has been falsely equated with the power to 'control' (belonging to political, economic forces: 'Them'). Put simply: The scientific discourse has the ultimate authority in endowing matters with stamps of approval, by justifying (or not) truth claims; yet *as such* has no power to control its own use, or to furnish meaning on a human level, at all.

The scientific discourse is a systematic extension and refinement of the fundamental human identity as *tool maker*. What tools (technologies) are manufactured, and by whom, and how they are used, is determined by political and economic forces and power structures. Science gives the power to move, but the control of that power is another matter. Following this reasoning the thesis posits that the scientific discourse has *authority* (ability to move) but no *power* (ability to control that movement). This control is exercised by the dominant economic and political structures having access to science and technology, and the authority vested in the scientific discourse. Put

simplistically: whoever has power, can *buy* truth. This is *our* world, this is GR's world, this is the world Pynchon's fiction criticizes. Individuals may exercise power, but only in their capacity as extensions of the prevalent structures; the individuals themselves are replaceable, interchangeable cogs in an inanimate mechanism, and defined merely by their function, "human extensions of ball-fringe, dog pictures, Victorian chairs..." (629). 'They' are not people per se, but rather the positions and patterns that are inhabited by individuals; for example, the president of the United States Bill Clinton is only one of Them in so far as he inhabits the presidency - the *presidency*, its role and function in Their machinations, is thus one of the immortal 'Them'; Bill Clinton now, George Bush then, and somebody else in future. These individuals will do their part in the 'operation', and then be replaced by others. Clive Mossmoon and Sir Marcus, two of the ruling elite (who understand the working and the needs of the system) in conversation, express this formula quite directly.

We are all going to fail, but the operation won't ... each of us has his place, and the tenants come and go, but the places remain (616).

"The true king only dies a mock death. Remember" (131). The true king has become the structure, the position, the title; and 'he' lives on despite the individual deaths experienced by all the interchangeable office, or name bearers. Thus They have achieved a longevity, even immortality, which seems to outsmart

Death; yet only seems to, since the presidency (and all other 'places' working for Them) is dead anyway, only coming alive in the living person inhabiting it.

This is why the comic book counterforce cannot target the, or indeed any, king, but has to focus on other, often quite 'abstract', prey.

Your objective is not the King - there is no King - but momentary targets such as the Radiant Hour ... abstracted from the day's 24 by colleagues of the Father, for sinister reasons of their own (674).

#### 3.4.4

##### The True Nature of Synthesis

##### *A Sinister Cryptography of Naming*

How alphabetic is the nature of molecules (355).

Entropy is a solid scientific concept, part of the scientific discourse that has undoubtedly proven its power over other discourses such as religions, myths, superstitions. Science is 'god' in so far as it has been able to deliver, deliver a product, an effect; it is however not to be equated with the by now deceased 'transcendental signifier', since it changes

constantly, always seeking to improve its efficacy and therefore fundamentally unable to be a constant, unchanging 'pretext'. What has more properly taken the place of 'god' is the *economics* of science, the meta-discursive underpinning of science, something we might term the positivism of the scientific enterprise, something focussing on product, on *control*. (Or Control with a capital C as Pynchon uses it.)

This, as critics have suggested,<sup>56</sup> is nineteenth century positivism; yet this is not *merely* nineteenth century Positivism, or indeed merely the Enlightenment Project.<sup>57</sup> It goes far deeper than that, being based on something fundamentally human, namely *language itself*; and the way we, through the resolute improvement of our language (especially the scientific discourse) constantly synthesize a more accurate, a more useful and *useable* language. This is the performative nature of synthesis, and as 'subject' the self has to conform to this deadly performativity.

Slothrop is looking for an explanation of his self, and so he is drawn to the rocket as holding that explanation. His attraction is unconscious.

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<sup>56</sup> According to David Porush (1985) Pynchon uses positivist science as pretext to be deconstructed and exposed; we might as well add 'postmodern' science.

<sup>57</sup> Black (1980), Nadeau (1979), Earl (1983), Hayles (1984), among many others, base their various analyses on the notion that Pynchon exposes all totalizing (Newtonian) science as intrinsically limited, and clashing (via Gödel's Theorem) with what I have defined as 'postmodern' science.

Blackwoman, Blackrocket, Blackdream.... The new coinages seem to be made unconsciously. Is there a single root, deeper than anyone has probed, from which Slothrop's Blackwords only appear to flower separately? Or has he by way of language caught the German mania for name-giving, dividing the Creation finer and finer, analyzing, setting namer more hopelessly apart from named, even to bringing in the mathematics of combination, tacking together established nouns to get new ones, the insanely, endlessly diddling play of a chemist whose molecules are words... (391).

It is both. For Slothrop is "in sexual love, with his, and his race's, death" (738). Indeed, Slothrop is the last of many generations of Slothrops, coming from a long line of "early Americans" (738). The Slothrop fortune was made in timber, turned into "shit, money and the Word, the three American truths" (28); yet after removing all living green, the Slothrops stayed on the bare land, and their fortune, diffused through the number of Slothrops and their increasing trusts, decreased; although never quite to zero. Thus they did what all American pioneers in the service of Them did; yet, by staying on, the Slothrop perversion (being in sexual love with death) serves as an illustration of the human disease, the human identity. Young Tyrone, conditioned by Jamf to get an erection in the presence of the mysterious stimulus X, personifies the fundamental human impulse. Yet being human always implies the possibility of defecting to the Titans, of joining "living green against dead white" (268).

stimulus X, personifies the fundamental human impulse. Yet being human always implies the possibility of defecting to the Titans, of joining "living green against dead white" (268).

He is 'in love with the death of his race'. For Slothrop, so thoroughly conditioned on so many levels, personal and other, the defection is only possible in the adoption of roles such as Rocketman or Plechazunga the pig hero; and ultimately only in a rejection of identity itself. Slothrop fragments, disintegrates as a distinct personae, and if we wanted to find 'him' we would have "to look for him adrift in the hostile light of the sky, the darkness of the sea..." (742).

Yet the *spoken* word, as practised in lovers' games or song, is as yet incomplete in its service to the Zero; it is the written word that comes much closer to being an agent of death, since it both fixes reality, and distances the language users spatially and temporally.<sup>88</sup> Language is by definition a

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<sup>88</sup> Derrida discusses the function of *speech*, the *voice* and *presence* in Speech and Phenomena (1973); in Positions (1981, 5) he defines this fundamental question as follows:

*What is "meaning", what are its historical relationships to what is purportedly identified under the rubric "voice" as a value of presence, presence of the object, presence of meaning to consciousness, self-presence in so called living speech and in self-consciousness?*

Western (phal)logocentric reasoning might treat the spoken word and the written word as binary opposites, yet both Derridean argument and GR would object to this. In a 'postmodern', typically playful (in both cases) definition, either might say: "The written word is like the spoken

deliberate resurrection of life, a distancing, an alienating artifact. But while it is in the *service* of life it redeems itself somewhat, though of course never completely. Yet language, at a rate constantly accelerating, has started to privilege its death *affirming* characteristics more and more, becoming more and more efficient in the promotion of our human death culture.

To put it in simple terms: we are aware of death, and have developed a culture paralyzed by our fear of death. Rather than concentrating on the miracle of life and its basic pattern formation activity, temporarily halting the universal march towards heat death by taking advantage of the external energy source the sun, which is constantly throwing energy into an otherwise reasonably closed system and thus making possible *life*, we perversely define ourselves via what *ends* life on an individual scale: death. The result of this alliance is a culture actively sowing death and destruction on a global scale, playing

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'meaning'. And if it does admit a surplus, it attempts to define this in strictly codified, commercial fashion. If one reads Rousseau (in Essay on the Origin of Languages) as blaming the ills of the human condition on *writing*, one might read Pynchon (among many others) as blaming it on *language*; yet what 'saves' the latter from the trap of a mimesis-based world view is the acknowledged absence of the mystical origin / original so central to the concept of mimesis. What remains is endless intertextual play, which however is suffering under the onslaught of the linguistic 'engine', the dynamic seeking to represent (albeit fictionally), fix and *control*; and the cultural tyranny of our specific social, political and economic complexion.

directly into the hands of what we originally wanted to avoid.<sup>59</sup> This mistake is exemplified by Laszlo Jamf, Slothrop's personal demon.

In the last third of his life, there came over Laszlo Jamf - so it seemed to those who from out in the wood lecture halls watched his eyelids slowly granulate, spots and wrinkles grow across his image, disintegrating it towards old age - a hostility, a strangely *personal* hatred, for the covalent bond. A conviction that, for synthetics to have a future at all, the bond must be improved on - some students even read "transcended". That something so mutable, so *soft*, as a sharing of electrons by atoms of carbon should lie at the core of life, *his* life, struck Jamf as a cosmic humiliation. *Sharing?* How much stronger, how everlasting was the *ionic* bond - where electrons are not shared, but *captured*. *Seized!* and held! polarized plus and minus, these atoms, no ambiguities... how he came to love that clarity: how stable it was, such mineral stubbornness! (577).

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<sup>59</sup> CNN's program 'Earthwatch' estimates that, directly due to our activity, one hundred and forty species of living creatures, our fellow earth dwellers, are exterminated *per day* (the rate is increasing). It is estimated that there are just over a million species of living creatures on this earth (of which we are *one*); we can therefore calculate the date on which we might be all alone....

As Jamf ages, and approaches death, it seems only logical that his hatred of his mortality becomes *personal*; yet the focus of his hatred is the covalent bond, which he considers to be at the core of his life. And thus it becomes very clear that he hates not (just) death, but primarily *life itself*. This is the nature of synthesis; a hatred of life.

Jamf's mistake is the typically human mistake, mistaking cause and effect, the 'digital' illusion of defining life via the '1', the end, the (falsely projected) cause. The exactitude, clarity, rigidity, stability of the ionic bond is preferred by Jamf, who forgets that the "mineral stubbornness" he so admires is really quite dead; that the fleeting, short and transient nature of the covalent bond he wants to transcend is really the very *nature* of life. Transcendence *as such* implies denial of mortality; thus transcendence implies denial of 'life' (life being *defined* as transitory, ephemeral, brief). Once again Nietzsche's critique of Christianity springs to mind, as does the first of what he calls "die vier grossen Irrtümer"<sup>60</sup>, namely mistaking cause and effect.

We as humans are "the one species cursed with the knowledge that it will die". An elite few, of which Jamf is a prominent member, "are the loudest to theorize on freedom [from death]". Yet they are the least free, who "use technology's elaborate terror", and also use "every other form of life without mercy to keep what haunts men down to a tolerable level" (230).

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<sup>60</sup> 'The four great fallacies'. Götzendämmerung, 39.

It is hard to accept one's mortality, to accept that there is no life after death, and indeed no life *without* death. It is the "bitterest of freedom" (704). GR uses the term 'freedom', as we can see, quite uncritically and also quite obviously in various not clearly defined contexts. The notion of freedom itself thereby is questioned, and becomes questionable. Since Fynchon is not, according to the argument of this thesis, travelling in 'scientific circles', this seems an appropriate strategy, since it serves to emphasize the human, emotional connotations adhering to the term 'freedom'. The dialectical (Marxist) "Theory of History" is itself a "pathetic cold comfort" (704); and it too is allied to death, since its main function is to convince people to die for it.

The possibility, or impossibility, of freedom is expressed by a Jesuit playing Devil's Advocate, preaching against return (like his colleague Teilhard de Chardin):

[C]ritical mass cannot be ignored. Once the technical means of control have reached a certain size, a certain degree of *being connected* one to another, the chances for freedom are over for good. The word has ceased to have meaning (539).

Yet even though we may not be able to achieve 'freedom' any more, is it still possible to ally ourselves with life. The old dope fiend Säure ('acid') calls this 'love', and finds it in the music of Rossini.

With Rossini, the point is that lovers always get together, isolation is overcome, and like it or not that is the one centripetal movement of the World. Through the machineries of greed, pettiness, and the abuse of power, *love occurs* (440).

Gustav however sees tonality as a game, with the Row beyond tonality signifying enlightenment. Säure's reply is:

The Row is a game too ... *Sound* is a game ... I'm choosing *my* game, one full of light and kindness. You're stuck with that stratosphere stuff and rationalize its dullness away by calling it 'enlightenment'.

Gustav however sees the worthiness of music in direct relationship to its immortality, which of course simply means its alliance with (a fake) transcendence; life by definition is finite, and mortality thus a necessary ingredient. Gustav dismisses all 'bouncy little tunes' as too fleeting and impermanent. He states:

Your 'light and kindness' are the jiggling of the doomed. You can smell mortality in every one of those bouncy little tunes (521/2).

Still, lovers get together, and 'love occurs'. Yet love is, like life, of fleeting nature, as Roger Mexico discovers when Jessica leaves him for the safety and convenience of Jeremy despite their moments of magic.

Roger and Jessica were merged into a joint single creature unaware of itself ... here is the first, the very first real magic; data he [Roger] can't argue away (38).

The ego-dissolution both Roger and Jessica experience is unquantifiable, since not allied to death; hence, magic and not science. Yet Roger and Jessica, despite forming "a long skin interface" (121) when making their 'magical' love, are doomed to part ways; since Jessica, unable to tolerate the uncertainty and inexplicability of her attraction to Roger, prefers the socially reinforced conventionality of Jeremy the beaver.

Indeed, 'life' in GR is hard and without any innate morality; the fat kid Ludwig, who has found his Lemming Ursula "at last and after all and despite everything", has had to suck "a lot of foreign cock" to survive in the zone.

Ludwig has fallen into a fate worse than death and found it's negotiable. So not all lemmings go over the cliff, and not all children are preserved against snuggling into the sin of profit. To expect any more, or less, of the Zone is to disagree with the terms of the Creation (729).

Thus there is a positive vision, although within clearly defined limits; that is, a compromise or working arrangement is possible if one is prepared to jettison 'absolute' ideas (in the above example the absolutist notion of a 'fate worse than death'). Once again, it seems convenient to accept this as a

characteristic of GR's *postmodern* tendencies; as Madsen (1991) argues.

Madsen (1991) defines Pynchon's fiction as "postmodernist allegory" (7). According to her, Latin rhetoricians define allegory as

located in the cognitive gap separating sign from referent [and performing] a conservative function by representing an analogy between the alien and the familiar... [thus supplementing absence with the] known truth (ibid).

Poststructuralist theories (states Madsen) "depart from Latin definitions by privileging absence over a potential for fulfillment" (ibid); which in turn is based on Walter Benjamin's comments on Baroque allegory as a mode of experience "registering the recognition of truth's absence" (ibid). He (Benjamin) proposes that allegory names both a process of transforming things into signs and also a way of expressing the transitory, mortal nature of the world by rendering the physical world as an "aggregation of signs" (ibid). Extending this definition to the realm of the postmodern Madsen states that

postmodernist allegory registers a sense of disjunction and displacement away from a determinate referent, into an unregulated proliferation of signs. The single most important characteristic of allegory is the relentless way in which it pursues an ultimate

referent that would bridge the rift between signs and their significance. Pretext [is] a narrative that is assumed to articulate the sacred through its language and to reveal the way divine authority is made known in the material world ... [and that] displays the power of a language that claims to reach beyond the multiplicity of an arbitrary system of signs to name divine referents within a univocal system of signification (ibid, 9/10).

Therefore, in the absence of a 'transcendental signified',

[postmodern] allegory shifts its focus [...] upon a change of cultural attitude towards the pretext

and so

the dominance of epistemological questioning in conventional allegory gives way to a radical ontological critique ... [and] traditional exploration of metaphorical 'depth' becomes an investigation of the ontology of verbal surface or *visibilia* ... (ibid, 12).

Thus we have the figure (or 'figura') of the quester like Slothrop, a special type of quester out to uncover the structures defining, and *creating*, his own being. Yet the urge to uncover one's own genesis is also steered, steered by the very structures one is out to uncover; and the various questers (Slothrop, Enzian, Tchitcherine) are all pawns of Death's Empire, out to uncover the various rocket secrets for Their purposes.

## 3.4.5

## Postwar Reality

*the rapid flashing of successive stills*

There has been this strange connection between the German mind and the rapid flashing of successive stills to counterfeit movement, for at least two centuries - since Leibniz, in the process of inventing calculus, used the same approach to break up the trajectories of cannonballs through the air. And now [...] these techniques had been extended past images on film, to human lives (407).

The postwar firmament in GR is taking shape, and being shaped, by the very specifically 20th century reality-making machine, film. Film firstly mirrors Their agenda by being constituted of "a rapid flashing of successive stills", a 'dead' collection of motionless pictures creating the illusion of 'life' (similar to the illusion of time-warp created by FTS). And secondly, films acquire power by attaching themselves to a deeper, mythic power, by attaching their imagery to older, already existing structures, patterns, mythologies, and then using, and in GR *perverting* these to advance their (Their) own agenda. Film creates the new, postwar identity, refashioning tribal or local identity in its wake (in the same way the printed word fixes 'oral' cultures, except with greater flexibility).

Pynchon juxtaposes this with *actual* tribal myth, with, for instance, 'Märchen': Hänsel & Gretel play an important part,

being imitated by Blicero / Weissmann's S&M games (cf. 568). Similarly, Slothrop's episode as Plechazunga the Pighero shows the possible refuge such old mythology still might provide. Now however the moving picture, audio-visual imagery flashed at 24 frames per second, is replacing these collective identities, old 'gods', these *locally distinct* complexions; and *now* the myth-machine is under the direct control of certain vested interests transcending borders, nationalities, political ideologies. Pynchon is here thus clearly into 'global conspiracy' territory, although this conspiracy does not seem 'conscious' as such.<sup>61</sup> Certain of its enthusiastic proponents might be quite 'conscious' of their own role, yet typically only in terms of their individual definitions; e.g. 'Der Springer', Gerhardt von Göll, connected to the IG through his filmstock, cheerfully believes that his Schwarzkommando propaganda has actually *created* the Herero presence in Germany, and associates freely and happily with various marginalised misfits.

Der Springer is dreaming of a time "when the film is fast enough, the equipment pocket-sized" (527), and the "new dope, the 24hour movie under the rug" (745) may come entirely to define identity.<sup>62</sup> Der Springer, it seems, is dreaming of today, of

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<sup>61</sup> The 'ruling elite' itself might understand and facilitate Their agenda, yet is only an (admittedly privileged) extension of Them, freely interchangeable.

<sup>62</sup> There is a

television, which might place the conduit of the new 'collective unconscious' in every living room. This development clearly issues in a new phase, different from the old in that it *directly* reinforces the old 'bureaucracy' within human consciousness via a new, even more 'artificial' switching path.

So that the right material may find its way to the right dreamer, everyone, everything involved must be exactly in place in the pattern. It was nice of Jung to give us the idea of an ancestral pool in which everybody shares the same dream material. But how is it we each are visited as individuals, each by exactly and only what he needs? Doesn't that imply a switching-path of some kind? a bureaucracy? (410).

This bureaucracy has now also become externalized, and finds a direct incarnation via the mass media, whose function, in Chomskian terms, is the 'manufacturing of consent', and in GR's even more radical critique, the manufacturing of consciousness itself.

The Argentinean anarchists, for one, are infected with von Göll's visions, and find their connection with the Herero in

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*dilemma built into nature, much like the Heisenberg situation. There is nearly complete parallelism between analgesia and addiction (348).*

'Analgesia' implies the absence of pain, and possibly loss of consciousness. The most basic human 'pain' is of course the human awareness of death, and so we constantly tend towards some addiction to a death-denying, and thus life-denying, machinery.

'Gondwanaland'. Namibia (still SWA when GR was first published) and Argentina, in the Mesozoic, were still connected, and the anarchists dream of a return to a more 'ideal' state of being; one, they hope, brought into existence with the help of Der Springer's cinematic power.

"It is my mission," he [von Göll] announces to Squalidozzi, with the profound humility that only a German movie director can summon, "to sow in the Zone seeds of reality. The historical moment demands this, and I can only be its servant. My images, somehow, have been chosen for incarnation. What I can do for the Schwarzkommando I can do for your dream of pampas and sky.... I can take down your fences and your labyrinth walls, I can lead you back to the garden you can hardly remember..." (388).

Yet similarly to the Empty One's illusory projection of a false pre-colonial 'Eden', this promise rests on the premise of reversing history, and thus time itself, and is therefore doomed to failure. A newly manufactured Mesozoic garden will remain a celluloid counterfeit, and will merely serve to subvert the promising potential the anarchists might have.

The character of Pökler already illustrates and represents living proof of the power of the new reality-making machine.

The fear of extinction named Pökler [...] hunted [...] across the Zero, between the two desires, personal identity and impersonal salvation (406).

Pökler's entire life is already heavily influenced by, and is indeed a product of, the movies, as is his only 'redeeming' feature, his relationship with his daughter Ilse. He only sees her, in macroscopic film flashes,<sup>69</sup> for two weeks every August and doesn't know whether she is his 'real' daughter, or even if he meets the same 'Ilse' each year, yet he chooses to play father to the extent of rejecting his pronounced incestuous longings (at that moment *becoming* 'father'; "Herr Pökler? I am your..." / "Ilse, Ilse...": 407). Pökler chooses "to believe she wanted comfort that night, wanted not to be alone" (421). What she 'wanted' does not seem to matter - he acts like a father, and thus becomes a father: "It was the real moment of conception" (*ibid*).

Pökler impregnates his wife Leni after having watched von Göll's film *Alpdrücken* ('nightmare'), in which Greta Erdmann becomes a (post)modern goddess of love, differing from the mythological Venus / Aphrodite figura significantly in the fusion of sex and violence she represents. (Not surprisingly, Greta herself reveals a history of not only S&M, and the prostitution of her daughter Bianca, but of actual serial child murder.)

Ilse, Pökler's "movie-child" (398), is forever (for Pökler the 'father') linked to her movie-identity.

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<sup>69</sup> She is the "moving image of a daughter [...] what would the time scale matter, a 24th of a second or a year" (422).

It was never a real possibility for Pökler that Leni might get pregnant. But looking back, that had to be the night, *Alpdrücken* night, that Ilse was conceived. They fucked so seldom any more. It was not hard to pinpoint. *That's how it happened. A film. How else? Isn't that what they [They] made of my child, a film?* (ibid).

Film as medium consists of the audience's constitution of projected images into reality, of "light-values to be put together" (437) and replacing 'life' as defined by GR. As such, film becomes 'real' only when viewed, when feeding off the living energy of an audience. Similarly, the 60-000 of Camp Dora, all dead now, are like music played by

windy strings and reed sections [...] candleflame memories [...] [both] particle and wave... (398).

*Both particle and wave*, thus in an indeterminate state; photons and other subatomic matter are both particle *and* wave, depending on how they are measured, or are thought of, calculated, *spoken of / as*; is Pynchon using his scientific metaphors sloppily here? Or is he simply saying that only once death has claimed the living is it 'allowed' to speak of them in terms of science; and until then, in terms of what? Art, feeling, common humanity? Or simply that at this stage of the war, the outcome is still undetermined, and thus the power to write history still hangs in the balance (and that, maybe, Stephen Spielberg hasn't come along yet to cement the Holocaust reality

via Schindler's List)? It seems to me that whatever the more creative metaphoric interpretations might be, what is essentially focussed on is the role of the observer; and that the holocaust victims of Camp Dora depend for their 'existence', and *continued* existence, on the memory of the survivors, candle light fragility of 'our' memories notwithstanding.

Pökler in a gesture of impulsive sympathy gives his wedding ring to a survivor; he is, it seems to me, not simply rationalizing the deathcamps, and his own implicit 'guilt', but rather is signalling his (matrimonial) bond with both survivors and holocaust in a gesture which is difficult to misinterpret. He is irrevocably tying himself (and by implication all survivors, the readership of GR included) to the happenings of WW2, and especially the postwar phase as delineated most horrifically and unambiguously in the holocaust.

### 3.4.6

#### A Transmarginal Opening

#### *The Ultraparadoxical Phase*

In ordinary times, the centre always wins (264).

The time of readjustment and reconfiguration represented by WW2 is however extraordinary, and ordinary stimuli might therefore not engender the conditioned response; something has

run slight interference with the whole show, with Slothrop's and his time's "assembly" (738).

The behaviourist's theory of Slothrop's precognition of V2 drops assumes some cue, some *stimuli* in the air, part of the wartime atmosphere; he, it is conjectured, due to some aberration or iniquitous faculty, is somehow able to pick up this cue and *respond*. The FTS bomb blows, then the sound of it approaching arrives; thus the normal stimuli / response order is (falsely) interpreted as reversed. This of course is patent nonsense, since Slothrop feels the 'urge' days in advance, at *exactly* the spot (suburb, block, building) where the bomb will strike; he is thus clearly a Pynchonesque device created specifically *as anomaly* to expose Their agenda.

Pavlov's "ideas of the opposite" (48) suggest some faculty (a cluster of cells) which helps to distinguish opposites until something goes wrong, and a "transmarginal phase" (*ibid*) is entered. This phase begins with the 'equivalent' phase, during which all stimuli elicit the same response; further overstimulation leads to the 'paradoxical' phase, during which stimuli elicit the *opposite* response; and finally the 'ultraparadoxical' phase is entered, during which a conditioned subject is actually 'turned off' by the stimulus, but looks for it when it is absent. Hence the "confusion of ideas of the opposite" (90) Pointsman diagnoses in Slothrop.

Ordinary 'ideas of the opposite' are simply the socialized ability to be able to think in accepted binary oppositions, and

thus see (and think in terms of) an accepted / acceptable world and social universe. The 'mentally ill' ("our madmen, our paranoid, maniac, schizoid, morally imbecile "; 49) all thus exist in some version of the transmarginal phase.<sup>64</sup>

War is a 'country' offering advantages to some, "more hope than Prewar, that underdeveloped province, ever offered" (77). In the transmarginal phase(s), increased stimuli do not lead to the typical corresponding response; thus 'normal' behaviour breaks down, and the last set of behaviour patterns are either continued indiscriminately, or disregarded in a similarly unmasking fashion. The possible implications for civilization seem to be that WW2 has issued in a transmarginal phase for the entire human race, and this is continued Postwar. Slothrop creates fear in both cause-and-effect behaviourists, and statisticians; he seems to reverse cause and effect, and reverse time itself, by predicting exactly where bombs will fall. He thus functions to focus attention on Their design of cause-and-effect, and its questionable applicability to human actuality.

The 'White Visitation' is a scientific military project established to find out whether (and which particular) non-traditional disciplines might be useful to Their machinations. The White Visitation staffers mainly form two (power)blocks. On

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<sup>64</sup> This is how GR defines behaviourism; behaviourists might of course disagree, yet Pynchon's critique clearly does not rest on any 'correct' interpretation of any scientific (or pseudo-scientific) theory he uses.

the one side the behaviourists, and on the other the 'psi's' (astral travellers, clairvoyant, etc); with the rest (the other "persuasions-in-exile", 80) sprinkled in between and holding the balance of power.<sup>65</sup> Governmental statisticians are employed to measure the effectiveness of the ~~various~~ disciplines. The statistician Milton Gloaming defines the spiritualist medium as a classical paranoiac, whose most frequent word, "of course" (32) is *death*. Ignoring the very obvious destruction of Blitztime London, statistician Roger Mexico concludes that due to the prevalence of this word paranoia in London is rising, which serves as additional indicator of a possible descent into the ultraparadoxical phase. Death (and specifically human awareness of it) is the ordinary stimulus leading to 'our' response, which is the specific cultural practice GR critiques, and thus the ultraparadoxical phase would issue in a *suspension* of these practices until the stimulus (death) becomes less prevalent; then these practices would be actively searched for (by those realizing the return to 'normal'). Jessica serves as perfect example of this process; while WW2 is in full swing, she is 'enabled' to have a life-affirming, ego-suspending relationship with Roger due to the ubiquity of death, but as soon as things seem normal, as soon as death has receded to its structural position, does Jessica feel the immediate urge to resume a traditional, 'normal' life with Jeremy.

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<sup>65</sup> Interesting parallels can be drawn to today's popularity of cults and other 'alternative' belief systems.

Yet WW2 as "interregnum" (294) and as the pivotal reconfiguring event issuing in a new phase, offers opportunities and insights both to GR's individual characters and to its critique. As a historical period it is similar in its effect to Jamf's personal contribution to the drug industry: Oneirine Theophosphate (702).<sup>66</sup> Oneirine "causes the dullest hallucinations known to psychopharmacology" (703), bringing "mantic archetypes" (702) to certain individuals on a recurring basis and causing a form of paranoia constituted simply of the realization that "everything is connected" (703). GR itself functions similarly (as does the critical effort to write an engaging, interlocking critique).

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<sup>66</sup> 'Theo', indicating the presence of God; 'thio' would signify sulphur.

Section 4: *Descent & Impact* - Death & Resurrection

"Ins Innre der Natur -"  
 O du Philister! -  
 "Dringt kein erschaffner Geist."  
 Mich und Geschwister  
 Mögt ihr an solches Wort  
 Nur nicht erinnern:  
 Wir denken: Ort für Ort  
 Sind wir im Innern.  
 "Glückselig! wem sie nur  
 Die äußre Schale weist!"  
 Das hör' ich sechzig Jahre wiederholen,  
 Ich fluche drauf, aber verstohlen;  
 Sage mir tausend tausendmale:  
 Alles gibt sie reichlich und gern;  
 Natur hat weder Kern  
 Noch Schale,  
 Alles ist sie mit einem Male;  
 Dich prüfe du nur allermeist,  
 Ob du Kern oder Schale seist.

Goethe<sup>67</sup>

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<sup>67</sup> "ALLERDINGS: Dem Physiker" (1981, 359).

*"Into the core of Nature" - / O Philistine - / "No earthly mind can enter." / The maxim is fine; / But have the grace / To spare the dissenter, / He and my kind. / We think: in every place / We're at the center. / "Happy the mortal creature / To whom she shows no more / Than the outer rind," / For sixty years I've heard your sort announce, / It makes me swear, though quietly; / To myself a thousand times I say: / All things she grants, gladly and lavishly; / Nature has neither core / Nor outer rind, / Being all things at once. / It's yourself you should scrutinize to see / Whether you're center or periphery ("True Enough: To the Physicist". Translation in Ferris 1991, 775).*

#### 4.1 The Meaning of Breakfast as ...

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... a spell against falling objects (10).

In the opening moments of GR Pynchon introduces the level of *human meaning*. Rationality, science, common sense, though useful in their spheres, do not necessarily mandate *our* 'reality'. Irrational fears, outrageous nightmares, the smell of Pirate's famous banana breakfast telling death "to fuck off" (10); all these constitute an immediate experience of life. On seeing the vapour trail of an approaching rocket, Pirate is uncertain as to what he should do, finally deciding to go about the business of life, making breakfast, amidst all the chaos, mayhem and death.

Dughtn't he be doing something ... get on to the operations room at Stanmore, they must have it on the channel radars - no: no time, really. Less than five minutes Hague to here (the time it takes to walk down to the teashop at the corner ... for light from the sun to reach the planet of love ... no time at all). Run out in the street? Warn the others?

Pick bananas (7).

Pirate decides to pick bananas for his breakfast, which brings together all the "wasted gods" (9) of his fellows, a bedraggled mob with foul breath and thinning hair, in a community of humans celebrating through the intricate molecular structure of the breakfast smell (similar to the labyrinthine "living

genetic chain" (10) able to preserve some human face over ten or twenty generations) the miracle of life. Yet the phone call comes ordering Pirate to go on a mail call and with it *solitude*, and Pirate is "again some other side of a window, watching strangers eat breakfast" (11). 'Community' thus allows solitude (which seems unquestioningly negative) to be banished momentarily.

Reverend Dr. Paul de la Nuit tells Roger Mexico how ancient Roman priests used a sieve laid over grass to pick a stalk of grass (growing through the sieve) to cure the sick. The sieve was sacred despite such a process being, statistically speaking, nonsensical, as every stalk had the same chance of being picked.

"They used the stalks that grew through the holes to cure the sick. The sieve was a very sacred item to them. What will you do with the sieve you've laid over London? How will you use the things that grow in your network of death?"

"I don't follow you." It's just an equation...  
(56).

The implications are that 'meaning' is imposed by humans, even if it imposed at random; statistics is killing god, is killing the ghost in the machine, by exposing him / it as non-existent - yet the act of 'curing the sick' renders an intrinsically nonsensical and meaningless act meaningful. Being lamented by the reverend is the focus on ability to predict, on the *power* to predict, thus on the product, and not on the whole

as meaningful (or not) activity. Thus the human element is lost, as everything and everybody becomes a number in an equation. Roger in turn initially thinks that such a perspective is

eminently fair. Everyone's equal. Same chances of getting hit. Equal in the eyes of the rocket (57).

Yet this is an inhuman (inanimate) perspective, as human reality is not situated on that level, but rather on the level of the pain and grief of those affected, and the relief, guilt, etc of those who escape being hit; only death makes us 'equal', which means that Roger's statistical perspective is itself allied to Death. Pirate calls Roger's perspective "cheap nihilism" (57) and speaks of paying dues (he means emotionally), recognizing that the more V2's are shot, the better the chance, overall, of getting hit; thus on another level humans again impact on the equation. Roger is impatient with all this unscientific 'waffle'; but then Jessica holds him in her arms and once again his humanity is exposed; he too wants life, meaning, feeling, sharing, wants to lose his lonely ego, dissolve in a sexual embrace. Yet an exploding bomb reminds Roger and Jessica that some happy coupling is transitory, that death cannot be tickled and has to be dealt with in other ways, too. Spontaneous 'slap 'n tickle' until death comes, which might seem an eminently logical attitude, is not sustainable over longer periods of time for the self-aware animal.

#### 4.2 To Hear with a Revolutionary Heart

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The sacrament of the Eucharist is really drinking the blood of the enemy. [...] We drank the blood of our enemies. The blood of our friends, we cherished (739).<sup>68</sup>

Leni is one of few GR characters with a modicum of insight into Their machinations, and more importantly a determination to resist these. In attempting to define her own role regarding her daughter Ilse, she rejects the pre-written, predetermined role of 'mother'.

"...they want a great swollen tit with some atrophied excuse for a human, bleating around somewhere in its shadows. How can I be *human* for her? Not her *mother*. 'Mother', that's a civil-service category, Mothers work for *Them*! They're the policemen of the soul..." her face darkened, Judaized by the words she speaks, not because it's out loud but because she means it, and she's right (219).

One needs to learn to hear with a "revolutionary heart" (220) to be able to relate to this kind of talk as more than slogans strung together, as more than just an alternative

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<sup>68</sup> A Counterforce member, in the process of selling out. He describes Slothrop as "pretext" to further the aims of the Counterforce, although he may also have been a "genuine, point-for-point microcosm" (738).

*ideology* of particular repugnance. Thus GR is positing an *attitude* rather than a specific political discourse as a necessary prerequisite to 'resistance'. In an echo of relativity, this would indicate that the same observation from different perspectives might result in radically differing conclusions, which are both true. Yet GR rejects such scientific notions of 'truth' as absolute and absolutely determinable, focussing on meta-scientific, transhumanist *attitude*. The focus thus shifts from the relative truth of two perspectives (which is neither questioned nor relevant) to the *context* of the perspective; and whether it is allied with 'life' or 'death'. For instance, Kekulé's 'discovery' of the structure of benzene, a carbon analysis feat leading to coal-tar products and a whole new industry "allying itself with secular power" (412), is based on a dream of the worm Uroborus; but used cynically in the service of productivity instead of being interpreted as a symbol of 'life'.

Kekulé dreams the Great Serpent holding its own tail in its mouth, the dreaming Serpent which surrounds the World. But the meanness, the cynicism with which this dream is to be used. The Serpent that announces, "The World is a closed thing, cyclical, resonant, eternally-returning," is to be delivered into a system whose only aim is to *violate* the Cycle. Taking and not giving back, demanding that "productivity" and "earnings" keep on increasing with time, the System removing from the rest of the World these vast quantities of energy to keep its own tiny desperate fraction showing a profit: and not only most of

humanity - most of the World, animal, vegetable and mineral, is laid waste in the process. The System may or may not understand that it's only buying time. And that time is an artificial resource to begin with, to no value to anyone or anything but the System, which sooner or later must crash to its death, when its addiction to energy has become more than the rest of the World can supply, dragging with it innocent souls all along the chain of life (412).

The System's 'inflationary' tendency<sup>69</sup> thus reflects the entropically inevitable failure such a worldview necessarily entails. Again, GR does not simply posit a mystical 'return' on an *individual* basis, since (at most) such a return can only exist on an unconscious, inanimate level, and not on a selfconscious level. The promise of individual, conscious survival is the *false* promise, the "Dark Dream" (697) we have fallen victim to.

What if there is no Vacuum? Or if there is, what if They're *using* it on you? What if They find it convenient to preach an island of life surrounded by a void? Not just the Earth in space but your own individual life in time? What if it's in *Their* interest to have you believing that? [This is] the Dark Dream (ibid).

Yet an awareness of dreaming the dark dream is no guarantee of 'waking up', or lack of complicity. Both Mondaugen and

<sup>69</sup> GR defines monetary inflation as "paper cancer" (435).

Fahringer have developed their own discourses, which nevertheless do not prevent them from playing key roles in the development of the rocket and the propagation of the Third Reich.

In his [Mondaugen's] electro-mysticism, the triode was as basic as the cross in Christianity. Think of the ego, the self that suffers a personal history bound to time, as the grid. The deeper and true Self is the flow between cathode and plate. The constant, pure flow. Signals - sense-data, feelings, memories relocating - are put onto the grid, and modulate the flow. We live lives that are waveforms constantly changing with time, now positive, now negative. Only at moments of great serenity is it possible to find the pure, the informationless state of signal zero.

"In the name of the cathode, the anode, and the holy grid?" said Pökler.

"Yes, that's good," Mondaugen smiled (404).<sup>70</sup>

Fahringer on the other hand has distinctly *Taoist* ideas: one is either alone with one's own death, or shares in the death of others.

Are we not all one? Which is your choice? [...] *Atmen* ... *atman* ... not only to breathe, but also the soul, the breath of God [...] *atmen* is a genuinely Aryan verb (454).

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<sup>70</sup> Mondaugen's Law: "Personal density [...] is directly proportional to temporal bandwidth" (509).

Fahringer uses his discourse in the service of Nazi racism, like Mondaugen despite, and possibly precisely *because* he has managed to create a consistent metaphoric analyses of 'life' and its meaning. While Capra's 'ecological' mysticism<sup>71</sup> may find ready support among readers, this does not apply to Fahringer's mysticism. Thus once again the experience, observation or idea is modulated by *attitude*, and not any inherent, verifiable 'truth'. Not even being struck by lightning, which represents "a singular point, a discontinuity in the curve of life" (664) and which might lead to a radical reevaluation of life, is immune from being used for Their purpose. The Polish undertaker met by Thanatz wants to be hit by lightning simply to be able to handle the bereaved better and thus improve his business.

"You are perverting a great discovery to the uses of commerce," sez Thanatz (665).

Yet Thanatz too falls victim to 'analyses', hoping to subvert his chosen enemy, the state, by institutionalizing S&M on a family level. His "Sado-anarchism" (737) theorizes that the state needs submission on a political, structural level, and thus forbids it on the personal, sexual.

I tell you, if S and M could be established universally, at the family level, the State would wither away (ibid).

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<sup>71</sup> Refer to Section 2.1.

But even if one accepts his argument that the repressive family relationships of the traditional family (father-mother-child) are too 'real' to qualify by *themselves* as S&M (which is pleasure-orientated role playing, with clear contractual boundaries establishing either equality, or the actual dominance of the 'bottom' partner), wouldn't the fantasy-based practice of S&M wither away too if the state, as model and all too real contrast, did? Thanatz thinks of the A4 as a baby Jesus, with everybody trying to destroy it, the State bureaucracy included, which couldn't 'routinize' it, yet also permitted it to happen. He recalls Blicero / Weissmann during the last moments of war reverting to

the Urstoff of the primitive German, God's poorest and most panicked creature (464)

who is pre-Christian and not enfeebled by Gesellschaft and obligation to the fake 'Contract', and who therefore may have a deeper insight, and greater efficacy in resisting, or at least elucidating, Their machinations. Yet he too has to learn an early lesson for the preterite:

[H]e won't escape any of the consequences he sets up for himself now, not unless it's by accident. [...] [He] is rubber-stamped on hands, fore-head, and ass, deloused, poked, palpated, named, numbered, consigned, invoiced, misrouted, detained, ignored (669).

Thanatz' 'escape' through transgression, his attempts to discover his humanity and his very existence as living, feeling being, through deliberate acts of mutilation and by the infliction of pain on himself and loved ones, is doomed to failure. He, like most, is a 'loser'.

He lost Gottfried, he lost Bianca, and he is only beginning, this late into it, to see that they are the same loss, to the same winner (671).

Thanatz, ostensibly the father of Bianca, does not escape. Them by acting on his fantasies; neither, of course, does Pökler by *not* acting on his fantasies. While mothers are 'policemen of the soul', fathers fulfil a different function:

Fathers are carriers of the virus of Death, and sons are the infected ... and, so that the infection may be more certain, Death in its ingenuity has contrived to make the father and son beautiful to each other as Life has made male and female... (723).

The homo-eroticism of patriarchal society, as defined in more detail in VL,<sup>72</sup> is not rejected in GR as such, despite the following lurid description of sex between Elicero and Gottfried.

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<sup>72</sup> Women are in the patriarchal equation only "to make it look normal and human so that the boys can go on porkin' each other" (VL, 266). Women are used as medium of communication between men ("scent messages tucked in [women's] secret little places"; *ibid*, 214). Brock Vond is called to "the white mother city", where he, as he "had dreamed", becomes "the careful product of older men"; in

Blicero's seed, sputtering into the poisoned manure of his bowels ... it is waste, yes, futility ... but ... (722).

The 'but' is extended to qualify GR's engagement with homosexuality by once again shifting the focus from sex *not* as liable to utilitarian definitions, not as simply something to be engaged in for a clearly defined purpose and thus understood as production process resulting in a clearly defined *product* (a child, selling cars, establishing dominance, order, etc). Rather, sex is, or can be, inherently meaningful since it allows ego-dissolution, communion, alleviation of loneliness. The same applies equally to homosexual sex.

Homosexuality in high places is just a carnal afterthought now, and the real and only fucking is done on paper... (616).

Love and sex provides an admittedly transitory suspension of the loneliness and tyranny of the ego. GR posits that the lost oneness with 'everything' may be recaptured in some personal relationship. Roger and Jessica fail, although Roger, through his ordeal, becomes a member of the counterforce; the only 'successful' couple in GR consists of Geli and Tchitcherine. Tchitcherine is motivated by a hate of his half-brother Enzian, and is hoping to find and kill him, thus solving in this way his

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his dreams, which he tries to control, but cannot, he is "visited by his uneasy anima in a number of guises, notably the Madwoman in the Attic" (ibid, 274).

alienation. Geli's 'magic' however works; Tchitcherine and Enzian pass each other by, and Tchitcherine, mysteriously failing to recognize his brother, returns to Geli. "This is magic. Sure - but not necessarily fantasy" (735). It is Geli's alliance with pre-Christian 'forces' which allows her to rescue her lover; at least, and this is all we know, for the moment. Yet it is precisely the allegiance with the *moment* that becomes an important ingredient of resistance.

Pirate explains to "novice paranoid" (638) Roger the They-system / We-system dynamic, the resistance to all Their machinations, including a rejection of rationality; every force, says Pirate, almost quoting Newton's First Law, has a counter-force. Yet resistance arises in uncoordinated, spontaneous and individually specific ways, often local, isolated, unpremeditated. Pig Bodine, referring to John Dillinger's last moments, theorizes opposition as follows:

Yeah, what we need isn't right reasons, but just that grace. The physical grace to keep it working. Courage, brains, sure, O.K., but without that grace? Forget it [...]. The object of life is to make sure you die a weird death. To make sure that *however it finds you*, it will find you under *very weird* circumstances. To live that kind of life... (741/2).

Bodine, a survivor from V and a character Pynchon designates one of his favourites ("I still like Pig Bodine so much"; SL, 11)

does his best to live a subversive, weird life, full of brawls, dope and alcohol. Wine, as all other 'mind-altering' substances, has subversive potential, since a mind altered is a mind altered from Their configuration.

A wine rush: a wine rush is defying gravity, finding yourself on the elevator ceiling as it rockets *upward*, and no way to get down. You separate in two, the basic Two, and each self is aware of the other (743).

Certain music (e.g. Rossini) also allows such insightful states, feats seemingly in defiance of accepted laws of nature; as does the Kazoo, a subversive instrument through and through. Among other things, its design happens to make it the optimum hashpipe ("in terms of flow rate, heat-transfer, control of air-to-smoke ratio"; 745). The most important prerequisite however for a competent rebellion is a 'bad' attitude, a revolutionary heart, a thoroughly *paranoid* disposition.

Paranoia is the attitude leading those affected to search for connections hitherto unsuspected.

Paranoids are not paranoids (Proverb 5) because they're paranoid, but because they keep putting themselves, fucking idiots, deliberately into paranoid situations (292).

GR contrasts it with 'anti-paranoia', "where nothing is connected to anything, a condition not many of us can bear for

long" (434). Slothrop in his quest muses that he either is present in the zone for *Their* reasons, or he is *just there*; he is not sure if he prefers the latter, which isn't actually a reason at all. Thus GR introduces the Existentialist 'existence-before-essence' notion, suggesting that the (absurd) quest for meaning itself is something to be examined; Slothrop's search for clues to his own existence relentlessly unravels as the pre-ordained human tragedy inherent in our sentience.

Earth is a living critter [...] Gravity, taken so for granted, is really something eerie, Messianic, extrasensory in Earth's mindbody... (590).

Taken literally, such a view of Earth (popularly known today as the 'Gaia-hypothesis'<sup>73</sup>) would posit the human race as a global parasite, a fat-eating 'bug' gnawing away at its host, relentlessly consuming the transmuted life-forms (coal and oil as Earth's memories, fat-reserves) constituting the life-essence of system Earth. Gravity is the 'force' of attraction between all things that have mass, directly proportional to mass, a function of mass. And mass can of course be thought of as equivalent with energy ( $E=mc^2$ ). Thus gravity becomes the vital ingredient enabling 'life', directly associated with Earth, and something They struggle against. It is gravity that makes life possible,

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<sup>73</sup> The view that earth can be seen as a single living organism. See, for instance: Lovelock, James E. Gaia: A New Look at Life on Earth. Oxford University Press, 1979.

and thus is a force They must overcome; the rocket scientists are "invading Gravity itself" (402) in the quest to transcend it.

Nora Dodson-Truck (wife of the eventual Counterforce member Sir Stephen), gives a voice to this 'aerie' force.

I am Gravity, I am that against which the Rocket must struggle, to which the prehistoric wastes submit and are transmuted to the very substance of History... (639).

Gravity thus becomes a focal mechanism, helping to separate the living from the dead and creating a distinct interface. From the other side of the "bacteria-hydrocarbon-waste cycle", the process of turning living tissue into levels of primordial ooze, the interface is "a long rainbow, mostly indigo" (523/4). Thus the interface between living and non-living is a rainbow, referring directly to GR's title. Similarly the interface between individual ego and 'outside' is the cortex, allowing us the illusion of distinct Inside and Outside; which are really part of the same creation, the same 'everything'.

Derrida, discussing the role of the foreword as elaborated upon by Hegel,<sup>74</sup> exposes its function in establishing distinct temporal categories, as well as the (necessary?) fictions of distinctly defined meaning within a stable universe of words.

From the viewpoint of the fore-word, which recreates an intention-to-say after the fact, the text exists as something written - a past - which, under the false appearance of a present, a hidden omnipresent author (in full mastery of his product) is presenting to the reader as his future. [...] This is an essential and ludicrous operation: not only because writing as such does not consist in any of these tenses (present, past or future insofar as they are all modified presents); not only because such an operation would confine itself to the discursive effects of an intention-to-mean, but because, in pointing out a single thematic nucleus or a single guiding thesis, it would cancel out the textual displacement that is at work "here". (Here? Where? The question of the here and now is explicitly enacted in dissemination.) (1982, 7).<sup>75</sup>

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<sup>74</sup> In "Outwork", Dissemination, 1982.

<sup>75</sup> Slothrop, in an advanced state of ego-dissolution, dreams of his probably assassinated fiend Tantivy, who tells him he has been "'here'"; "'here?'"'; "yes, like that, you've got it - once or twice removed like that..." (552).

### 4.3 It isn't a Resistance, it's a War

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They've been sleeping on your shoulder,  
 They've been crying in your beer,  
 And They've sung you all Their sad lullabies,  
 And you thought They wanted sympathy and didn't care  
 for souls,  
 And They never were about to put you wise.  
 But I'm telling you today,  
 That it ain't the only way,  
 And there's shit you won't be eating any more -  
 They've been paying you to love it,  
 But the time has come to shove it,  
 And it isn't a resistance, it's a war.  
 [...]

Light one up before you mosey out that door,  
 Once you cuddled 'em and kissed 'em,  
 But we're bringing down Their system,  
 And it isn't a resistance, it's a war....

(639/640)

WW2 has made some "wrong" and "insane" assertions,  
 attempting to build these into the new Postwar firmament;

that we are meant for work, for government, for  
 austerity: and these shall take priority over love,  
 dreams, the spirit, the senses and the other second-  
 class trivia that are found among the idle and mindless  
 hours of the day... (177).

Thus we are moving towards a new identity bringing us closer  
 to the machine-identity They model us on.

To put it another way, the symbolic logic by which the machine functions demands total unidimensional understanding. The goals of logicians at least since Leibniz has been to shine the light of mathematical reason upon the widest possible area of human experience. Artificial intelligence programmers have pursued that end further than even Leibniz envisioned, for they even devise algorithms to imitate human paranoia, thus reducing the irrational to a set of machine instructions (Bolter, Turing's Man, 1984, 221).

Quoting Herbert Simon, Bolter identifies utility and economically productive action as the measure of the new human identity; Turing's Man is a logical development from its two predecessors, Faustian Man and Socratic Man (ibid, 216).

An ant, viewed as a behaving system, is quite simple. The apparent complexity of its behaviour over time is largely a reflection of the complexity of the environment in which it finds itself. [...] I should like to explore this hypothesis, but with the word 'man' substituted for 'ant' (222).

Thus notions of truth and depth vanish, replaced by a strict adherence to performativity; what is worth saying, thinking about, doing, indeed what is 'interesting' is whatever bears interest, results in surplus value (see also footnote 56).

Their [ants' and human] actions are empty of content and take place within a community defined only

by its geometric patterns of living production units (ibid).

'Content', though, is precisely what the Counterforce celebrates.<sup>76</sup> However, a viable path of action though becomes problematical for them, since actions tend to be redefined in Their terms no matter how radical. Even the lowest of low offenders against Their ideals, such as "a homosexual child-murdering Indian, liked to wipe off his organ afterwards on the Flag and so on" (679), becomes a convenient rallying point for Them, a figure of some value allowing Them to both consolidate Their system and occupy the moral high-ground.

Slothrop, feeling guilty about his insane family's tree-felling past, learns to speak to trees, asking for direction in an attempt to redeem himself. A pine tree, echoing some of our more committed environmentalist groups, suggests what he can do:

Next time you come across a logging operation out here, find one of their tractors that isn't being guarded, and take its oil filter with you. That's what you can do (553).

This seemingly logical advice, positing resistance to Them through sabotage on a small individual scale, will however not influence Their program significantly in the long run, although

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<sup>76</sup> *The divergence, the difference between Dionysus and Apollo, between ardor and structure, cannot be erased in history, for it is not in history. It too, in an unexpected sense, is an original structure: the opening of history, historicity itself (Derrida, 1978, 28).*

it may serve to make the saboteur feel better, and certainly less guilty. Yet being human, we are 'guilty' by definition.

We have developed language, or language has developed us, or consciousness and language have developed concurrently; no matter. Language functions as a system of representation entailing alienation from the 'thing' represented, from 'reality', from the signified. In fact, since the signified does not *as such* exist due to the absence of a transcendental signifier, this alienation is built into the human condition. In addition, the I/You grammar of language allowing subjectivity and individual identity, works to alienate us not just from the world but from one another by concentrating on *separateness* rather than *connectedness*. What constitutes 'life', i.e. what happens between birth and death, the process, the synthesis of two opposing binary opposites (if one wants to adopt Their own language), has become merely incidental. We focus on the structure rather than on 'content', and thus in an extreme wording are 'the living dead' rather than the (temporarily) alive.

The inadequacies and internal contradictions of such a binary thought system are exposed more and more, including by science itself, in its most recent incarnation of 'postmodern science'; yet since the machinery powering human affairs is situated on a linguistic level rather than a scientific one, and is powered by an economic dynamo feeding off its own energy source (the linguistic quest for more accurate forms of

representation and control, in order to realize the vain hope of *not dying*), there is not much standing in the way of Death. Opposition to this process, in terms of the Counterforce, is not organized, and like life itself fluid and often seemingly incoherent and spontaneous. If one were to render this opposition in language, it would immediately lose 'accuracy', because language is first of all allied to death by definition, and secondly because language has been in Their service for so long that no terms, ideas, arguments, words, are free of corruption.

Yet there is of course no other way, since silence is also death. Thus opposition to the Zero arises, like life itself, in true Dionysian style, in pointedly unspoken and more importantly unpredictable fashion and on levels not easily forecast; in fact it is precisely in the spaces left by the contradictions of Their system that life flourishes; on the margins, in the gutters, on the borders of Their prescribed 'reality'. Wherever the strictly defined subjectivity as sanctioned by Them is disrupted, as in drug-induced ego-dissolutions; or indeed via love, where the boundaries between the lovers dissolve precisely because of the imminence of life during sex; or in dreams, where control becomes uncertain despite the rigid conditioning of individuals via 'culture'; or in the proximity of death, when (ultraparadoxically) awareness of life is more intense; or when in the presence of 'nature', when despite pre-written modes of perception trees occasionally speak; or when suffering from paranoia, the feeling that events are organized into patterns not necessarily suspected

before (one can of course simply come to the 'wrong' conclusions...). Indeed insanity in all its incarnations is a threat to Their officially sanctioned madness. But despite opposition via all forms of artistic, literary, criminal and other transgression, the seeds of death are in all of us, in you and in me as we are defined grammatically and via our subject positions as 'you' and 'I'. The grammar of the 'Empire of Death' quite literally constitutes the essence of Humanity.

And yet:

a few keep going over to the Titans every day  
(720).

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