TRAPPED BY HISTORY:

Randomness and Probability, Historical Paranoia and Technological Determinism in Thomas Pynchon’s *Gravity’s Rainbow*.

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Gravity’s Rainbow takes its name from the parabolic trajectory of the V2 rocket, which Pynchon uses to describe the technologically predetermined arc of human destiny. The novel suggests that the Second World War precipitated a breakdown of traditional cause-and-effect interpretations of the past. In this sense it is a ‘secret history’, or a revisionist attempt at displaying a multiplicity of truths which Pynchon has salvaged from the dustbin of history. The overarching parabola is indicative of Pynchon’s methodology, as he uses fragments of the past to show how dominant and conspiratorial narratives are created from historical detritus. Chaos and randomness prevail, but only within the framework of the rocket’s trajectory, a set flight-path which mirrors human perception. Pynchon suggests that probability theory is more applicable than Pavlovian conditioning to the overabundance of data found in the novel, however its use is symptomatic of anti-paranoia, or nihilist existentialism. This disparity is the trap within which the protagonists find themselves; they vacillate between believing that either everything or nothing is connected. Conflict between paranoid and anti-paranoid theories of existence shows that paranoia is the natural human state. Pynchon’s characters are vaguely aware of being controlled by impersonal historical forces such as technology, but their inability to act upon this knowledge induces helpless terror. Ultimately the rocket has power over its creators, yet is subject to the regulatory effects of gravity and entropy. Applying these concepts to history, Pynchon suggests that Post-war society will tend toward energy loss and disorder.

Statistical and Pavlovian Interpretations of History

“How can [Roger Mexico] play, so at his ease, with these symbols of randomness and fright? Innocent as a child, perhaps unaware - perhaps - that in his play he wrecks the elegant rooms of history, threatens the idea of cause and effect itself. What if his whole gen-
eration have turned out like this? Will Postwar be nothing but ‘events’, newly created one moment to the next? No links? Is it the end of history?”

The interplay between the diametrically opposed characters of Roger Mexico and Pointsman serves to illustrate Pynchon’s argument that traditional notions of historical cause and effect disintegrated during the Second World War. Pointsman is a Pavlovian psychologist who believes in stimulus-response and sees history as a sequential chain of contingent processes. Pynchon calls Pointsman’s analytical tools the zero and the one. ‘Zero’ is no stimulus, no response, while ‘one’ is stimulus and response. According to this binary view, there is nothing in between.

The author hints that he does not agree with Pavlovian conditioning, commenting that, “Pointsman can only possess the zero and the one. He cannot, like Mexico, survive any place between. Like his master, I.P. Pavlov before him, he imagines the cortex of the brain as a mosaic of tiny on/off elements.” This view has clear implications for Pointsman’s historical consciousness. He can only deal in directly attributable causation and has no conception of probability. ‘One’, aside from stimulus and response, also represents enlightenment, fulfillment and progress. Likewise, its opposite ‘zero’ is chaos, nothingness and white noise. As the novel progresses, one increasingly realises that Pointsman is simply out of his depth in the last, desperate phase of the war. His reductionist epistemology of causal links has no place in the disjointed and chaotic maelstrom of Gravity’s Rainbow. Pointsman becomes

2 Pynchon, *Gravity’s Rainbow*, p. 64.
3 For a cogent development of the idea that chaos and nothingness are subtexts of post-modern existence, see Don DeLillo, *White Noise*, (Viking, New York, 1985). DeLillo’s characters drown in an overabundance of data, produced mainly by electronic appliances such as television, radio and microwaves, but also found in supermarkets, cities and universities. The resulting psychological static heightens their fear of death.
equated with the disintegration of the old prewar order of certainty and causation which is now irrelevant.

Roger Mexico, on the other hand, embodies a competing theory of history, characterised by the nihilistic anti-paranoia resulting from a realisation that history and existence are random. Mexico is a statistician who at one point is referred to as the “antipointsman” because of his opposition to Pointsman’s causal theory of historical phenomena. While Pointsman deals in zeros and ones, “Mexico belongs to the domain between zero and one - the probabilities.” Through Mexico, Pynchon suggests that in the Post-war period, historical phenomena no longer occur for attributable reasons: they simply occur. There is no accumulation of causation or meaning over time, a supposition which is proven by the seemingly random destruction brought about by individual rocket blasts. Mexico applies mathematical formulae to rocket strikes in order to predict the incidence of strikes within a given area over a set time. He discovers that the rockets fall exactly in a Poisson distribution, which is a discrete probability distribution used to explain events with a known average rate. In fact, rockets come in a set distribution “just as Poisson’s equation in the textbooks predicts.” Other characters are enormously impressed with Mexico’s alleged powers of statistical prediction, so much so that “as the data keeps coming in, Roger looks more and more like a prophet.”

The paradox of this strategy is that while Mexico tries to predict future rocket blasts, he can only narrow down the probability of a strike occurring in a given area and

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4 Pynchon, *Gravity’s Rainbow*, p. 64.
remains just as prey to the rocket’s destructive power as anyone else. In this sense, knowing the distribution of rocket strikes is not helpful at all because the knowledge cannot prescribe preventative action. Mexico’s girlfriend Jessica, whom he calls a ‘statistical illiterate”, cannot see any benefit in using Poisson’s equation to explain the distribution of blasts.\(^8\) She complains that it has no practical benefit, and asks, “Couldn’t there be an equation for us too, something to help us find a safer place?”\(^9\) Mexico replies that although Poisson shows that the chance that they will be hit is infinitesimal, nowhere in London is safer than anywhere else, “as long as the mean density of strikes is constant.”\(^10\) Here Pynchon presents us with the essential nihilism of the statistician. Data, or evidence, is everything and one cannot argue with or change a statistical reality.

The contrast between Mexico’s and Pointsman’s views on the interpretation of data reaches a zenith when Pointsman argues that surely one particular square on the map will not be hit next time because it has already been hit by several rockets. Pointsman erroneously accepts the fallacy of the maturity of chances, a gambling concept known as the Monte Carlo Fallacy. One strike in a particular place does not cause future rockets to avoid that site. “Each hit is independent of all the others,” remarks Mexico. “Bombs are not dogs. No link. No memory. No conditioning.”\(^11\) Pointsman clings to the superstition that lightening will not strike the same place twice, or that rockets learn through Pavlovian conditioning. Mexico is able to prove that, in the language of probability theory, the game resets every time a rocket falls.

\(^8\) Pynchon, *Gravity’s Rainbow*, p. 63.
The paradox of Mexico’s statistical predictions raises questions of historical rationality and the criteria by which men and women select and interpret information. In attempting to rationalise the seemingly irrational life of the rocket, Mexico has become desensitised to the fear of living under constant threat of death. Jessica is not immune to this fear and constantly reminds Mexico that for her, looking upwards from the ground conjures an image of a V2 hurtling towards their apartment at any moment. Given that Mexico is obsessed with the broader scope of rocket distribution, he tries to assuage her fears by showing her a map of London to explain that the statistical likelihood of a direct hit on their apartment is miniscule. Jessica, however, is ruled by intuition and cannot find comfort in pure data.\textsuperscript{12} The difference in these two characters’ points of view can be extrapolated from to illustrate Pynchon’s take on how men and women view history differently. Female characters in \textit{Gravity’s Rainbow} tend to be bogged down in emotional minutiae and are unable to see the ‘big picture’ of history. Conversely, in looking for grandiose explanations, certain male characters enter esoteric theoretical debates over wide-reaching phenomena and lose sight of immediate perception.

**Paranoia and Anti-Paranoia: Is Everything Connected?**

Proverbs for Paranoids:
- “If they can get you asking the wrong questions, they don’t have to worry about answers.”
- “You hide, they seek.”
- “Paranoids are not paranoid because they’re paranoid, but because they keep putting themselves, fucking idiots, deliberately into paranoid situations.”\textsuperscript{13}

Throughout \textit{Gravity’s Rainbow} the characters battle with competing psychological explanations of existence. Paranoia represents the view that “everything is

\textsuperscript{12} Pynchon, \textit{Gravity’s Rainbow}, p. 63.

\textsuperscript{13} Pynchon, \textit{Gravity’s Rainbow}, pp. 251, 262, & 292.
connected.” However, if “there is something comforting - religious, if you want - about paranoia, there is still also anti-paranoia, where nothing is connected to anything, a condition not many of us can bear for long.” One of the novel’s major characters, Lieutenant Tyrone Slothrop, moves cyclically between paranoia and anti-paranoia. Pynchon presents us with a complex historical consciousness, suggesting that it is not either one or the other, never just the one or the zero. In a sense paranoia and anti-paranoia are ideologies, or systems of meaning which Slothrop and other characters use to find consistency, or inconsistency, between their external and internal experiences.

Paranoia is absolute consistency between data and mentality and imposes alignment upon motives, actions and impersonal forces, making them appear hostile and conspiratorial. This could well explain Pynchon’s assessment of paranoia as having religious quality. If all phenomena are connected in a sinister causal chain, then surely there exists a paranoiac teleology, whose sublime end-point is the imploding of the self due to external pressure. Anti-paranoia, by contrast, nullifies conspiracy by disregarding any possible links between phenomena and thought, making coincidence and randomness paramount.

The character Ronald Cherrycoke epitomises the descent from paranoia into anti-paranoia. He simultaneously imagines history as an old newsreel, a drawing room comedy, a swirling river and a collection of molecules. Without the filter of paranoia to mediate his internal and external experience, “often he thinks the sheer volume of information pouring in through his fingers will saturate, burn him out.” As his anti-

paranoia threatens to overwhelm him with apathy, he remarks that “there is no way for changes out there to produce changes in here.”\(^{17}\) In other words, the anti-paranoid is not directly mentally affected by the outside world because they perceive experience to be an amorphous and saturated web of random information. There is apparently a way out of the detrimental effects of anti-paranoia however, as one character replies to Cherrycoke, “not produce [changes in here]. Not cause. It all goes along together. Parallel, not series.”\(^ {18}\) Nevertheless, just as statistical probability provides no associated course of action for Roger Mexico, the parallel nature of internal and external experience has no practical application. It means that Cherrycoke remains trapped by the disparity between his need for cognitive consistency and the random nature of his experiences.

Pynchon suggests that the ethos of anti-paranoia is ridiculous as it takes the laws of probability to the extreme extent of doubting the likelihood of human existence. Taken to its logical end, anti-paranoia results in a loss of self through the perception that no thought, action or event has any significance or consequence. We are free agents in a meaningless world. Therefore, according to Pynchon, the ideology associated with anti-paranoia is anarchism, which rejects the notion of any overarching authority or governance. He lampoons the Argentine anarchist character Oberst, who remarks that,

There are even now powerful factions in Paris who don’t believe we exist. And most of the time I’m not so sure myself ... I think we’re here, but only in a statistical way. Some thing like that rock over there is just about 100% certain - it knows it’s there, so does everyone else. But our own chances of being right here right now are only a little bet-

\(^ {17}\) Pynchon, *Gravity’s Rainbow*, p. 189.

\(^ {18}\) Pynchon, *Gravity’s Rainbow*, p. 189.
Oberst’s rejection of the idea that thought constitutes existence is the ultimate in anti-paranoid existentialism. Thought and existence are separate, parallel entities which have little or no bearing on one another. It would appear that this is Pynchon’s interpretation of an idea first espoused by Jean Paul Sartre in his novel *Nausea*, whose protagonist feels ill at the thought that inanimate objects do not respond to his presence. The difference here is that Oberst does not seem at all concerned by the possibility that his existence is less certain than that of a rock, and that he may disappear at any moment. The question which remains, however, is what would cause that crucial shift in the probabilities of existence, making us disappear. Evidently this is not an important question for the anti-paranoid, as causation is a meaningless, outdated concept.

Tyrone Slothrop also suffers from vacillation between paranoia and anti-paranoia, but is ultimately a vehicle for the suggestion that paranoia is the natural state of being. For example, he is presented as apathetic toward the previous threat of the V1 rocket: “Once upon a time Slothrop cared ... A lot of stuff prior to 1944 is getting blurry now ... After a while you adjusted - found yourself making small bets, a shilling or two, with Tantivy Mucker-Maffick at the next desk, about where the next doodle would hit.” Although far less methodical than Mexico, Slothrop idly gambles on rocket strikes, presumably for pleasure or as a way of escaping the fear of unexpected death. His casual attitude to the V1 is in sharp contrast to his constant paranoia brought about by the V2 threat. Once the random destruction caused by the V2

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takes hold, Slothrop begins losing weight, chain-smoking and sleeping less and “for the first time he was surprised to find that he was really scared.” Slothrop’s increasing paranoia extends to his workplace, the secret Psi Section of the American military.

From boyhood Slothrop has been conditioned by Pavlovian psychologists to become sexually aroused when physically threatened. As the V2 threat continues, he begins to have erections just before a rocket hits London. Pynchon appears just as confused as the reader by this strange phenomenon, and remarks that “there is in his history, and likely, God help him, in his dossier, a peculiar sensitivity to what is revealed in the sky (but a hardon?).” While Pointsman argues that this is evidence for the idea that everything is indeed connected, Mexico offers a statistical explanation. In London, Slothrop has numerous sexual encounters which fall in exactly the same kind of Poisson distribution as the rocket blasts. This parallel appears to meld conditioning with statistical probability, a relationship which Pynchon never fully resolves. Moreover, this unexplained correlation between rocket strikes, erections and sexual encounters induces a kind of psycho-sexual paranoia in the reader, who is positioned to be just as confused as the characters regarding the multitude of possible connections between phenomena.

**Technological Determinism and the Sexualisation of the V2 Rocket**

"But it is a curve each of them feels, unmistakably. It is the parabola. They must have guessed, once or twice - guessed and refused to believe - that everything, always, collectively, had been moving toward that purified shape latent in the sky, that shape of no surprise, no second chance, no return. Yet they do move forever under it, reserved for its own black-and-white bad news certainly as if it were the rainbow, and they its children."

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The parabolic trajectory of the V2 rocket is the only inescapable historical force in *Gravity’s Rainbow*. It is the structural underpinning for the novel’s action, and influences - even determines - thought and chronology. From the launching bases at Peenemunde to the blasts sites in London, the rocket follows a teleological flight-path which mirrors the experiences of Slothrop, Mexico, Pointsman and Cherrycoke. As much as these characters attempt to exert individual agency, they cannot escape “that purified shape latent in the sky”, because “they are its children.”

In this sense the rocket, and the scientific development behind it, has given birth to a new humanity that worships the inescapable destiny brought about by technological change. History is a function of technology, not the other way around.

Pynchon uses the parabola of destiny to reinforce the idea that paranoia is the natural human state. During the trajectory of a lifetime, we cannot see the whole parabola at once. The characters in *Gravity’s Rainbow* are only dimly aware of an inception, an apex and a conclusion, but never simultaneously. They suspect, however, that they are being controlled by hidden and impersonal historical forces, inducing helpless confusion at the thought that, try as they might, they cannot escape the zero.

Not only does the zero, or chaos, prevail in *Gravity’s Rainbow* through an eventual rejection of all hope, some characters come to worship the rocket as an end in itself. Pynchon terms this “the ideology of the Zero”. The ideology of the zero is an acceptance of our predetermined course of irrationality and destruction. This is perhaps counter-intuitive, given that the rocket symbolises order and mechanical perfection. How can people worship chaos when their deity is an efficient creation of

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scientific reasoning? The answer is that, for Pynchon, order and chaos are destined
to co-exist. While the rocket is a product of engineering, it also has enormous de-
structive power. Nevertheless if the rocket’s purpose is destruction, the very act of
developing the machinery takes on a life of its own. “The A in rocket designations
stands for aggregate, or IG itself, Inter-essengemeinschaft, a fellowship of
interests.”27 German engineers, politicians and technocrats think that they made a
conscious decision to develop the V2, but they do not realise that their very con-
sciousness is shaped by the course of technological development.

Technology is an a-historical force which has the capacity to establish the criteria by
which people form preferences. The rocket, once fired, becomes a self-
perpetuating, conscious entity. Franz Pokler works on the rocket and is sublimely
oblivious to its function as a weapon. “‘They’re using you to kill people’, Leni told
him.” Pokler replies, “We’ll all use it, someday, to leave earth. To transcend.”28 Pyn-
chon shows us just how futile Pokler’s faith in the rocket’s creative power is, arguing
that people never use technology. Technology uses, guides and consumes people.

Pynchon’s theory of history prioritises technology over human agency and personal-
ity as the driving force behind historical change. The orthodox narrative style of his-
torical record comes under fire as being at best a devious plot to deflect attention
away from the secret underbelly of the past. “Secular history is a diversionary tactic
... If you want to know the truth, you must look into the technology of these matters.
Even into the hearts of certain molecules - it is they after all which dictate tempera-
tures, pressures, rates of flow, costs, profits, and the shapes of towers ...”29 It is only

27 Pynchon, Gravity’s Rainbow, p. 194.
28 Pynchon, Gravity’s Rainbow, p. 475.
29 Pynchon, Gravity’s Rainbow, p. 198.
through technological analysis and emulation of the physical sciences that we can truly understand social change. The physical properties of matter are the clues to economic interaction, patterns of development and the determinants of personality. Indeed, notes Pynchon, “if personalities could be replaced by abstractions of power, if techniques developed by corporations could be brought to bear, might not nations live rationally?” Personality and rationality are evidently mutually exclusive in *Gravity’s Rainbow*, particularly after the patent irrationality of the Second World War. If only nations were governed by economic and physical laws instead of humans, then war could be feasibly avoided.

The parabola of the rocket’s trajectory comes to symbolise the formation of history and human destiny. The rocket itself is shown to possess charisma and becomes a technologically determined, overtly sexualised persona. Charismatic authority has been shown by Max Weber to break through existing social structures on the basis of intense personal loyalty towards the charismatic leader. The “routinisation of charisma” occurs when new social structures are formed which distance the charismatic leader form their followers through institutional mediation. The V2 rocket “really did possess a Max Weber charisma ... some joyful - and deeply irrational - force the State bureaucracy could never routinise, against which it could not prevail.” There are parallels between the untamable rocket and Pokler’s declaration that the V2 could transcend the chaos of earth. The difference is that while the rocket transcends state bureaucracy of its own accord, it cannot transcend the ines-

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30 Pynchon, *Gravity’s Rainbow*, p. 95.


capable force of gravity. While humanity cannot truly master the rocket, its charismatic thrust is eventually negated by the laws of physics. The intention of those who fire the rocket (and think that they control it) is for it to land on London. Their capacity to control the rocket is extremely limited, however, to predicting its trajectory based on mathematical formulae.

Once the rocket is launched, it becomes subject to the forces of gravity, friction and entropy. One anonymous character realises that, "in recent weeks, in true messianic style, it has become clear to her that her real identity is literally, the force of gravity. I am Gravity, I am That against which the Rocket must struggle, to which prehistoric wastes submit and are transmuted to the very substance of History." Pynchon argues that gravity, and other principles such as the laws of thermodynamics, create history from the detritus of the past. The second law of thermodynamics states that all thermodynamic systems tend toward heat loss through entropy. The irony is that gravity and entropy are destructive, rather than creative forces. If history is governed by such laws, then over time human society will tend towards disorder and chaos.

The development of the V2 represents a gendered version of history, in which the will of humanity is masculine and nature is feminine. The engineer Weissmann enters into the service of the rocket, and begins to worship it as an inherently masculine technology. “The Rocket was an entire system won, away from the feminine darkness, held against the entropies of lovable but scatterbrained Mother Nature: He was led to believe that by understanding the Rocket, he would come to under-

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stand truly his manhood.”\textsuperscript{35} For Weissman the rocket is a symbol of man’s virility, a metallic, muscular phallus which humanity has erected from raw materials drawn from the feminine earth. Its systematic and ordered development springs from the chaotic womb of Mother Nature, with German engineers acting as midwives. Weissman, along with the sadistic Captain Blicero, believes that the rocket represents their final triumph over the natural world. Blicero is obsessed by the links between sexuality, technology and politics. “Yes, fed, alive, ready for firing ... fifty feet high, trembling ... and then the fantastic, virile, roar. Your ears nearly burst. Cruel, hard, thrusting into the virgin-blue robes of the sky, my friend. Oh, so phallic”, he remarks to Slothrop.\textsuperscript{36} The imagery of the erect rocket raping the sky is drawn from the all-pervasive sexualisation of existence in \textit{Gravity’s Rainbow}, the raw impulse of irrational charisma which has the capacity to transcend socio-economic, but not physical, structures.

The climactic, almost spiritual fusion of humanity and technology illustrates the extent to which Pynchon believes that our history is a function of technological development. In the last phase of the novel, Captain Blicero straps his catamite Gottfried into a specially made V2, the 00000 Rocket. The 00000 is the Holy Grail of \textit{Gravity’s Rainbow}, whose secret plastic polymer, Imipolex, Slothrop has been searching for in the hope of making crucial advancements in organic chemistry. Gottfried is to be fired onto London in the 00000, but there is an ever-present subtext that in doing so may spiritually transcend the chaos of the war. The launch takes on the air of a predetermined sacrifice, as Pynchon uses ritual, folklore and tarot imagery to suggest that this final launch represents the death and re-birth of humanity. “Although the

\textsuperscript{35} Pynchon, \textit{Gravity’s Rainbow}, p. 386.

\textsuperscript{36} Pynchon, \textit{Gravity’s Rainbow}, p. 551.
Rocket’s countdown appears to be serial, it actually conceals the Tree of Life, which must be apprehended all at once, in parallel.” For Kabbalists, the Tree of Life is the perfect union of femininity and masculinity. The bisexual Gottfried and the 00000 become wedded, with Gottfried as the bride, nipples erect under white lace. As his body fuses with the engine of the rocket, Pynchon suggests that Gottfried has returned to the womb of Mother Nature, who also gave birth to the rocket. Once Gottfried is entwined with the 00000 the rocket whispers to him, ‘Wake, wake. All is well.” They are, rocket and boy, designed perfectly to fit together in a symbiotic relationship, perhaps even as a single living entity. Humanity has become technology, and vice versa.

Conclusions

In essence Pynchon’s vastly complex novel furnishes the reader with few answers, but instead raises pertinent theoretical questions about how we select and interpret meaningful data from the swirling and saturated information of the past. The V2 attacks on London are used as evidence to show that historical phenomena are no longer linked in sequence. Events are independent of each other and are unable to be traced to any objectively definable cause. Given that Pychon believes that humans are naturally predisposed towards paranoia, the disparity between random occurrences and cognitive consistency represents a trap from which his characters can never escape. Either there is not enough connection between phenomena, making existence meaningless, or there is too much connection, inducing historical paranoia. There is another aspect to paranoia, however, which stems from the overarching trajectory of technological destiny embodied by the V2’s parabolic flight-

37 Pynchon, Gravity’s Rainbow, p. 893.
38 Pynchon, Gravity’s Rainbow, p. 893.
path. The more we seek to use technology for advancement, or to attain the condition of
the ‘one’, the more technology rules us and drives us towards the ‘zero’. Pynchon
suggests that resistance to the predetermined ideology of the zero is useless which is
why many of his characters come to worship the rocket as a charismatic, sexual entity. The
ritualistic enmeshing of humanity and technology represents the final phase of the schism
between Pre- and Post-war history. Post-war society in *Gravity’s Rainbow* has, in its search
for progress, experienced evolutionary degeneration, or entropy, to the extent that only
through death and re-birth can it accept our inevitable trajectory towards the zero.
Bibliography.


