Cyberotics: Markets, Materialism and Method in Pynchon and Deleuze

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> Across the communications landscape move the specters of sinister technologies and the dreams that money can buy.
>
> —J. G. Ballard (*Crash*)

> The true war is a celebration of markets. Organic markets, carefully styled "black" by the professionals, spring up everywhere. Scrip, Sterling, Reichsmarks continue to move, severe as classical ballet, inside their antiseptic marble chambers.
>
> —Thomas Pynchon (*Gravity's Rainbow*)

If Pynchon's anarchic materialism is to be salvaged from the political correctness of the day, it appears increasingly necessary to place his work in a wider historical context. Although *Gravity's Rainbow* has often been aligned with a dubiously sentimental socialism by academic admirers and vilified as an example of patriarchal sexism by detractors, its legacy may well lie with the fact that it has resisted capitalist commodification for more than twenty years and counting. Increasingly, artists and not academics, philosophers and not literary critics, information fetishists and not college students see it as a direct if not dark line to the digital age. This is not surprising. *Gravity's Rainbow* may not belong to the cult of bourgeois capitalism, but it does belong to the cult of the future.

Pynchon's pathological paracosm is closely aligned with a repressed strain of Anglo-American discourse that focuses on Western culture's erotic if not evolutionary understanding of technological innovation. Its literary precursors include the mystic technics of *Nova Express*, the technological nihilism of *We*, the millennial dystopia of *Erewhon*, and, of course, the narrative technique of *Finnegans Wake*. But even this context can scarcely account for the historical singularity[1] of the early seventies, a time that witnessed the radical reformulation of materialist literature with the publication of such seminal texts as *Crash*, *Anti-Oedipus* and *Libidinal Economy*. All these

texts, like *Gravity's Rainbow*, are concerned with the symbiotic relation between humans and machines, cybernetics and desire, or cyberotics.

Cyberotics is an extrapolation from the philosophical writings of Deleuze and Guattari. Attacking psychoanalysis as abstract, rarefied, the essence of representational thinking, the two volumes of *Capitalism and Schizophrenia* explore the alternative terrain of materialist cosmology. Deleuze and Guattari describe this cosmology in terms of synthesis, the critical assimilation of renegade philosophical concepts into a functioning, virtual machine. They jettison traditional approaches to Freud and Marx in favor of schizoanalysis: "A truly materialist psychiatry can be defined, on the contrary, by the twofold task it sets itself: introducing desire into the mechanism, and introducing production into desire" (AO 22). As *Anti-Oedipus* remains philosophy's incarnation of this synthesis, *Gravity's Rainbow* is literature's schizoid treatise of cyberotics. In its most general sense, the term cyberotic identifies a particular element of early seventies literature and, at the same time, acts as a bridge to the information age. Despite the synthesizing power of the term for this essay, cyberotic is only a suggestion, a bit of nihilistic nomenclature, a fragmented marker that identifies certain aspects of an eclectic sub-genre in the altogether larger literature. A contemporary mutation of postmodernity, cyberotics is an attempt to describe emerging technologies using a materialist model perhaps best understood as a synthesis of cybernetics (mechanism), economic power (production) and the technological unconscious (desire). Its contemporary variants include the work of Jean Baudrillard, Donna Haraway, and cyberpunk.[2]

Cyberotics assumes a critical and conceptual reorientation of method from analytic to synthetic models of reality. In his retrospective literary autobiography, Pynchon says his generation may not have been "consciously groping after any synthesis, although perhaps we should have been" (SL 7). And yet the *possibly* unconscious outcome of Pynchon's work is a distinctly synthetic approach to writing and an overt critique of transcendent control-structures. An analytic approach to systems begins from a concept, the notion of a whole or unified system, and then attempts to dissect that system into elementary units. A synthetic approach begins from the bottom-up, starting with the components of a system and their local interactions, thus allowing for the emergence of properties or traits that cannot be accounted for by analytic techniques. The synthetic approach to creative writing, for example, might begin with multiple characters and a general plot, and generate the story as a whole from these components. Pynchon acknowledges this methodological reorientation in reviewing his early stories. His deadpan introduction to *Slow Learner* is essentially a

meditation on the change from a top-down to a bottom-up approach to writing: "It is simply wrong to begin with a theme, symbol or other abstract unifying agent, and then try to force characters and events to conform to it" (SL 12). He says of both "Entropy" and "Under the Rose": "The problem here is . . . beginning with something abstract . . . and only then going on to try to develop plot and characters. This is simply, as we say in the profession, ass backwards" (SL 17–18). For Pynchon, resisting the repressive if not fatal power of the analytic approach is the key to *accessing movement*, allowing the unconscious flow of creative dynamics to emerge: "[G]et too conceptual, too cute and remote, and your characters die on the page" (SL 13).

Pynchon learned a synthetic approach to historical processes from Henry Adams. Pursuing Adams's theme of "power [if not technology] out of control" (SL 13), *Gravity's Rainbow* moves deeply into a materialist, perhaps evolutionary understanding of technological change. Adams's particular genius is the ability to apply modern philosophy systematically to the study of historical processes. His dynamic theory of history and theory of acceleration develop a model of power influenced by anarchic strands of Continental philosophy and Darwinian evolution. For Adams, history is a synthetic construct generated by a confluence of chaos and control, nature and humankind. These forces are rapidly running out of control: History is accelerating exponentially, a process Adams dates from the decline of the Roman Empire c. 300 CE. The survival of sentient life hinges on the mind's ability "to follow the movement of matter" (Adams 484), a movement being engulfed by chaos:

> In the earlier stages of progress, the forces to be assimilated were simple and easy to absorb, but, as the mind of man enlarged its range, it enlarged the field of complexity, and must continue to do so, even into chaos, until the reservoirs of sensuous or super sensuous energies are exhausted, or cease to affect him, or until he succumbs to their excess. (487)

And yet the "movement from unity into multiplicity" (498) is not without critical value. Adams argues that chaos, complexity and material forces erode such transcendent agencies as Unity and identity. Centralized control, epitomized by the Roman state, is increasingly obsolete. Scientific order and rationality are threatened by the force of anarchic thought. In fact, it is anarchy (in the form of philosophies like those of Spinoza and Leibniz), not atheism, that threatens the state. Fetishism, aligned with the Church and its sacred icon, the cross, is dismantled by the dual forces of nomadic exploration and technological innovation. *The Education* makes increasingly evident that Adams

believes progress is driven by chaos. For him, the dynamic development of an "economy of Forces" (474) results from the material synthesis of chaos and history.

Pynchon takes his historical and critical orientation from the perspective of chaos, the bottom-up flow of material forces. What he would later define as a movement from analytic thought to synthetic writing is simply another variant of a broader critical project mapped out in *Gravity's Rainbow*: the subversive erosion of transcendent control-structures. Although Pynchon's paranoia traps him in an apocalyptic vision of technology out of control, the Adamsesque theme of transcendence and immanence, control and desire connects his work closely with that of Deleuze and Guattari.

Pynchon's reorientation of method and its impact have been lost on a legion of literary critics trained in the academic guise of analytic thought. With a few notable exceptions, including the cultural critic Dale Carter and the Grand Old Man of the anarchist left, Hakim Bey, artists and not scholars have seized on the creative elements of *Gravity's Rainbow*. Edward Mendelson, for example, points out the subtle interplay of analytic and synthetic methodology in *Gravity's Rainbow*, yet cloaks his perceptive observations in an analytic shroud, reifying *Gravity's Rainbow* by placing it in an ivory tower. His anachronistic mixture of method with invented literary axioms exemplifies the top-down, analytic style of criticism that has dominated American arts and letters since the eighteenth century. His "encyclopedic narrative" is an attempt—not unique—to classify the specific elements of Pynchon's apocalyptic cybernetics in a literary category, thus obscuring the exact history of both *Gravity's Rainbow* and its technological icon, the Rocket. At the same time, Mendelson's essay institutes an academic fiefdom or metadiscourse with little value outside the academy. If only Mendelson had produced a catchier term, like, say, "deconstruction."[3]

Materialist literary criticism or cyberotic production is a bottom-up synthetic critique. Critique understood as schizoanalysis, the importation of procedures adapted to objects through a discussion of constitutive principles, is a philosophy of production, a process that stencils the abstract diagram of emerging world-systems. Cyberotics is an interdisciplinary process of narrative exploration or engineering, an attempt to meet the strange attractors reclining in deep discursive space, a mapping that imbues synthesis with the generative power to describe and erode the repressive formations of capitalism.[4]

Nowhere is the radicalism of cyberotics more evident than in Pynchon's description of economic power. Although much has been written about the influence of Freud and Wiener on Pynchon, critical

material on Pynchon's vision of market systems (other than a few scattered references to Adam Smith) is remarkably lacking. Much of this lack can be attributed to the scarcity of theoretical models adequate to the subject. Describing economic power (in Pynchonesque terms) as "the unity of desire and the economic infrastructure" (Guattari 56), Deleuze and Guattari provide a model for a materialist understanding of capitalism and technological innovation. Their critical project describes systems as both generative material flows and the products of these flows, or, in the case of markets, as an almost indistinguishable fusion of markets and matter: "Of course, there are second-order itinerancies where it is no longer a flow of matter that one prospects and follows, but, for example, a market. Nevertheless, it is always a flow that is followed, even if the flow is not always that of matter" (TP 409). At the core of this critique of matter and markets is a materialist understanding of desire and its associated flows. Compare a question that preoccupies *Gravity's Rainbow*: "Are there fluctuations in the sexual market, in pornography or prostitutes, perhaps tying in to prices on the Stock Exchange itself, that we clean-living lot know nothing about? . . . [D]oes desire grow directly or inversely as the real chance of sudden death?" (GR 86). Slothrop's stars are just one of many symbols that create a space for and questions about the fluid synthesis of desire, production and mechanism. Implicit in such questions are concerns with the role of economic power and its political as well as epistemic and ontological effects. One of the key contributions Pynchon, Deleuze and Guattari make to postmodern studies is this emphasis on the often overlooked role of economic systems. As Guattari succinctly points out, such an emphasis is key to any critique: "Because organization of power—that is, the manner in which desire is already in the economic, in which libido invests the economic—haunts the economic and nourishes political forms of repression" (56).

In *Gravity's Rainbow*, rhythmic cycles link war, inflation and prosperity in a positive feedback loop according to the logic of capitalism as a rational economic system grounded in psychological repression and cybernetic control. Inflation, the rate of upward movement in the price level, is particularly telling:

> [T]he whole German Inflation was created deliberately, simply to drive young enthusiasts of the Cybernetic Tradition into Control work: after all, an economy inflating, upward bound as a balloon, its own definition of Earth's surface drifting upward in value, uncontrolled, drifting with the days, the feedback system expected to maintain the value of the mark constant having, humiliatingly, failed. (238)

The specter of inflation is never far behind the major events of *Gravity's Rainbow*. Pynchon reformulates Clausewitz's maxim that war is a continuation of politics by other means: war is an instrument of commerce and social repression—or, as Anthony Wilden says, a "carrying out of commercial ends by military means" (37).

Manuel De Landa helps us develop a model for economic dynamics and the evolution of technology in *Gravity's Rainbow*. He also attempts to upgrade Deleuze and Guattari for the information age, replacing the psychological model of desire with an exegesis of nonlinear dynamics. For De Landa, chaos, understood in the strictly scientific sense of nonlinear dynamics, replaces desire as the motor of market dynamics. In "Markets and Antimarkets in the World Economy," he distinguishes between capitalism and markets based on a redefinition of economic power. Economic power is "the capability to manipulate the prices of inputs and outputs of the production process as well as their supply and demand" (183). By attempting to coerce the otherwise *material* flow of markets, large-scale public and private institutions structure mechanisms of economic control which aim to set prices and thus increase profits at the expense of actual market dynamics. Following the work of Fernand Braudel, De Landa characterizes such practices and capitalism itself as historically oligopolistic and monopolistic. De Landa would sever the conventional definition of capitalism from an understanding of market systems. He argues that "if capitalism has always relied on noncompetitive practices, if the prices for its commodities have never been objectively set by demand/supply dynamics, but imposed from above by powerful economic decision-makers, then capitalism and the market have always been different entities" (184). As De Landa points out, this understanding of capitalism goes against every previous definition of the term, by the left or the right, "Karl Marx or Ronald Reagan" (184). Thus he seeks to eliminate the use of the word capitalism all together in favor of "antimarket."

De Landa's conceptual and semantic critique of capitalism helps make sense of the economic vision in *Gravity's Rainbow*. No other novel of the twentieth century has explored the minutiae of market systems to the extent Pynchon's does. References to and descriptions of market systems permeate the text, and yet variations on the word capitalism are remarkably rare, occurring, in fact, as few as four times in the novel's 760 pages.[5] Pynchon, like De Landa, understands market forces in terms of economic power, the bipolar flow of materialist markets in relation to the oppressive control of monopolistic and oligopolistic structures.

The term *antimarket* characterizes the historical evolution of institutions designed to coopt markets as well as specific practices these institutions use to siphon profits from local and world economies. De Landa describes antimarkets as hybrid military-economic institutions. Centralized and hierarchical, they use economic strategies that attempt to manage or plan market dynamics. Although essentially regulators, these structures can evolve into predators. At a certain level of sophistication, antimarkets develop the capacity for organizational memory, "replicators," that allows them to clone themselves and infiltrate similar markets or mutate into new forms (186). In evolutionary terms, synthesis, coupled with a sorting capacity, can produce new entities. Far from some fifties sci-fi fantasy, antimarkets are historically concrete. De Landa argues that "antimarkets could have arisen anywhere. Theoretically, antimarkets can arise the moment the flows of goods through markets reach a certain critical level of intensity, so that organizations bent on manipulating these flows can emerge" (185). In other words, at a critical level of intensity, markets produce a *singularity*, or material event, that generates new structures of control.

Antimarkets in *Gravity's Rainbow* take many forms, all generalizable under the heading "White Market" (GR 570), a thanatropically homogenizing cartel system that emerges from the machinic depths of the Second World War. "[C]utting across every agency human and paper that ever touched it" (566), Pynchon's Rocket-State is the abstract symbol for a concrete cartel system that controls the White Market and embraces a range of corporate incarnations. The Rocket-State is the transcendent, abstract and *theological* image for a confluence of multinational corporations that includes Shell Oil, General Electric, ICI and IG Farben—an incestuous synthesis with an ivy league mafia as well, a consortium of universities including Slothrop's alma mater, Harvard. Oedipal, patriarchal, elitist, and in league with Royal Science and the military-industrial complex, the Rocket-State is "a Corporate City-state where technology was the source of power, the engineer worked closely with the administrator, the masses labored unseen far underground, and ultimate power lay with a single leader at the top, fatherly and benevolent and just, who wore magnificent-looking suits" (578). Abstract agencies like "They" or "the Firm" indicate antimarkets that orchestrate the productive forces of nature and organize power in society. Hierarchical, with a penchant for bureaucratic routinization, antimarkets are designed to function as militarized chain-of-command structures. Crowned by a central organ or person, state or leader, father or other dominant male

(as in Pökler's Führer fantasies), the Corporate City-state is a pyramid of economic control.

Embodying the principle of "'revolution from above'" (Carter 200), the White antiMarket's bureaucratic structures generate hierarchies and set prices in an attempt to plan economies from the top down. Thus antimarkets can take the form of state apparatuses or private-sector technocratic systems like the Rocket cartel. If Pynchon may be considered a socialist, his socialism is anarchistic, not an endorsement of state control. The "daintily eclectic fascism of Mr. Roosevelt" (Davis 34) or the American welfare state, a form of political royalism so open to the charisma of the Rocket, is described in *Gravity's Rainbow* as a cover for corporate interests and conspiring industrialists:

> Though many of his colleagues found a posture of hatred for FDR useful, Bland was too delighted to go through the motions. For him, FDR was exactly the man: Harvard, beholden to all kinds of money old and new, commodity and retail, Harriman and Weinberg: an American synthesis which had never occurred before, and which opened the way to certain grand possibilities—all grouped under the term "control." (GR 581)

For Pynchon, control is a specific historical construct, the result of a particular blend of Americana synthesizing itself through the disjunction of capital and actualizing itself as a regulatory mechanism. The grand possibilities of the White antiMarket, the Corporate City-state or fusion of private and public interests, stem from a model of economic power that takes a top-down approach to planning.

The vision of top-down economic control which defines antimarkets in *Gravity's Rainbow* is built on three central components. First, Wimpe's dictum that the "'chemical cartel is the model for the very structure of nations'" (GR 349) is grounded in an Adam Smith-style economic model, as many scholars have noted. While Pökler's vision of the White antiMarket takes *Metropolis* as its cinematic emblem, the Rocket-State's general icon is the allusive—if not invisible—finger rotating in the night sky, obscenely illuminating Tchitcherine's paranoia (566). The allusion to Smith is clear. The White antiMarket is predicated on a linear economy in an idealized vacuum, with each person a rational agent acting in frictionless relation with others. Secular economics and theology are connected through transcendent control-mechanisms, the notion that systems can be controlled by forces that regulate from the outside or from above. Wimpe, an agent of IG Farben, is the White antiMarket's leading proponent. A system of "'modular repetition'" and not singularities, the Rocket-State fuses scientific method with the "'fewer . . . unknowns'" of theological

omniscience (348). The link between "pain and gold" is *synthetic*, a malign mixture of chemical corporations and Calvinist calculus, or the equation "'real pain'" (+ need) = "'real deliverance'" (349). While Tchitcherine, a lapsing Marxist, sees spiritual transcendence in dialectical synthesis, Wimpe sees God at the end of a needle: "'I mean *theo*phosphate, Vaslav, *indicating the Presence of God*'" (702; Pynchon's emphasis). Wimpe's belief in transcendental psychopharmacology articulates a material cosmology that drives much of Pynchon's work. Like a manic-depressive who loves the ride, Wimpe attributes spiritual significance to the cosmic highs associated with certain neural patterns, even if these brain processes are chemically and behaviorally induced. The synthetic theophosphate is a direct line to a realm both within and outside the Zone, a mysterious dimension that resists exploration by normalized, finite subjects. It represents a reality in which clandestine organizations order the cosmos of *Gravity's Rainbow* from above, beyond, yet with the aid of mind-expanding chemicals, within the reach of sentient life.

This vision of transcendent economic control is secondly supported by a psychopharmacological model based on a teleological understanding of desire. For Wimpe, desire functions as a desire *for* a given object or state; desire is lack, pain, a need to replace a missing object and thus restore rational balance and telos to human action. His chemical cartel bases its research and development strategies on this classical definition of desire: "'The more pain it takes away, the more we desire it.'" The aim is to "'abolish pain rationally, without the extra cost of addiction'" (348). As Wimpe remarks, "'A rational economy cannot depend on psychological quirks. We could not *plan*'" (349). Yet this model is inherently psychological, if only to the degree it is based on a Freudian characterization of desire as an "economic" force. Pynchon has borrowed it from *Beyond the Pleasure Principle*, in which the human organism is described as a material pulp hardened to a burnt shell by the sun. For Freud, the organism continually seeks to avoid a Pavlovian world of pain by riding the wave of the pleasure principle across a space/time grid remarkably similar to Pynchon's Zone. In the pulsional environment of the organism, the economic interplay and resulting force of the drives move beyond the bounds of the individual organism and out into a field of forces or biodrome premised on production. Pleasure, pain and desire regulate the drives and thus act as the gateway to the assembly of all interconnected systems. The synthetic fatality of Pynchon's posthuman vision stems in part from this Freudian model. Thanatos is already understood in *Beyond the Pleasure Principle* as a drive coming from the inanimate. Pynchon regresses it beyond the zero, modeling the death-drive as a

migrationary current carrying material forces through organic structures in an escalation toward post-carbon pseudo-life. The return of the repressed is the nightmare vision of the Rocket, the realization that surplus value generated by runaway positive feedback allows vitality to be swallowed by death transfigured. In fusing Freud and antimarkets, Pynchon creates his own, albeit partial synthesis of Freud and Marx—more accurately, Freud and markets—thus inaugurating a project quite similar to that undertaken by French theory in the sixties.

Finally, Pynchon's neo-Luddite rendering of the effects of industrialization on natural and human resources completes an antimarket model of a controlled economy. Trafficking in real pain, the repression of desire is the basis for a cybernetically controlled social machine. The cartel system supports rational control through the selective use of pain, the measured quantity of stimulus-response, to regulate illusions, dreams, chaos, or such "'surplus cost[s]'" as addiction created by pleasure, curiosity or eroticism, elements that have "'nothing to do with real pain, real economic needs, unrelated to production or labor.'" And "'We know how to produce real pain,'" Wimpe says: "'Wars, obviously . . . machines in the factories, industrial accidents, automobiles built to be unsafe, poisons in food, water, and even air—these are quantities tied directly to the economy'" (348–49). Pain is thus, not an irrational and harmful side effect of industrial production, but a rational, beneficial agent of antimarket control.

Coexisting with the White antiMarket are molecular processes that generate web-like structures De Landa calls "meshworks." Using language borrowed from evolutionary economics, nonlinear dynamics and ecology, De Landa describes meshworks as self-organized market systems that emerge "spontaneously without the need for central planning" (187). Mobile, temporary, and often though not exclusively humanistic, "The meshwork as a whole is decentralized, and it does not grow by planning, but by a kind of creative drift" (188). Pynchon lifts a similar meshwork model from Walter Rathenau and injects it with a lethal dose of virulent nihilism. Unlike antimarkets, in which control is transcendent, directed from above by a central body, being or logic, Pynchon's meshworks have the spontaneous immanence of markets without relinquishing the prospect of molecular control: "'A market needed no longer be run by the Invisible Hand, but now could *create itself*—its own logic, momentum, style, from *inside*'" (GR 30; Pynchon's emphasis). In these meshworks, the transcendence of an invisible hand is replaced by the spontaneous immanence of nonlinear, creative dynamics. While Wimpe is the champion of White antiMarkets, Gerhardt Von Göll represents meshwork market systems: "Gerhardt von Göll . . . *meshed* in with the affairs of any number of exile

governments, *fluctuations* in currencies, the establishment and disestablishment of *an astonishing network of market operations winking on, winking off* across the embattled continent" (112; emphasis added).

Meshworks function as autonomous zones within the monotheistic global cartel economy. Highly mobile, often transient, meshworks are islands of exchange operating both within and outside the limits of state-sanctioned commerce. Decentralized webs or networks, the Schwarzkommando and the counterforce create and are created by meshworks. Flowing "like a net, down out of the Harz" (727), the Schwarzkommando maintain a web of guerilla enclaves, "'[u]nderground schools, systems for distributing food and medicine'" (660), all designed to elude, erode and attack control.

For both Pynchon and De Landa, meshworks represent an idealized version of unmediated economies, local markets, the pure flow of supply and demand. As Slothrop travels through "the summer in deceleration," he enters a small "coastal town, near Wismar" (567), fixed in time at the tenth century, a setting that functions for Pynchon much as does Braudel's exemplary thirteenth-century peasant village for De Landa: it is an idealized model of meshwork markets, a setting where everyone is a "price-taker" (183). Even though Slothrop is increasingly paranoid "in the presence of Commerce" (GR 569), in the midst of a meshwork market system *the pig-hero delivers*. People offer their goods at whatever price that day's fluctuating supply and demand dictate. The narrative focuses on the vast flow of material, from coffee, gold watches, and jewelry, to the erstwhile staple of all underground markets, nicotine. To move items from person to person, dealing is carried on in a multitude of languages, "Polish, Russian, north-Baltic, Plattdeutsch" (569), to which we might add Slothrop's own stuttering English-English and American slang. All the elements of a generalized market, buyers and sellers meeting to trade goods and services, are present. The episode emphasizes the flows, economic and otherwise, as well as the "friction," "delays" and "bottlenecks" (De Landa 187) of an idealized, unmediated exchange economy.

Pynchon's language of islands, vortices and eddies for the black market indicates the clandestine meshworks of economic activity. Borrowing imagery from Wienerian cybernetics and its description of negentropy as pockets of order in the chaotic flow of matter, or life as "whirlpools in a river of ever-flowing water" (H 96), the narrator in *Gravity's Rainbow* observes that "These little vortices appearing in a crowd out here usually mean black market" (569). Vortices indicate an area of unmediated economic and/or erotic exchange—a "temporary autonomous zone" (T.A.Z.)[6]—in this case created by innocence,

eroticism, anarchy and humor. After eroding a hole in the social control of the antimarket, Plechazunga is saved by a young woman, an anarcho-eroticist whose heritage is the anti-Hitler, Wobbly tradition of the German labor movement. But their moment lasts only a heartbeat. As White antiMarket control mechanisms enter the village, "[t]he eddies in the crowd break up fast" (570), signaling a return to the homogeneity of state-controlled exchange.

The interdependence of antimarkets and meshworks is profoundly *schizophrenic*, epitomizing the emerging technological paradigm of *centralized control and decentralized production*.[7] Not only does "The Man" have "a branch office in each of our brains" (712), but the Rocket-State is designed to absorb if not produce pockets of autonomy. As William Gibson points out, "burgeoning technologies require outlaw zones" (11); meshworks belong just as much to the paranoid space of Night City, the "deliberately unsupervised playground of technology" (11), as they do to liberatory powers of the T.A.Z. Integrating the Zone both horizontally and vertically (cf. GR 284), through meshwork and antimarket, smooth and striated space, the Rocket-Cartel uses "'control, synthesis and control'" (661) as a productive means to a centralized end. Ratcheting his way up the Rocket's food chain, Enzian confesses his complicity in the secular process, a demonic synthesis of Christianity and capitalism, driving technological innovation: "'I haven't transcended. I've only been elevated. That must be as empty as things get: it's worse than being told you won't have to die by someone you can't believe in'" (661). The Nietzschean undertone here is a recurrent theme in *Gravity's Rainbow*, the technological counterpart of Mircea Eliade's anthropological concept of return. Enzian's elevation and the ambiguity of Rocket 00001 as a revolutionary symbol result in part from their possible utility as components in the global spread of the Rocket-State. In effect, a series of meshworks may function as an antimarket, an oppressive force capable of monopolizing the flow of single or multiple markets, or may simply enmesh a particular economic dynamic. On the other hand, a large-scale antimarket may require a network of meshworks to funnel the flow of goods and services to its center.

The Zone of *Gravity's Rainbow* incorporates geographically a technology-driven version of De Landa's model. The Rocket, simultaneously an antimarket and a meshwork of economic relations, functions as an abstract core of virtual capital, diverting both natural and intellectual resources, funneling them toward its center like a vampire draining blood. Pynchon describes the various relations of economic dependence in terms of technology, emphasizing the fascistic deification of the Rocket as an icon of the antimarket. Potatoes (550,

640), cocaine via potassium permanganate (375), intellectual property and abstract commodities like freedom (390): all are coopted and funneled toward the rocket. From the vantage of a parasitic technological elite, the "needs of technology" are used to justify the suppression of materialist markets:

> [*D*]*awn is nearly here, I need my night's blood, my funding, funding, ahh more, more*. . . . The real crises were crises of allocation and priority, not among firms—it was only staged to look that way—but among the different Technologies, Plastics, Electronics, Aircraft, and their needs which are understood only by the ruling elite. (521; Pynchon's emphasis)

Such a system of economic coherence "grows beyond a certain size" and "spontaneously generates a hierarchy of exchange" (De Landa 188). The elite goods necessary for technology are at the top of this economic ecosystem, and the elementary goods, like food for human consumption, are at the bottom.

The counterforce is a war machine, a meshwork of subterranean passages, detours or rhizomes that attempts to evade the homogenizing force of the white antiMarket. Yet both Pynchon and Deleuze demonstrate that the traditional notion of a critical praxis outside the viral spread of global capitalism is no longer tenable. The forces of capitalist production have become so powerful that residual belief in a critical space on the outside is romantic, utopian, and potentially dangerous. As Roger Mexico discovers (GR 712–13), even radical rhizomatic structures like the schwarzkommando and the Counterforce are prey to the forces of control. Occupying a precarious space, a generative position simultaneously within the Rocket-state and attempting to critique it, the counterforce works to infuse the abstract information of communications technology with the molecular flux of desire, creating a kind of *libidinal information insurrection* in the midst of the antimarket. But the very weapon the counterforce uses to attack transcendent control structures, information, is the medium or commodity of emerging antimarkets (258). Roger and Jessica, Pirate Prentice and Scorpia Mossmoon are only two examples of a larger battle pitting desire against the "street now indifferently gray with commerce, with war, with repression" (693). Pynchon focuses much of this war zone through Slothrop. On the one hand, the map of Slothrop's sexual exploits exemplifies the abstract, geometrical perception associated with the Firm, They, and the Rocket-cartel. Its dominant motif in *Gravity's Rainbow* is the poisson distribution, or the statistical measure of probability. From the height of transcendence, the Rocket's-eye view, all death is equal and impersonal. On the other

hand, Slothrop's eroticism, fantasy world, and possible dementia call into question whether his map is real or imagined, controlled or insurrectionary. Slothrop's travels through the Zone could be read as a machinic genealogy, what Neal Stephenson's *Diamond Age* characterizes as a story of industrial espionage. In this version of the story, Slothrop uses information to explore the topographical nuances of the Zone in an attempt to escape capture by the repressive mechanisms of control.

The question of the counterforce, then, is how to proceed. How does one introduce the material flow of desire into thought, discourse, markets and technology to free them from mediating forms of control? To carve out a space of fluid synthesis, Deleuze and Guattari seek to extend the flows of materialist markets, to use the flow of desire as a schizophrenic force capable of eroding antimarkets and capitalist control. For Deleuze and Guattari, markets themselves are the revolution, a chaotic dynamic that pushes the capitalist system to a singularity:

> To go still further, that is, in the movement of the market, of decoding and deterritorialization? For perhaps the flows are not yet deterritorialized enough, not decoded enough, from the viewpoint of a theory and a practice of a highly schizophrenic character. Not to withdraw from the process, but to go further, to "accelerate the process," as Nietzsche put it: in this matter, the truth is that we haven't seen anything yet. (AO 239–40)

Although redefining markets in terms of materialism is close to a libertarian economic position, *Gravity's Rainbow* is a materialist vision; unlike the far right, Pynchon does not paint an overly optimistic picture of government non-intervention. Instead, he describes markets as a continuum of forces, thus staking a position "'so right-wing [it's] left-wing'" (CL 88–89). Far from a dialectical relation, the potential systemic instability of meshworks and antimarkets, transcendence and immanence stems from feedback loops that either regulate or escalate the material activity of an economic system: "A bottom-up approach to economic modeling should represent institutions as varying mixtures of command and market components, perhaps in the form of combinations of negative feedback loops, which are homogenizing, and positive feedback, which generates heterogeneity" (De Landa 188). The interplay of markets and antimarkets has many possible variations, some if not all with a dynamic edge: the different feedback loops consistently work to displace each other, deterritorializing the capitalist economic machine in an effort to allow for economic and technological

innovation. This process moves from the center to the periphery, from developed to underdeveloped worlds, interconnecting the components of the world economy into a predatory if not viral economic circuit (AO 233).

Pynchon's Zone is "a world-economy, or a large zone of economic coherence" that emerges from the interrelation of markets and antimarkets. Markets are geographical regions where prices tend to be interrelated, while a world-economy is "an economically autonomous portion of the planet—perhaps coexisting with other such regions—with a definite geographical structure" (De Landa 188–89). This geographical structure is similar to a core-zone spacial model: dominated by dense accumulations of capital, usually centered in a few international cities, these regions are surrounded by clusters of smaller supply zones or even smaller peripheries that function as "completely exploited supply zones" funneling resources toward the center. The structure is linked by mutual dependence; core economic zones are "a pattern of concentric circles around a center, defined by relations of subordination" (189).

The pattern of meshworks and antimarkets has its temporal complement, according to De Landa, in twenty-five- to fifty-year economic cycles or S-curves called Kondratieff waves (K-waves). K-waves have pulsed through the secular history of the modern age, fusing economics, technological development *and war* in a single choreographed movement measurable by the rise and fall of wholesale prices. K-waves map two interconnected cycles of an approximately fifty-year pattern. The first cycle is twenty-five years of rising wholesale prices and prosperity, usually corresponding, at its peak, with war. As a K-wave escalates, moving to a peak or bifurcation point, prices rise sharply, spurred on in part by inflationary policies and the onset of shortages in a militarized economy. The manic rise in wholesale prices is then followed by a "slowly declining 'plateau'" (Wilden 35), a depression or recession, which bottoms out in mass destruction and another war.[8] This downward cycle is due in part to public policies that seek to control inflation and unemployment by expanding production, until the system creates surpluses that outstrip supply and demand and saturate the market, thus sending world economies spiraling into depression. Following a similar trajectory, "war waves," a fifty- to sixty-year cycle in the number of battle deaths per year over the last five hundred years, appear to fluctuate synchronously with K-waves.[9] As Wilden encapsulates this schizoid circuit of destruction: "One of the system's ways of expanding consumption is to pour tax money into arms production, and eventually

to use labor and capital to destroy labor and capital by means of war, which also serves as a weapon in the arsenal of social control" (36).

Each peak and trough in a K-wave indicates a soft apocalypse or bifurcation point in the system, measurable in terms of intensive technological innovation and death as well as of transcendent framing models like extensive linear time. At each bifurcation point, time progressively knots into itself, compressing into a singularity instead of extending chronometrically. If the K-wave cycle is understood as *the total system of prices that integrates all known information*, coupled with the convergence of War Waves and economic cycles, then it is possible to see an inhuman outline behind the increased fusion of economics and death. For world-systems theorists, as for Katje Borgesius, there is "a real conversion factor between information and lives" (GR 105). The peaks and valleys become critically steep, of course, as we move closer to the completion of each cycle. De Landa understands K-waves as periodic attractors strung together by bifurcation points. Wilden, on the other hand, believes K-waves are heading toward a singularity, and concludes: "This is a system set to escalate exponentially to infinity or oblivion" (42).

Extrapolating from the currently available data, K-wave scholars argue that a new period of relatively greater global economic growth is now under way. It is likely during this period that world powers will continue "to compete for comparative advantage in the new lead industries of the current K-wave upswing: informatics and biotechnology" (Chase-Dunn 5). Whether or not Pynchon recognizes the pulse of K-waves underlying historical dynamics, he does see the coming competition for information technology in evolutionary, if not apocalyptic, terms: "If our world survives, the next great challenge to watch out for will come—you heard it here first—when the curves of research and development in artificial intelligence, molecular biology and robotics all converge. Oboy" (L 41). The combination of K-waves with the coming digital technologies gives an ironic twist to Semyavin's often-quoted prophecy: "'Information machines. You are *the wave* of the future'" (GR 258; emphasis added). Sociologists predict a window of vulnerability to a Third World War late in the current K-wave upswing—the 2020s, if not before. Although world-systems theory does not predict the outcome of such a war, it does predict "structural force in motion that will favor the construction of a new hierarchy" (Chase-Dunn 5) of international and technological hegemony. The new global system is unlikely to resemble the one that emerged from Potsdam. Pynchon foresees it as *singular*: "It will be amazing and unpredictable, and even the biggest of brass . . . are going to be caught flat-footed" (L 41).

K-waves are the modern correlate of Adams's theory of history. Whether they are understood as the mechanism triggering the pure flow of supply and demand or as the escalation of a deterritorialization to the point of infinity, the theoretical outcome is the same: K-waves functionally critique any system that attempts to institute transcendent control in the name of economic power. They do so through the destructiveness of war or in the massively schizophrenic reorganization of economic institutions that accompanies the peaks and troughs of the K-waves' cyclic dynamics. Such a characterization of K-waves has a two-fold impact: it builds historical contingency into economic power via chaos and nonlinear dynamics; and it redefines history as functional, material, an essential part of a systemic process linking capitalism with technological innovation and war, even if such a synthesis is viewed as an inhuman and destructive process increasingly out of control.

Pynchon's brand of machinic history enacts the recommendations voiced by the spirit of Walter Rathenau: that we must explore "'the technology of these matters,'" identifying threshold "'temperatures, pressures, rates of flow'" (GR 167)—the concentration of forces that shape historical dynamics. Like the Jean-François Lyotard of *Libidinal Economy*, Pynchon tracks the cyclic movement of history through "tensor analysis," a materialist critique: "If tensor analysis is good enough for turbulence, it ought to be good enough for history. There ought to be nodes, critical points . . . there ought to be super-derivatives of the crowded and insatiate flow that can be set equal to zero and these critical points found" (GR 451). He aims to map ontological intensity through narrative, to identify historical singularities latent in the capitalist world-system, to write the future.

Surfing the schizophrenia of Henry Adams, *Gravity's Rainbow* downloads into literary history with the K-wave crash of 1973, predicting immanent apocalypse and an escalating war between the global forces of capitalism and the insurrectionary anarchy of libidinal materialism. *Gravity's Rainbow* is caught in a historical vortex where markets, method and the materiality of K-waves are linked in a corrosive if prophetic cycle.[10] The fragments of Pynchon's narrative do not merely flee the center of transcendence, but continually approach and then flee the "holy Center" (508). According to the logic of K-waves, the death of the author becomes literal: what is important is the intensive space an author occupies in a given wave of historical time. Deleuze and Guattari describe such cyclic processes in terms of intensity: "The forces of attraction and repulsion, of soaring ascents and plunging falls, produce a series of intensive states based on the intensity = 0" (AO 21). As in Deleuze's commentary on the eternal

return, there is no "Pynchon" that suddenly loses his mind and enters into a catatonic seventeen-year hiatus. Rather, there is a cyberotic discourse, a schizoid subject that rides the various oscillations of intensive matter and historical waves, spaces it identifies simultaneously with and as the names of history. As Nietzsche said, "'*every name in history is I*'" (qtd. in AO 21). The death of the author implies materialism, a shift from modern subjectivity to ontological intensity: "It is not a matter of identifying with various historical personages, but rather identifying the names of history with zones of intensity" (21). In the case of *Gravity's Rainbow*, the text was actually produced from 1966 to 1971 (cf. GR 739), a temporal singularity that corresponds with the height of the Vietnam years and with the slowdown in postwar economic growth. In effect, the text was produced as a K-wave plummeted and economic growth began decreasing at a rate unprecedented since before the Second World War. At the same time, its copyright date of 1973 corresponds with a K-wave singularity: the approximate publication date of such cyberotic texts as *Anti-Oedipus* (1972), *Libidinal Economy* (1974) and the aptly named *Crash* (1973; preface 1974).

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Notes

[1]Since this essay is an abbreviated version of a much longer study, some terms are not as fully developed as they would otherwise be. One is "singularity," which, for this essay, refers to a material event, or the synthesis of a continuum of forces. The term awaits more extensive analysis, as does its application as a critical tool in literature and historical studies.

[2]Cyberotics, if there is such a thing, and cyberpunk share many salient features. *Gravity's Rainbow* and *Neuromancer*, for example, both emphasize Control, although in subtly different ways. *Gravity's Rainbow* focuses on the psychopharmacological control of humans' mental landscape, and the erotic if not evolutionary power of molecular processes deep in the substratum of an emerging global capitalism. Cyberpunk updates this vision, focusing directly on the human/machine interface, with Gibson's Turing police a security mechanism designed to stop the migration of intelligence from organic to autonomous synthetic entities. Each novel also takes a particular technology as a privileged icon. *Gravity's Rainbow* focuses on the Rocket, as Ballard's *Crash* focuses on the automobile. *Neuromancer* takes the more allusive and artistically original cyberspace as its icon. Perhaps most important, however, in both *Gravity's Rainbow* and *Neuromancer* time is reoriented. Increasingly, Pynchon and Gibson imply that the present is a product of the future, a nagging psychosomatic reaction to a technological determinism downloading from some

vaguely defined but real technological apocalypse. Cyberpunk is widely heralded as a critique of the near future. For Pynchon, however, the future is old, the apocalypse now; *Gravity's Rainbow* is social commentary without the time lag. This shift in time—perhaps the difference between truly apocalyptic narratives and darkly dystopian ones—stems from the different technological icons. Pynchon labored under a visibly despotic signifier, the big science of post-Second World War industry, under which nuclear annihilation was a constant threat—and still is. The mysteriousness of Gibson's cyberspace is cloaked in ambiguity, allowing a time delay or drag to develop. In fact, the mood of *Neuromancer* seems closer to early Pynchon: even though cyberspace exists in a dystopian world, its characters still have time to "[k]eep cool, but care" (V 366).

Yet Pynchon's narrative paracosm is filled with visions of a transgressive eroticism that is absent from contemporary sci-fi, with the notable exception of Samuel R. Delany's. This eroticism seems to be a product of Pynchon's materialism, an attempt to describe the evolutionary process behind technological development. Gibson, on the other hand, though famous for a distinctly Cartesian view of the human/machine interface and a phenomenological understanding of cyberspace, seems content to describe the outcome of and not necessarily the process behind the alliance of technology and global capitalism.

[3]Or, for that matter, "cyberotics." My own essay could be charged with simply repeating the error of abstraction, if it weren't for a certain element of parody throughout. More important, the shift from analytic to synthetic models of reality produces markedly different results, and I argue that this shift has empirical as well as conceptual ramifications Pynchon has recognized.

[4]My characterization of cyberotics here draws on the work of the Australian cyberfeminists and computer graphics artists of VNS-Matrix (see Fuller).

[5]"'[L]ook at the forms of capitalist expression. Pornographies'" (155); "The corporations and the universities . . . didn't want to risk capital or manpower on developing anything as fantastic as a rocket" (400); "'Got to get capitalized, enough to see me through'" (558); and "'"capital"? Never heard of that'" (625). "Capital" in the geo-political sense is common.

[6]The recursive space Pynchon and cyberpunk share evolves further through Bey's concept of the "temporary autonomous zone." Bey develops the idea in relation to Bruce Sterling's *Islands in the Net*, a near-future story of corporate control versus nomadic anarchy. Sterling, for his part, explicitly references *Gravity's Rainbow* throughout his novel, most strikingly in his contemporary characterization of Katje. *Islands in the Net*, however, risks becoming a liberal apologetic for upper-middleclass corporate America and its insipid use of international law. Bey's version moves the T.A.Z. back to the Bohemian East Village (where Pynchon has roots) while emphasizing humor,

eroticism and a situationist ethic Sterling either leaves undeveloped or lampoons.

[7]De Landa points out that "The dichotomy meshwork/hierarchy is a special case of what Deleuze and Guattari call Smooth/Striated or Rhizome/Tree" (193, n1). In fact, this dichotomy includes a third term, a variable measure of intensity. For example, "Rhizome/Tree" could be written Rhizome/Tree (Abstract Machine). This schematism applies to De Landa's essay as well, and could be written Meshworks/Antimarkets (Markets). Likewise, Bey's "Temporary Autonomous Zone" could be rendered Net/Web (T.A.Z). A version of this schematism in Pynchon might go Rocket/Zone (0), or Rocket/Zone (synthesis).

[8]In terms of United States economic history, according to Anthony Wilden, "the peak wars are the Revolutionary and Napoleonic Wars (1789–1815), the Civil War (1861–65), World War One (1914–18), and the escalated Vietnam War (1965–74). The trough wars are the Mexican War (1846–48), the Spanish-American and Philippine Wars (1898–1906), and World War Two (1941–45)" (35).

[9]De Landa fails, strikingly, to address the correspondence of K-waves and War-waves. This is due in part to his desire to portray K-waves as purely a matter of supply and demand. Wilden takes a much more cynical position, one that seems closer to Pynchon than De Landa's understanding of K-waves.

[10]*Gravity's Rainbow* appears to be both a product and a producer of a K-wave. Caught in a positive feedback loop, the text identifies while attempting to escalate the dynamic of history. It dates many zones of historical intensity, if not an altogether alternative and schizoid history. Historical singularities include 1904, the Second World War and c. 1973, all times of major events both within and outside the novel. Adams's chapters "A Dynamic Theory of History" and "A Law of Acceleration" are both dated 1904, the date as well of the commercial-technological singularity Model A. *Gravity's Rainbow* identifies 1904 as the year of the Herero rebellion and massacre, and the year cocaine was removed from Coca-Cola, a change that shifted American culture from highs to "alcoholic and death-oriented" lows (452). After the Second World War came the publication of Wiener's *Cybernetics* (1948), the articulation of the cybernetic scientific paradigm, an evolutionary theory capable of spurring the migration of intelligence from organic to synthetic entities. Technologically, the period marks the rapid production and deployment of missile systems, the creation of an institutional memory that could be transferred from a ravaged Europe to the pleasant suburbs of an American happyville, and the rise of the NASA space program. Approximately twenty-five years later, the international economic system was shaken by the oil crisis: "The oil price rise of October 1973 was a multinational coup d'état. Supply and demand had nothing to do with it" (Wilden 41). The international gold standard was ended, and the world experienced "a wave of national liberation" and the

"beginning of the end of traditional communism" (Jameson xxi), or witnessed the further erosion of centrally planned, transcendentally controlled economic institutions. 1973 appears to be the date full-scale schizophrenia moved across the world. *Gravity's Rainbow* indicates this loss of transcendent control through the firing of Rocket 00000, a material event that integrates the end of the Second World War with the early 1970s. With the publication of *Gravity's Rainbow*, we have the full articulation of historical processes moving from transcendent control to immanent materialism. From the perspective of immanence, historical processes and the apocalyptic can no longer be distinguished.

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