

On the Line of Flight: Pynchon's Entropy Machine

Dan O'Hara

Pynchon's fictions have, since 1959, been a document of the cybernetic age. Well before Donna Haraway dreamed of the cyborg, Pynchon was expressing the concern she later voiced so well, that "Our machines are disturbingly lively, and we ourselves frighteningly inert" (152). Somehow, though, the ambivalence of Pynchon's ethical position, of all things, has deterred critics from examining his textual machines; an aversion to the slightest suggestion of post-carbon life turns the machines into demons.

I intend to rectify this. A certain impartiality is called for, a neo-materialist approach; so I occasionally focus on zones of interference between Pynchon and cognitive science, anti-humanist history, schizoid philosophy . . . to reveal the architectonics of Pynchon's worlds.

Almost as if it were a convention, critics confronted with the problem of interpreting Pynchon's poetic reconfiguration of the already complex concept of entropy have tended to complain about the inaccessibility of what they see as merely an overworked conceit. True enough, Pynchon himself admits that his understanding of the concept rested on superficial readings of *The Education of Henry Adams* and Norbert Wiener's *Human Use of Human Beings*; furthermore, he says an initial motive for his use of the concept as a motif for the short story "Entropy" "was that of somber glee at any idea of mass destruction or decline" (SL 13). The first thing to do here is to take note of Pynchon's reasons for disclaiming his early and inept use of the theme, for his reasons may well coincide with those of his critics, and it would, on occasion, be foolish to take any notice of what either the author or his critics have to say. In this case, both would seem to be expressing some embarrassment over what Pynchon calls his "undergraduate mood" (13), no doubt the cause of that somber glee. This eventually comes down to an exoneration of the author for mistakes made at the beginning of his writing career, but such a stance has some unfortunate effects for subsequent criticism. First, it makes us aware that, as far as the bulk of his critics and, more important, the author himself are concerned, the theme of entropy has been dispensed with for critical purposes; when Pynchon opines thus, it carries unusual weight since criticism so rarely elicits any response from him. Second,

it precludes discussing the role entropy plays in his later novels without bearing the disclaimer in mind, and so limits the scope for an interpretation which would allow for the metaphor's having been developed since "Entropy." And of course, it makes good critical sense to be suspicious when an author appears just a little too eager to allow one aspect of his work to be skirted by his critics, or when, as in this case, he positively encourages and perhaps contrives the end of debate on a particular theme.

First of all, there is no Maxwell's Demon in "Entropy," no point at the interface of the two states in which Pynchon is interested. The two states simply appear to "leak" into each other. One is a closed system: the "hothouse jungle" of Callisto's apartment, which is "hermetically sealed":

a tiny enclave of regularity in the city's chaos, alien to the vagaries of the weather, of national politics, of any civil disorder. Through trial-and-error Callisto had perfected its ecological balance, with the help of the girl its artistic harmony, so that the swayings of its plant life, the stirrings of its birds and human inhabitants were all as integral as the rhythms of a perfectly-executed mobile. (SL 83-84)

A blueprint of the actual-life Biosphere 2, this system is represented as being so rigorously ordered because it is contrived; the organic sheen is given the lie by the reference to the rhythms of a mobile, which is by definition an automaton given that it perpetuates its own motion without recourse to any external power source, though its momentum is artificially created. In contrast, the flat downstairs constitutes an open system, being one "Meatball Mulligan's lease-breaking party . . . moving into its 40th hour" (81), which "seemed to be gathering its second wind" (82). Its external power source, so to speak, consists of the steady stream of alcohol-bearing revellers bursting through Mulligan's door and windows. In a somewhat hackneyed manner, the chaotic character of this state is amply demonstrated by the "litter of empty champagne fifths," "Heidseck and benzedrine pills" (81), and "'a girl or something sleeping in the sink'" (86).

Structurally, the extradiegetic shifts among the eight separate episodes are very abrupt, as if, in real time, the observer (that is, the reader) were at first downstairs, then up, alternating this way between four episodes per floor. Continuity is maintained throughout in the sense that events continue to occur unreported on one floor whilst the narrative covers events on the other. This helps to accentuate points of leakage when they occur, the first such being described in direct, intrusive terms: "The last bass notes of *The Heroes' Gate* boomed up

through the floor and woke Callisto from an uneasy sleep" (83). Here, one world leaks, however violently, into another; in subsequent passages, the leakage starts to work both ways, creating greater complexity (in the entropic sense), most notably in Callisto's apartment, which hitherto has been a paradigmatic "meaningful" organized closed system. Both "distinct kinds of . . . entropy" (CL 105), the informational and the thermodynamic, are evident here, and although Pynchon's critics would apparently like us to think his understanding of the difference between the two was not manifest until the publication of *The Crying of Lot 49* some six years later, he seems to use such an understanding to effect the necessary narrative tension at this very point. This tension is primarily a structural one: the doubled, alternating narratives act much like a chemical clock, switching from one state to another and then back again. It is possible Pynchon had this in mind as a model for the narrative when writing "Entropy," but if so, he either used it lightly without expecting it to come under thematic scrutiny, or had misunderstood that this oscillation is in itself a stable state rather than one attempting to reach a unified equilibrium. Pynchon requires the effect, not of stability, but of unstable oscillation culminating in stasis; hence the shifting narrative. It seems likely, therefore, that the model is intended only as a structural basis for a related yet subjectively independent theme.

Two passages indicate the increasing complexity of the relation between the states of Callisto's and Mulligan's apartments, and thus the increase in (in Callisto's words) "'entropy or the measure of disorganization for a closed system'" within Callisto's flat:

Counterpointed against his words the girl heard the chatter of birds and fitful car honkings scattered along the wet morning and Earl Bostic's alto rising in occasional wild peaks through the floor. The architectonic purity of her world was constantly threatened by such hints of anarchy: gaps and excrescences and skew lines, and a shifting or tilting of planes to which she had continually to readjust lest the whole structure shiver into a disarray of discrete and meaningless signals. Callisto had described the process once as a kind of "feedback." (SL 88)

In the hothouse Aubade stood absently caressing the branches of a young mimosa, hearing a motif of sap-rising, the rough and unresolved anticipatory theme of those fragile pink blossoms which, it is said, insure fertility. That music rose in a tangled tracery: arabesques of order competing fugally with the improvised discords of the party downstairs, which peaked sometimes in cusps and ogees of noise. (92)

In the first passage, Aubade seems made to fail to understand fully what feedback in its musical sense means, as indicated by its emphasis, coming after the explanation that she has understood rather too well how the overloading of her senses with signal merely produces noise. The emphasis also, however, indicates the secondary meaning Pynchon excludes from Callisto's intentions—a literal meaning which ironically refers to the ongoing exchange of information and temperature between the two flats. Such dramatic irony was no doubt intended to have a pathetic effect; but it manages only to distance the reader from the characters, perhaps because Callisto's remark is reported rather than included in dialogue. However, this may not be as unfortunate as it sounds, as we will see when discussing the characters.

It is incidentally interesting that Aubade tries to model reality in abstract geometrical terms. There would be ample scope here for a psychoanalytical or pathological critical stance, just as a Derridean would likely enjoy probing into the possibilities of *différance* in the structural makeup of the story. I want to observe that these avenues might exist, but I don't want to go down them: they might well turn out to be *culs-de-sac*. The most interesting point here is one of poetics. Pynchon is constrained to use technical terminology to describe abstract geometrical forms, with unusual effect. Much of the text is made up of more tangible ideas and words, the terminology of thermodynamics and other branches of physics. The intrusion of a more abstract jargon to describe an ordering process acts almost as a hiatus in an otherwise poetically consistent text. This is one of the more novel methods Pynchon uses to create a sense of flux through poetic modulation, rather than engaging with more conventional narrative types like suspense. In the following passage from "Mortality and Mercy in Vienna," one of Pynchon's first mature works published (it and "The Small Rain" appeared almost simultaneously in the spring of 1959), the technique of poetic intensification is present in embryonic form:

She went on in the same way for fifteen minutes more, laying bare, like a clumsy brain surgeon, synapses and convolutions which should never have been exposed, revealing for Siegel the anatomy of a disease more serious than he had suspected: the badlands of the heart, in which shadows, and crisscrossed threads of inaccurate self-analysis and Freudian fallacy, and *passages* where the light and perspective were tricky, all threw you into that heightened hysterical edginess of the sort of nightmare it is possible to have where your eyes are open and everything in the scene is familiar,

yet where, flickering behind the edge of the closet door, hidden under the chair in the corner, is this *je ne sais quoi de sinistre* which sends you shouting into wakefulness. (205)

This passage, unlike the second of the passages from “Entropy” quoted above, retains an overtly metaphorical tone blended with Pynchon’s characteristic hallucinatory framing, the former acting almost as an apology for the latter. The passage could be seen as merely a first instance of Pynchon’s predilection for imposing complex topographies over undefined areas of imaginal space and discourse; indeed, it might be considered unusual for an author to conceive of such literary mainstays as time, memory and even the psyche in terms of space. Nevertheless, to retain a metaphorical slant would obviously deprive such hallucinatory episodes of their poetic intensity, as Pynchon appears to have realized quickly. The passage from “Entropy” typifies the halfway measure he adopts at this point, dispensing with metaphor but making sure there is no uncertainty about who is describing the mappings of imaginal space: such passages are always plainly the result of a character’s own musings on given topoi, and as such avoid being openly legitimized by the authorial narrative.

Another refinement of the technique is evident in a comparison of the two passages’ type and style of image. Pynchon shifts from conventional, almost stereotypical images of shadows of the heart to a more defined, indeed architectonic style. The vagueness is apposite, but in the passage from “Entropy” Pynchon also manages to convey a sense of disarray by playing off against the potential loss of rigid, ordered space: shifting from an attempt to describe an absence to an attempt to describe what was in place before the absence, and the effect of that object’s loss. Although this development can be seen as a maturing of technique in a genre in which efficiency is most expedient, I would rather consider it a more calculated move to reconcile form with substance, given that Pynchon has subsequently shown no particular disposition to pander to readers’ desires for brevity. Indeed, he often displays a marked tendency to compress such an immense amount of information into long, clause-heavy sentences as to invite accusations of wilfully baiting the reader. He does sometimes use what might be described as aggressive tactics, but this is not one of them. What has to be noticed in the passages above again pertains to the implementation of Pynchon’s sense of poetic modulation: the development described can be seen as intensification in the form of simplicity played off against a general level of complexity—a clear signal against a background of over-stratified noise.

An over-stratification so severe that it can, correctly manipulated, close the loop and reconfigure noise into signal is feedback, in its non-pejorative musical sense. Callisto and Aubade jointly form another instance of the closed circuit motif insofar as they manifest a kind of positive feedback. Callisto (whose name derives from the Greek *kalós*, meaning beauty, but stops short of its common adjunct in English, derived from *sthenos*, meaning strength) exemplifies his name's classical meaning in that his character is almost molded from an imaginary cast, the attributes and sensibilities of which belong, most importantly, to a reconstructed ancient past. It "had taken him seven years to weave together" "this hothouse jungle" (SL 83)—a warping of the primitivist urge. A number of hints suggest that Aubade merely forms another necessary component in this final stronghold of classical civilization. Her name is taken from the French *aube*, meaning dawn, and the French in turn derives from the common Latin root *albus*. Furthermore, an aubade is a dawn serenade, usually requesting a lover to awaken. This is symbolically relevant to Aubade's role in the story, and particularly ironic given that a bird is dying in Callisto's hands. More significant is the steadily maintained equilibrium between classical and romantic types that guarantees the continuing extra-temporal existence of the apartment.

Following indirectly from Callisto's introduction of the notion of feedback, events downstairs undermine and parody the high seriousness of Callisto's quietly quasi-philosophical histrionics. Meatball (whose name could not be further from the arch-European character of Callisto or Aubade) acts as confessor to a friend, Saul, who has just had a quite final argument with his wife. The argument was about communication theory, the sticking-point apparently being "'this idea of computers acting like people,'" and the possibility of "'talk[ing] about human behavior like a program fed into an IBM machine.'" Meatball's diagnosis is: "'Maybe she thought you were acting like a cold, dehumanized amoral scientist type'" (90). Saul's eventual response does not allay Meatball's suspicions:

"Tell a girl: 'I love you.' No trouble with two-thirds of that, it's a closed circuit. Just you and she. But that nasty four-letter word in the middle, *that's* the one you have to look out for. Ambiguity. Redundance. Irrelevance, even. Leakage. All this is noise. Noise screws up your signal, makes for disorganization in the circuit." (90-91)

There is nothing particularly wrong with Saul's analysis; perhaps it is simply a slightly foolish way of talking to or about his wife. However,

the passage, along with a dissection of marriage (““You never run at top efficiency, usually all you have is a minimum basis for a workable thing. I believe the phrase is Togetherness” [91]) serves principally as a theoretical anchor for reading the passages set in Callisto’s flat. Callisto has already said, in his imaginary (auto)biography: “He found himself, in short, restating Gibbs’ prediction in social terms, and envisioned a heat-death for his culture in which ideas, like heat-energy, would no longer be transferred, since each point in it would ultimately have the same quantity of energy; and intellectual motion would, accordingly, cease” (88-89).

I have already described how criticism of Pynchon’s use of the notion of heat-death has usually tended towards the wrong side of approval, even down to Pynchon himself worrying about having “set things up in terms of temperature and not energy” (SL 13). However, if we use the two passages from the conversation between Meatball and Saul to provide axioms for the culture Callisto describes, we do have remarkably clear algorithms for detecting the presence of idea heat-death. (The thermodynamic model could also be applied to the memosphere, but to attribute that kind of intention to Pynchon would perhaps be to presume a little too much.) Only Callisto is concerned with the temperature outside: no one downstairs has taken the trouble to notice anything about the weather other than to remark its wetness. It is therefore reasonable to propose that Pynchon intends the preoccupation with temperature to be solely Callisto’s, and logical to infer that Callisto projects his anxieties about a possible socio-cultural heat-death onto the conveniently literal (and thoroughly coincidental) temperature. The only other possible interpretation here would be that Pynchon intends some pathetic fallacy effect; but aside from that technique’s being a most uncharacteristic one for Pynchon to adopt, such an interpretation would prevent us from reading Callisto’s periodical anxieties as comic:

He glanced up suddenly. “Check it now,” he said. Again she rose and peered out at the thermometer. “37,” she said. “The rain has stopped.” He bent his head quickly and held his lips against a quivering wing. “Then it will change soon,” he said, trying to keep his voice firm. (89)

We need to be able to read these passages as comic if we are to prevent ourselves from reading the whole of “Entropy” as high tragedy. The transition Callisto’s flat makes from meaningful organized closed system to one of the elements in a loop which produces catalysts which in their turn stimulate another element, the latter reciprocating

the process, is not particularly tragic in tone, however melodramatic Callisto is.

It is time to attempt to divine the cohesive program behind these elements of plot, character, narrative structure and theme. As befits the analysis of work by an engineer-turned-author, the interpretive operation necessary when examining Pynchon's fictions usually involves: 1) identifying similars (units of whatever size or type that suggest an internal systematicity); 2) resolving these elements into an abstract engineering diagram; 3) superposing the diagram onto the text. Not coincidentally, the method proposed bears an uncanny similarity to some of Pynchon's own narrative strategies: it is his method, amongst others', including Deleuze and Guattari's. Their method of "folding" describes precisely this process of extrapolation and collapse which reinforces the relation between interior and exterior. Deleuze and Guattari also share the predilection for abstraction and metaphors bereft of a referent: Deleuze's critique of Leibniz and the Baroque, *The Fold*, maps baroque architectural forms onto a Leibnizian worldview. (I feel obliged to point out that I also use this method, if only to confess that it is much easier to recognize something of one's own methodology in another's work than to divine the methodology by dint of sheer critical perception.) The methodology entails a determinedly instrumentalist approach, and its materialist presuppositions demand that its engineering diagrams describe actual processes—the real reactions and manipulations of raw materials.

We can therefore dignify our analysis with something approximating an empirical status, given that we can begin to say that our object of study is the behavior of the extended phenotype of the human in one particular instance. This is important for a number of reasons (and I've always wondered what it would mean to introduce empiricism into literary criticism anyway), not least because it explains Pynchon's decision eventually to dispense with metaphor in certain situations—"Noise screws up your signal, makes for disorganization in the circuit"—and Pynchon appears to be intent on exploring more interesting ways of reducing redundancy, no doubt prompted by Wiener:

Messages are themselves a form of pattern and organization. Indeed, it is possible to treat sets of messages as having an entropy like sets of states of the external world. Just as entropy is a measure of disorganization, the information carried by a set of messages is a measure of organization. In fact, it is possible to interpret the information carried by a message as essentially the negative of its entropy, and the negative logarithm of its probability. That is, the more probable the message, the

less information it gives. Clichés, for example, are less illuminating than great poems. (Wiener 21)

It is therefore fair to assume that Pynchon uses negentropy as a measure of redundancy, which points up the limitations of a critique that assumes the overdetermination motif so dear to many critics of *Gravity's Rainbow* in particular. A negentropic model stresses the binary and so permits the use of techniques like opposition and symmetry within the narrative to take on a set of meanings they normally exclude. By this I mean that in the dual, alternating narrative structure of "Entropy," events which appear symmetrical cannot be interpreted as correspondences because they corroborate each other; in *Gravity's Rainbow*, Pynchon presents such events but then also tempts us to dismiss their informational content by referring to them as "Kute Korrespondences" (590). As Christopher Nash avers, "In principle in the fiction now before us the substance, the 'subject-matter,' is offered as raw 'hyle' without (informative) 'entelechy.' As *all substance and no shape*" (216; Nash's emphasis). This is to say that those raw materials I spoke of can be read in Leibnizian terms as monads, mere component parts—that is, subject matter—and the way they go about producing information relies on the way these component parts interact when resolved into a machinic whole—that is, the shaping of narrative structure.

This may seem like rather too extensive an extrapolation, but I would claim that Pynchon has this model, in every detail, in mind. That he uses Wiener extensively is clear, and Pynchon himself admits it. Furthermore, if he did not know *The Monadology* before reading Wiener, he was doubtless pointed in that direction by the pervasive presence of Leibniz in *The Human Use of Human Beings*: "I have already referred to Leibnitz's interest in automata. . . . Leibnitz saw in the concordance of the time given by clocks set at the same time, the model for the pre-established harmony of his monads" (21). And turning to *The Monadology*, we find further encouragement to pursue a machinic model of reality: "We may give the name *entelechies* to all created simple substances or monads. For they have in themselves a certain perfection. . . . [T]here is a self-sufficiency . . . in them which makes them the sources of their internal actions—incorporeal automata, if I may so put it" (Leibniz 181). So we find that indeed the subject matter may well be "offered as raw 'hyle'": the component parts themselves have no shape, but form building blocks for component systems.

I have two objections to a neo-materialist narrative poetics based on a Leibnizian model, both to do with the universalizing nature of the

statement. First, is it not surely an overgeneralization to characterize all base units as indistinct raw matter? Component-systems theory insists on the temporal conditions that inform notions of whether or not components are permanent:

Unlike in a "normal" system where the whole system is active, or can be active all of the time, here *most transitions are "dormant"*: they cannot be activated or triggered at any time because the respective substances are missing and the variables cannot take on values. In the big transition table the non-empty parts are sparsely distributed and remain so all along: little islands of non-zero values in big fields of zero. The "dormant" pathways can become active only by means of a chain process that constructs all intermediate compounds that can support the further reactions. (Kampis 214-15)

Thus, most conspicuously, nouns retain their symbolic values irrespective of the existence of their referents. George Kampis's description of how components in a big system interact fits Pynchon's texts: local, predetermined pockets of similars trigger connections with other parts of the text (particularly between separate narrative locations), enabling more complex processes to arise which inhibit the redundancy of the greater part of the text. So some of the ostensibly hyleic matter performs an entelechic function, within certain parameters, and we do not need to posit any mysterious homuncular function, as Leibniz's phrase "incorporeal automata" suggests, to show that within the fiction at least some of the subject matter already has a predetermined shape. If it seems that Pynchon would not have been aware of such theory, and would never have heard of non-holonomic constraints, I would point again to Wiener, whose statement below is virtually identical in meaning to Kampis's above: "There are *local and temporary islands* of decreasing entropy in a world in which the entropy as a whole tends to increase" (36; emphasis added). We have already observed that Pynchon used ideas he learned from Wiener for both structural and thematic purposes. If we can take such a statement from Wiener to reinforce the thesis that Callisto's flat represents one of these "local and temporary islands," we are equally justified in assuming that Pynchon also went so far as to integrate the principle into the narrative structure.

My second objection to the hyle/entelechy distinction is less serious, given that nothing in this part of the distinction could lead directly to misinterpretation—though it could inhibit appreciation of the narrative construction. Pynchon in his more humanistic moments would no doubt share Wiener's opinion of such chance: "this random element,

this organic incompleteness, is one which without too violent a figure of speech we may consider evil; the negative evil which St. Augustine characterizes as incompleteness, rather than the positive malicious evil of the Manichaeans" (Wiener 11). We need to reformulate the hyle/entelechy dualism, the philosophical distinction between substance and form, into a more accurate and more plausible engineering diagram. Half the problems we have experienced in considering how the component parts of the text function have been due to the apparent need to posit homunculi wherever we come across apparent incommensurables. Yet if we agree that Pynchon is some kind of materialist, then we must assume that incommensurability is a methodological problem, not a metaphysical one: proposing a ghost in the machine won't help at all. As Daniel Dennett tells us, "anything that can move a physical thing is itself a physical thing (although perhaps a strange and heretofore unstudied kind of physical thing)" (35).

Here is a way to avoid ghosts. Let's insist on the Deleuzian diagram of "double articulation": two operations called content and expression, the first of which

chooses or deducts, from unstable particle-flows, metastable molecular or quasi-molecular units (*substances*) upon which it imposes a statistical order of connections and successions (*forms*). The second articulation establishes functional, compact, stable structures (*forms*), and constructs the molar compounds in which these structures are simultaneously actualized (*substances*). (Deleuze and Guattari 40–41)

Now we have a more suitable model for a narrative structure based on the concept of autopoiesis. Only if we posit such interactive strata can we: 1) take the entropic autocatalytic loop seriously as a model for structure; 2) permit the folding of incommensurables without recourse to homunculi; 3) accommodate a notion of shaped hyle, which hitherto had seemed impossible. This abstract model of stratification can describe the architectonics of the text: content involves not only choosing or sorting material linguistic base units (*substance*), but also imposing grammatical order (*form*); expression both effects new architectonic couplings between linguistic units insofar as difference generates meaning (*form*), and also yields a further, high-level stratum of narrative (*substance*).

It may seem at this point that my thesis is inconsistent. Didn't I claim earlier that the effect Pynchon is trying to create through his use of the autocatalytic model for the narrative is one of unstable oscillation culminating in stasis rather than stability? And doesn't the

apparently highly-organized dynamic of the narrative contradict the "unstable" reading, and, moreover, bode ill for the unproductive implications of stasis? Well, if we want to interpret stasis as bad, whatever that means, we are obliged to reconfigure the way we view the final sentence of "Entropy":

Suddenly then, as if seeing the single and unavoidable conclusion to all this she moved swiftly to the window before Callisto could speak; tore away the drapes and smashed out the glass with two exquisite hands which came away bleeding and glistening with splinters; and turned to face the man on the bed and wait with him until the moment of equilibrium was reached, when 37 degrees Fahrenheit should prevail both outside and inside, and forever, and the hovering, curious dominant of their separate lives should resolve into a tonic of darkness and the final absence of all motion. (SL 98)

The simplest reading of these lines would have it that for "equilibrium" we read "heat-death" or sameness, the implication being that entropy has reached that critical point where distinctiveness disappears completely, resulting in the most probable state. This reading is not without its attractions, given that, as the informational content of the closed system of "Entropy" reaches its zero point, the story ceases. I accept this reading as a simple option, but reject the idea that it is the only possible reading, for the very point here is that a number of diverse interpretations are possible. Callisto and Aubade are left waiting for this ominous final moment, and again the humor inherent in all the passages in which they appear directs us to regard this ending as a parody of itself. After all, the resolution of their separate lives is another instance of leakage: notions of Togetherness invade this poignant moment from Mulligan's apartment and render the scene again a touch melodramatic. The reference to waiting is one of the obvious pointers to the humor of the situation. Pynchon's youthful obsession with T. S. Eliot is well known: witness the ludicrously excessive rain imagery in many of the early stories, and his confession of "how distressed I am at the number of tendrils that keep showing up. I still don't even know for sure what a tendril is. I think I took the word from T. S. Eliot" (SL 15).

I propose an alternative reading which takes the stasis motif to be more coherent than has previously been observed, and is more in keeping with the notions of momentum as incomplete, Augustinian negative evil that occur elsewhere in Pynchon's oeuvre. It also conforms more precisely to the halfway measure Pynchon adopted in his rejection of metaphor. We have yet to explain why, according to

received criticism, "Entropy" fails where *The Crying of Lot 49* succeeds, when Pynchon says of the latter, "I seem to have forgotten most of what I thought I'd learned up till then" (SL 22).

In an entropic system, some molecules move rapidly whilst others move distinctly more slowly. Although the amount of energy in the closed system remains constant (First Law of Thermodynamics), the temperature spontaneously decreases, and the system as a whole therefore tends to run down. The amount of energy is not subject to change, while the temperature can increase and decrease without compromising the integrity of the system. It seems, then, that the temperature, being in flux, is a cause of diversity, while energy could be said, figuratively, to be static in its continuous, unchanging momentum. I therefore submit that Callisto's flat moves, not towards the static, but away from it, in terms of both language and plot, and that these two elements suggest each other.

Callisto's flat maintains a steady equilibrium from the outset: it is characterized as a conservative closed system. Nevertheless, it is structurally one stratum above another (Mulligan's apartment), and forms part of a larger system. Whenever leakage occurs, Aubade fears that the intrusion will overwhelm her senses with noise, eliminating all signal; however, what in fact happens in terms of the poetic structure is that the static, already overstated and archaic language used in those episodes is interrupted by a strong signal: catalysis occurs. The language used for the narratives in Callisto's flat may be described as static insofar as it is typical of the most stable, durable traits of discourse and thus those whose informational content is lowest, closest to cliché. The abstract thought which creeps into Aubade's mind in moments of poetic intensity may be said to instigate the breaking of the window. In terms of autocatalysis, what was previously a two-node network uses unused raw materials and waste products from itself to create a third node. In diagrammatic terms, the existing system folds, like a line folding at its central point at a right angle to itself, so two points become three, forming a triangle. Crucially, both strata allow the outside to invade their system. Nash observes that the "irreducible *topos*" of Pynchon's fictions is the "anarchy of data" (216), and corrects notions of excessive solutions and meanings in this light. What remains implicit in Nash's corrective is Deleuze and Guattari's (philosophical) assertion that "anarchy and unity are one and the same thing, not the unity of the One, but a much stranger unity that applies only to the multiple . . . [and] express[es] the multiplicity of fusion, fusionability as infinite zero, the plane of consistency" (158). The use of autocatalysis as a model for narrative structure is therefore both an initiatory act and a typically Pynchonian act of imposing a

topography over the space of the text. The opening of Callisto's flat to its environment is merely the last event of a sequence which permits his overstriated space to fold back onto the smooth.

For conventional critical purposes, we are left with both a pessimistic and an optimistic conclusion (not the same as solution). This brings us closer to appreciating a narrative strategy which attempts to reduce redundancy, so we can eventually uncover the full reason for the need to dispense with metaphor. Metaphor works only in the context of indirect discourse, and yet is generally used not in reportage but in direct statement. Metaphor is therefore that *bête noire* of communication theory, noise. In and of itself, it is already a cliché and thus informationally redundant. It must consequently be eliminated to ensure that the narrative can remain unapologetically referential. This is essentially a move away from mere linguistic representation, given that the engineering diagrams offered can apply to a number of different physical processes and assemblages. So, if the terminology Pynchon uses in passages of abstraction has a literal meaning with a subsidiary metaphorical effect, then—in the simplest possible terms—Pynchon is trying to revitalize words that are suffering from entropy.

—Christ Church, Oxford University

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