

Systemic Waste and the Body Boundary in Pynchon's Fiction

Ron Jenkins

We can understand the connections between the various forms of "waste" in Pynchon's fiction and understand his use of the human body as a metaphor for systems in general by considering the images of bodily waste and bodily integrity in his work. Images of prosthesis, ingestion, defecation, and other transitions of the "body boundary" in Pynchon's writing are not gratuitous, but powerful tools forcefully used to emphasize the pattern of cycles and the themes of death, system, and environment in his fiction. Once we begin to pay attention to Pynchon's frequent images of expulsion of all sorts, and to the symbolism of bodily waste, many obscure or repellent passages become thematically relevant. The image of the body and its boundary, and the concept of bodily waste become cogent metaphors for general systemic treatments of waste, and eventually for the meaning of life and death.

The issue of boundaries is pervasive in Pynchon's writing: it forms the basis for the tension between the "real" postal system and the Tristero in *The Crying of Lot 49*; between manifestations of the animate and inanimate in *V.*; between, among other things, the ideas of war and peace, paranoia and anti-paranoia, and good and evil in *Gravity's Rainbow*; between self and society in *Vineland*; and between life and death in all his fiction.

Pynchon's definition of "life" owes a great deal to systems thinkers like Erwin Schrödinger, Ludwig von Bertalanffy, and Norbert Wiener. The introduction to *Slow Learner* suggests that Pynchon had recently read Wiener's *Human Use of Human Beings* when he wrote "Entropy" (xiii), and that he is aware that the thermodynamic anomaly living entities present is only a consequence of their operation as open rather than closed systems. This distinction between open and closed systems, an important one in systems theory, requires some elaboration.

Although definitions of open and closed systems in general systems theory vary among theorists, in the most general terms, the distinction between open and closed systems centers around the interaction—input and output¹—between a system and its environment. A system is considered strictly closed when it neither makes outputs to nor

receives inputs from its environment. When some level of interaction exists, however, the categories "open" and "closed" become blurred, increasingly as the degrees of systemic, environmental, and interactive effects increase. The spectrum of interactions and effects between system and environment has therefore led systems theorists to broaden their definitions of systems to speak, not only of open and closed systems, but of "absolutely closed systems," "relatively closed systems," "relatively open systems," and so on.² What has occurred is a deconstruction of the rigid polarity implied in the original approach to the openness of systems. However, while we may logically shade in a region between poles, we must also question the permanence or sustainability of this middle region.

We operate in the faith that a collection of elements that interact in an observed fashion can be cleanly separated from everything else, and so we call everything "inside" this division "the system," and everything "outside" the system "the environment." Among other things, the political ideas of nationhood, states, and parties; the economic categories of "fiscal" and "monetary"; and the sociological concepts of societies, tribes, and families are all based on the concept of boundaries. Further, the broad divisions we call political, economic, and societal are themselves equally boundary-based. However, these boundaries are clearly arbitrary. Is war a political or an economic phenomenon? Is war "inside" or "outside" the sociological model?

Accepting for the moment a defensible differentiation between "system" and "environment," we can say that, as far as Pynchon is concerned with systems, he is also an environmentalist. His concern with systems and his persistent emphasis on the interactions and limits of systems necessarily involve the study of the environments in which those systems operate.

Pynchon often uses the human body as an example of a system, either to illuminate the interdependence of, or to emphasize the dichotomy between, systems and their environments. As metaphors for systems in general, images of the human body can readily convey these contrasting relations between system and environment. For example, the interpenetration of "system" and "environment" can be seen in our ideas about body hair. Hair is typically seen as a part of the body rather than as a part of the body's environment, yet modifying the arbitrary body boundary that we adopt can be useful in gaining a full understanding of hair's function:

Recently, physical anthropologists have engaged in active controversy over why human beings have very little body hair as compared with their fellow primates. One school argues that with less hair man was able to dissipate

heat more effectively than other primates and thus hunt in the middle of the tropical day. Another school claims that the hair was a breeding ground for parasites. A third claims man lost his hair during an aquatic phase. Yet these and other theories all fail to explain why any hair, such as on the head, was retained.

We commonly consider hair to be part of the body, because it is attached to it. When we are thinking of thermal problems, parasite problems, or swimming problems, it is useful to consider the hair in such a way. But this accepted mode of thought blinds us to the possibility that, for some purposes, hair is better thought of as being *outside* the body. Unlike the material in body cells, material once secreted into hair no longer participates in the body's physiological processes. Since material in the hair was *once inside* the body's physiological system and is *now outside*, it is useful for the physiologist to think of hair as excrement—just like perspiration, urine, feces, and, for that matter, toenails. It seems contrived to think of hair in this way, not only because the hair is attached but because the rate of excretion seems so slow. Yet the concept of hair as part of the environment makes the physiologist think of examining hair to see what it carries away from the body. As it happens, certain trace elements are carried away most effectively in the hair; which may partially explain why *all* body hair could not be eliminated. (Weinberg 146–47)

Even within the body various systems interact. When these interactions are abnormal, they merely serve to point out the paradoxes that are a part of the systemic concept. Thus in *Gravity's Rainbow*, Gavin Trefoil, the young freak at the White Visitation who can voluntarily metabolize his tyrosine (a protein by-product) to create melanin (skin pigment), is a mystery the job of explaining which falls to Rollo Groast:

The best theory of *how* is Rollo's, but it's hopelessly vague—we do know that the dermal cells which produce melanin—the melanocytes—were once, in each of us, at an early stage of embryonic growth, part of the central nervous system. But as the embryo grows, as tissue goes on differentiating, some of these nerve cells move away from what will be the CNS, and migrate out to the skin, to become melanocytes. They keep their original tree-branch shapes, the axon and dendrites of the typical nerve cell. But the dendrites are used now to carry not electric signals but skin pigment. (147)

However, in terms of the body as a system, the skin is in contact with the environment outside the body, and the melanocytes, once at the core of things, the central nervous system, first become a colonial part

of the body, and then eventually die. The eventual ejection from the system is bound up in Pynchon with a loss of innocence that suggests an expulsion from paradise, as we see in the fantastic dialogue between the personification of a young melanocyte about to “go epidermal” and an “older operative”:

—Everything that comes out from the CNS we have to file here. [. . .]

—Do you ever get out much to . . . well, up to the Outer Level? [. . .]

—(Abruptly) I’m supposed to tell you, eventually, as part of the briefing. [. . .] We *all* go up to the Outer Level, young man. Some immediately, others not for a while. But sooner or later everyone out here has to go Epidermal. No exceptions. [. . .]

—But isn’t it . . . I thought it was only a—well, a *level*. A place you’d visit. Isn’t it . . . ?

—Outlandish scenery, oh yes so did I—unusual formations, a peep into the Outer Radiance. But it’s all of *us*, you see. Millions of *us*, changed to interface, to horn, and no feeling, and silence.

—Oh, God. [. . .] No—how can you say that—you can’t feel the *memory*? the tug . . . we’re in exile, we do have a home! [. . .] Back there! Not up at the interface. Back in the CNS!

—(Quietly) It’s been a prevalent notion. Fallen sparks. Fragments of vessels broken at the Creation. And someday, somehow, before the end, a gathering back to home. A messenger from the Kingdom, arriving at the last moment. But I tell you there is no such message, no such home—only the millions of last moments . . . no more. Our history is an aggregate of last moments. (148–49)

What is expelled from a given system is that system’s waste—a product of systemic operation that is considered superfluous to the operation of the system. Lawrence Wolfley has analyzed the theme of expulsion as Freudian repression in his study of Norman O. Brown’s influence on *Gravity’s Rainbow* (880–81), and Pynchon frequently plays with the idea that a system’s waste can either become a system in its own right or feed back into the system in ironic and surprising ways. In *The Crying of Lot 49*, Oedipa’s interest is drawn to the W.A.S.T.E. system, a mail delivery system operating on the margins of society, comprising the dregs of society, and carrying out its operations using letter boxes disguised as waste receptacles. In *V.*, Benny Profane finds true life under the street, in the sewer system. And in *Gravity’s Rainbow* and *Vineland*, the outcasts from the various systems of the novels are redeemed through the ironic role they play in justifying the existence of the systems that expel them.

All these examples show Pynchon's interest in environments as well as systems. In particular, environmental material that was once part of a system but is so no longer is waste, from the system's point of view. Yet, as the examples of the body's hair and skin cells demonstrate, waste also has a function *in making the system work*. The body's hair carries away trace elements and impurities, and the skin cells protect the body, whether in routine service or in shielding against ultraviolet bombardment. Terry Caesar remarks, in one of the best discussions of Pynchon's scatology in *Gravity's Rainbow*, that when excrement is

conceived of as a specific substance, it is seldom either joyous or sobering and almost always debasing. There is no link with earth's renewal, but only with its putrefaction and decay. As a trope, on the other hand, shit does function as a fertilizing emblem; indeed, I have been arguing there would be no textual fertility without it—because the text would lack a figurative means at once to void and re-nourish its own proliferation. (46)

Of course, if the waste of a system is essential for the system's operation, the concept of a self-contained and self-reliant system becomes impossible to sustain. Finally, and most paradoxically, maintaining a difference between the waste of a system and the system itself can even become the system's *raison d'être*.

The W.A.S.T.E. mail delivery system in *Lot 49* exemplifies waste becoming, in turn, its own system. During her evening of revelation in San Francisco, Oedipa sees many manifestations of the Tristero system, all composed of "waste" from the system of the social mainstream. She hears about "'A whole underworld of suicides who failed. All keeping in touch through that secret delivery system'" (116). She re-encounters Jesús Arrabal, the exiled Mexican leader of the CIA ("Conjuración de los Insurgentes Anarquistas"), an anarchist organization ironically sharing its initials with that most "inside" of systems, the Central Intelligence Agency. The anarchist CIA is, in its exile, an instance of the "waste" created by a political system, yet Arrabal manages to retain his vision of (though apparently little hope for) a system without formal organization in his image of a society whose operation is as "'automatic as the body itself":

"You know what a miracle is [. . .] another world's intrusion into this one. [. . .] Where revolutions break out spontaneous and leaderless, and the soul's talent for consensus allows the masses to work together without effort, automatic as the body itself. And yet, señá, if any of it

should ever really happen that perfectly, I would also have to cry miracle. An anarchist miracle." (120)

These examples represent magical forms of regeneration: the rejected, dispossessed, or disinherited are reconstituted into another, new entity. In her nighttime wandering, Oedipa encounters, among others:

a facially-deformed welder, who cherished his ugliness; a child roaming the night who missed the death before birth as certain outcasts do the dear lulling blankness of the community; a Negro woman with an intricately-marbled scar along the baby-fat of one cheek who kept going through rituals of miscarriage each for a different reason, deliberately as others might the ritual of birth, dedicated not to continuity but to some kind of interregnum; an aging night-watchman, nibbling at a bar of Ivory Soap, who had trained his virtuoso stomach to accept also lotions, air-fresheners, fabrics, tobaccos, and waxes in a hopeless attempt to assimilate it all, all the promise, productivity, betrayal, ulcers, before it was too late. (123)

Physically deformed, scarred, perpetually miscarrying, obsessively ingesting—each of these images also illustrates a form of exile; the people Oedipa meets are those expelled from the body politic much as hair, nails, urine, excrement, and dead skin are expelled from the body physic. Those represented or communicating by the W.A.S.T.E. system are the dregs of society, society's waste.

Before becoming a disk jockey, Mucho Maas was a used-car salesman. That job's image of meaningless, "incestuous" cycles echoes hauntingly throughout *Lot 49* and strengthens the force of other images of its type, and early in the novel poses the same problem that perplexes Oedipa: how does one separate the dross from the gold, the environment from the system, the waste from the body, the outside from the inside? And, what do these divisions mean? Mucho has nightmares about that job—the insoluble problem it presents and its horrifyingly meaningless cycle of repetition. The cars are merely extensions of their owners' bodies, and Mucho cannot find a way to sift them from their waste:

[W]hen the cars were swept out you had to look at the actual residue of these lives, and there was no way of telling what things had been truly refused [. . .] and what had simply (perhaps tragically) been lost: clipped coupons promising savings of 5 or 10¢, trading stamps, pink flyers advertising specials at the markets, butts, tooth-shy combs, help-wanted ads, Yellow Pages torn from the phone book, rags of old underwear or

dresses that already were period costumes, for wiping your own breath off the inside of a windshield with [. . .] all the bits and pieces coated uniformly, like a salad of despair, in a gray dressing of ash, condensed exhaust, dust, body wastes—it made him sick to look, but he had to look. [. . .] Even if enough exposure to the unvarying gray sickness had somehow managed to immunize him, he could still never accept the way each owner, each shadow, filed in only to exchange a dented, malfunctioning version of himself for another, just as futureless, automotive projection of somebody else’s life. As if it were the most natural thing. To Mucho it was horrible. Endless, convoluted incest.

(13–14)

The image of meaningless, “futureless” repetition is strengthened in this passage by the commixture of the automotive and the human. The unnatural, perpetual recycling of wasted material—cars, or lives—is also equated with incest, a genetic “looping back” that breeds monsters. Mucho is nauseated by the dizzying circularity in the car lot, and his physical reaction to his nightmares is another bodily expulsion: cold sweat.

Pynchon interweaves meaningless circularity as a form of monstrosity with images of incest, excrement, vomit, sodomy, multiple mirrors, echoes, and various other forms of systemic looping. For example, a frequent source of new information for characters, of new input into their systems of knowledge, is, paradoxically, the garbage heap or washroom. The boys in “The Secret Integration” find irrefutable evidence of their parents’ racism in the garbage vindictively dumped on the Barringtons’ lawn (SL 196). In *The Crying of Lot 49*, washrooms become a source of coded messages for Oedipa:

On the latrine wall, among lipsticked obscenities, she noticed the following message [. . .] “Interested in sophisticated fun? You, hubby, girl friends. The more the merrier. Get in touch with Kirby, through WASTE only, Box 7391, L.A.” WASTE? Oedipa wondered. Beneath the notice, faintly in pencil, was a symbol she’d never seen before, a loop, triangle and trapezoid[. . .] She found a pen in her purse and copied the address and symbol in her memo book, thinking: God, hieroglyphics. (52)

She later finds another, similar message:

In one of the latrines was an advertisement by AC-DC, standing for Alameda County Death Cult, along with a box number and post horn. Once a month they were to choose some victim from among the innocent,

the virtuous, the socially integrated and well-adjusted, using him sexually, then sacrificing him. Oedipa did not copy the number. (122-23)

And in *Gravity's Rainbow*, Slothrop studies the Rocket by reading manuals "hastily translated from the German—brokenly mimeographed, even a few salvaged by the Polish underground from the latrines at the training site at Blizna, stained with genuine SS shit and piss" (211), and eventually finds himself mirrored in the graffiti of a latrine somewhere in the Zone:

One night, on the wall of a public shithouse stinking and ripe with typhoid, he finds among initials, dates, hasty pictures of penises and mouths open to receive them, Werewolf stencils of the dark man with the high shoulders and the Homburg hat, an official slogan: willst du V-2, dann arbeite. If you want the V-2, then work. Good Evening Tyrone Slothrop . . . no, no, wait, it's O.K. [. . .] But then another message caught his eye: rocketman was here. His first thought was that he'd written it himself and forgot. Odd that that should've been his first thought, but it was. Might be he was starting to implicate himself, some yesterday version of himself, in the Combination against who he was right then. (623-24)

Gravity's Rainbow is particularly full of washrooms: the Transvestite's Toilet (688), the toilet whose valve is cracked a bit in anticipation of a police raid (694), the toiletship *Rücksichtslos* on board which Enzian extorts information on the Schwarzgerät from Horst Achtfaden (449-51), and so on. The most notable is, of course, the men's room in the Roseland Ballroom, where, in Slothrop's fantasy induced by his sodium amytal drugging at the hands of PISCES, Slothrop is himself metamorphosed into waste, after a fashion, by being flushed down the toilet. And, as the information acquired in the other latrines is ultimately useless, so PISCES fails to obtain any information from Slothrop other than evidence that he subconsciously fears being sodomized by blacks, and his many uninterpreted variations on the phrase "You never did the Kenosha kid." Thus the passage is filled with images of circularity and waste, consumption and expulsion.

The ballroom itself has an "oceanic mirror that swallows most of the room into metal shadows . . . the hundred bottles hold their light only briefly before it flows away into the mirror . . . even when someone bends to light a cigarette, the flame reflects back in there only as dark, sunset orange. Slothrop can't even see his own white face" (62). This mirror is like the all-absorbing mirrors on the *Rücksichtslos*, which are "directly facing, reflecting each other, frame after frame, back in a curve of very great radius" (450) (or the mirrors

bracketing the clock in Schoenmaker's waiting room in V. [45-46]). The disorienting abyss of the mirror in the Roseland Ballroom, the beer, and the drugs nauseate Slothrop, who ends up "kneeling over a toilet bowl, vomiting beer, hamburgers, homefries, chef's salad with French dressing, half a bottle of Moxie, after-dinner mints, a Clark bar, a pound of salted peanuts, and the cherry from some Radcliffe girl's old-fashioned" (63). (Such nausea, induced by the loss of control, afflicts Brock Vond in *Vineland* when his laughter develops diverging oscillations out of his control: "At some point he threw up, broke some cycle, and that, as he came to see it, was what 'saved' him—some component of his personality in charge of nausea" [278].) Finally, Slothrop's trip down the toilet is neither a birth nor a death, but a doubling back into the womb, an "un-birth," as he travels down the toilet's "stone-white cervix" (63).

Another fusion of images of birth, sodomy, and excrement occurs in the parable of Byron the Bulb, whose tale of adventures seems a microcosm of the adventures of Slothrop in the novel as a whole. In a segment that parallels Slothrop's nightmarish fantasy about the Roseland Ballroom, the immortal Byron eludes Phoebus ("the international light-bulb cartel" and its "Committee on Incandescent Anomalies") in another escape down the waste lines, after having been traded to a prostitute whose customer is:

a cost-accountant who likes to have light bulbs *screwed into his asshole*, and this john has also brought a little *hashish to smoke*, so by the time he leaves he's forgotten about Byron still there in his asshole—doesn't ever, in fact, find out, because when he finally gets around to sitting down (having stood up in trolleys all the way home) it's on his own home toilet and plop! there goes Byron in the water and flusssshhhh! away down the waste lines to the Elbe estuary. He is just round enough to get through smoothly all the way. (652)

Pynchon merges what are perhaps the most grotesque examples of the body's system looping back on itself in the images of coprophagy and cannibalism. Both the human body in death and its excrement in life are absolute images of bodily waste, ones which Pynchon unflinchingly connects through the parallels between the scene of Brigadier Pudding's masochistic coprophagy and the scene in which Slothrop, under the influence of Säure Bummer's drugs, mistakes corpses for enormous loaves of dough. For Brigadier Pudding:

The stink of shit floods his nose, gathering him, surrounding. It is the smell of Passchendaele, of the Salient. Mixed with the mud, and the

putrefaction of corpses, it was the sovereign smell of their first meeting, and her emblem. The turd slides into his mouth, down to his gullet. He gags, but bravely clamps his teeth shut. Bread that would only have floated in porcelain waters somewhere, unseen, untasted—risen now and baked in the bitter intestinal Oven to bread we know, bread that's light as domestic comfort, secret as death in bed. (235–36)

Similarly, for Slothrop, the images of excrement and ingestion merge when he comes across corpses in body-bags:

[H]e's almost around the corner—here, laid side by side on the pavement, are these enormous loaves of bread dough left to rise under clean white cloths—boy, is everybody hungry: the same thought hits them all at once, wow! *Raw dough!* loaves of bread for that *monster* back there . . . oh, no that's right, that was a building, the Reichstag, so these aren't bread . . . by now it's clear that they're human bodies, dug from beneath today's rubble, each inside its carefully tagged GI fartsack. But it was more than an optical mistake. They are rising, they are transubstantiated, and who knows, with summer over and hungry winter coming down, what we'll be feeding on by Xmas? (368)

In these inversions of defecation and transubstantiation, Pynchon compacts the ideas of waste, death, and physical and spiritual nutrition. For Brigadier Pudding, the smells of Passchendaele and the Salient are recollections of the smell of death, and his feeding on waste is, as we shall see, entirely appropriate to this collection of images. Slothrop's naïve mistake is not without context either: the monster for whom he imagines the loaves of bread are to be baked is King Kong—“squatting down, evidently just, taking a shit, right in the street” (368)—“the black scapeape we cast down like Lucifer from the tallest erection in the world” (275). The images of expulsion, then, encompass both King Kong and the archetypal expulsion of Satan from heaven. Moreover, according to the pattern of waste feeding back into the system, Milton's Satan returns to Eden to corrupt humankind and “bring death into the world.” Finally, the transubstantiation of Christ's body into bread reminds us of the more general Christian cyclical pattern of expulsion, death, and resurrection.

Themes of divine expulsion and bodily violation are blended again in *Vineland* when Frenesi, the “bringer of light” to Weed Atman's murdered body (261), confesses that she quickly came to enjoy forced penetrations of her body when in the custody of Brock Vond's correction agency:

"I started looking forward to it—I wanted them to come and hold me down, stick needles in me, push things up my ass. Wanted that ritual. [. . .] Shrinks never figured it out, but the orderlies, the workin' stiffs who actually had to do it all, handle me, hold me still, pull apart the cheeks of my ass, they knew all right, 'cause they were digging it just as much as I was. . . ." She waited, guttering with a small meek defiance, standing at the window and trembling, moonlight from a high angle pouring over her naked back, casting on it shadows of her shoulder blades, like healed stumps of wings ritually amputated once long ago, for some transgression of the Angels' Code. (261)

The "intestinal oven" is the mechanism whereby the body sorts waste from nutrition, and expels the waste. Pynchon inverts its function in his description of Blicero and Gottfried's sodomy, emphasizing the inversion of the binary pairings of system/environment and life/death. Instead of an "approach to the gates of life," their version of sexual intercourse is presented as pure waste, and is made a metaphor for the "Other Kingdom," death:

Blicero's seed, sputtering into the poisoned manure of his bowels . . . it is waste, yes, futility . . . but . . . as man and woman, coupled, are shaken to the teeth at their approaches to the gates of life, hasn't he also felt more, worshipfully more past these arrangements for penetration, the style, garments of flaying without passion, sheer hosiery perishable as the skin of a snake, custom manacles and chains to stand for the bondage he feels in his heart . . . all became theatre as he approached the gates of that Other Kingdom, felt the white gigantic muzzles somewhere inside, expressionless beasts frozen white, pushing him away, the crust and mantle hum of mystery so beyond his poor hearing . . . there have to be these too, lovers whose genitals *are* consecrated to shit, to endings, to the desperate nights in the streets when connection proceeds out of all personal control, proceeds or fails, a gathering of fallen—as many in acts of death as in acts of life—or a sentence to be alone for another night. . . . Are they to be denied, passed over, all of them? (722)

The reversals of the system of heterosexual reproduction inherent in sodomy and the connection of these reversals to death are also apparent in the fantastic intersection of elements in the Roseland Ballroom. The link between Slothrop's fear of being sodomized and his trip down the toilet is finally explained in the section "Shit 'N' Shinola." Just as Säure Bummer wants Slothrop to explain the expression "Ass Backwards"—a phrase that brings to mind the reversal represented by

sodomy in its several instances in *Gravity's Rainbow* and *Vineland*—so he asks Bodine to explain the expression “Shit from Shinola.” Although Bodine, like Slothrop, does not provide an explanation, the narrator does:

Well there's one place where Shit 'n' Shinola do come together, and that's in the men's toilet at the Roseland Ballroom, the place Slothrop departed from on his trip down the toilet[. . .] Shit, now, is the color white folks are afraid of. Shit is the presence of death, not some abstract-art character with a scythe but the stiff and rotting corpse itself inside the whiteman's warm and private own *asshole*, which is getting pretty intimate. That's what that white toilet's for. You see many brown toilets? Nope, toilet's the color of gravestones, classical columns of mausoleums, that white porcelain's the very emblem of Odorless and Official Death. (688)

At this point, the connection Pynchon demonstrates between waste and death has become clear. Satan, the fallen angel, is the archetype of a pattern Pynchon plays with in repeated variations: the “gathering of fallen—as many in acts of death as in acts of life.” These are those who are denied, or passed over, and expelled from the system, and so become its waste.

The importance of waste and its paradoxical and ironic role in sustaining the system leads Pynchon to adapt various vocabularies to his thematic purpose. “Preterition,” which pervades *Gravity's Rainbow*, is a good example. In its most general dictionary sense, preterition means a passing by, the passage of time, an omission or neglect, or the action of passing over or fact of being passed by without notice. In rhetoric, preterition is a figure by which summary mention is made of a thing in professing to omit it. In Pynchon's fiction, preterition embodies the ironic relation between a system, its wastes, and its environment, and serves as a code-word of sorts to an entire argument about the interconnectedness of systems, or the interdependence of system and environment. The source of the irony lies in the deconstructive effect waste has on the concept of “system.” By definition, waste is not in the system, and yet, because it is necessary for the operation of the system, it cannot be strictly extra-systemic. It is in the dual position of being *of* the system but not *in* the system.

In law, preterition is “the omission by a testator to mention in his will one of his children or natural heirs” (*OED*)—a definition that reflects on Oedipa's possible position as simultaneously both executrix of and

heirress to the estate of Pierce Inverarity: "She had dedicated herself, weeks ago, to making sense of what Inverarity had left behind, never suspecting that the legacy was America. Might Oedipa Maas yet be his heirress; had that been in the will, in code, perhaps without Pierce really knowing?" (CL 178).

Finally, the meaning of preterition in Calvinist theology is particularly relevant to Slothrop's personal history as a descendant of the American Puritans of the *Arbella*. In this sense, preterition is the passing-over of the non-elect, their non-election to salvation. Slothrop's Puritan ancestor William Slothrop made the heretical proposition that the system of Calvinist theology depends as much on those who fail to attain the Kingdom of God as on those who succeed:

He wrote a long tract about it presently, called *On Preterition*. It had to be published in England, and is among the first books to've been not only banned but also ceremonially burned in Boston. Nobody wanted to hear about all the Preterite, the many God passes over when he chooses a few for salvation. William argued holiness for these "second Sheep," without whom there'd be no elect. You can bet the Elect in Boston were pissed off about that. And it got worse. William felt that what Jesus was for the elect, Judas Iscariot was for the Preterite. Everything in the Creation has its equal and opposite counterpart. How can Jesus be an exception? could we feel for him anything but horror in the face of the unnatural, the extracreation? Well, if he is the son of man, and if what we feel is not horror but love, then we have to love Judas too. Right? How William avoided being burned for heresy, nobody knows. (GR 555)³

These various senses and uses of preterition can be connected to common concepts in systems theory, in which what is preterite is "waste" expelled into the environment by the system. Caesar terms this systemic operation "excremental logic," and describes it as "thought which uses its object in order to deny it, and dispel it as meaningless" (46). Thus, when Thanatz, like Slothrop, is expelled from the *Anubis*, cast overboard in a storm, the imagery and language make perfect sense. Thanatz slips and falls overboard because "[s]ome mess cook slipped in a puddle of elite vomit and spilled a whole galvanized can full of creamed yellow chicken nausea all over that starboard weather deck." The expulsion of vomit from "the elite" leads in turn to Thanatz's expulsion, and the ship naturally continues without him: "The white *Anubis*, gone on to salvation. Back here, in her wake, are the preterite, swimming and drowning, mired and afoot, poor passengers at sundown who've lost the way, blundering across one

another's flotsam, the scrapings, the dreary junking of memories—all they have to hold to—churning, mixing, rising, falling. Men overboard and our common debris" (667).

Pynchon also broadens the term preterition by adapting its ironic morality to new contexts. The Hereros in *Gravity's Rainbow* are a "preterite clan" (100), and their leader, Enzian, a survivor of General von Trotha's genocidal campaigns, is similarly preterite: "Though the murderers in blue came down again and again, each time, somehow, Enzian was passed over. It is a Herod myth his admirers still like to bring up, to his annoyance" (323). To the Hereros, preterition becomes a condition of their existence and a part of their mythology. The dodoes of Mauritius are a similarly preterite species, doomed to extinction because they are an affront to the system of nature. Since there is no environment outside nature, the only possible expulsion for the "unnatural" dodoes is extermination. Ironically, their exterminators, Dutch settlers like Katje's ancestor Frans Van der Groov, are preterite as well, because their purpose for being depends on the existence of the very creature they are trying to exterminate:

This furious host were losers, impersonating a race chosen by God. The colony, the venture, was dying—like the ebony trees they were stripping from the island, like the poor species they were removing totally from the earth. By 1681, *Didus ineptus* would be gone, by 1710 so would every last settler from Mauritius. [. . .]

To some, it made sense. They saw the stumbling birds ill-made to the point of Satanic intervention, so ugly as to embody argument against a Godly creation. Was Mauritius some first poison trickle through the sheltering dikes of Earth? Christians must stem it here, or perish in a second Flood, loosed this time not by God but by the Enemy. The act of ramming home the charges into their musketry became for these men a devotional act, one whose symbolism they understood.

But if they were chosen to come to Mauritius, why had they also been chosen to fail, and leave? Is that a choosing, or is it a passing-over? Are they Elect, or are they Preterite, and doomed as dodoes? (110)

In the same way Oedipa's preterition in relation to Inverarity's estate is unclear, so the status of the Dutch settlers of Mauritius is unclear. The boundary between system and environment is continually challenged by the reliance of the system on the existence of the preterite, by the need for any open system to expel waste, and thus by the general interconnectedness of realms.

Pynchon also challenges the boundary between system and environment by testing the limits of the body boundary, and blending

the animate and inanimate. Peter Cooper correctly remarks that "Pynchon's metaphoric use of entropy reveals the inroads that the animate and the inanimate are making into one another's realms. Working with modern materials, the author urges a hypothesis traditional in grotesque art and literature: the alive are not so alive, but the dead seem to be taking on a life of their own" (51). Pynchon's connection of this theme to systems theory shows a debt to Wiener, as strikingly similar passages from Wiener's *Cybernetics* and Pynchon's *V.* make clear:

At every stage of technique since Daedalus or Hero of Alexandria, the ability of the artificer to produce a working simulacrum of a living organism has always intrigued people. This desire to produce and to study automata has always been expressed in terms of the living technique of the age. In the days of magic, we have the bizarre and sinister concept of the Golem, that figure of clay into which the Rabbi of Prague breathed in life with the blasphemy of the Ineffable Name of God. In the time of Newton, the automaton becomes the clockwork music box, with the little effigies pirouetting stiffly on top. In the nineteenth century, the automaton is a glorified heat engine, burning some combustible fuel instead of the glycogen of the human muscles. Finally, the present automaton opens doors by means of photocells, or points guns to the place at which a radar beam picks up an airplane, or computes the solution of a differential equation. (*Cybernetics* 51)

In the eighteenth century it was often convenient to regard man as a clockwork automaton. In the nineteenth century, with Newtonian physics pretty well assimilated and a lot of work in thermodynamics going on, man was looked on more as a heat-engine, about 40 per cent efficient. Now in the twentieth century, with nuclear and subatomic physics a going thing, man had become something which absorbs X-rays, gamma rays and neutrons. Such at least was Oley Bergomask's notion of progress. (*V.* 284)

Pynchon takes Wiener's systems view of automata as a starting point for the extended treatment of characters' identity and humanity, finding in the automaton a powerful symbol of the vexed issue of what we mean when we speak of life and death. Throughout Pynchon's fiction, we find characters whose bodily integrity is compromised by the mixture of living and dead elements they contain. In *V.*, Fergus Mixolydian has engineered himself into a feedback loop that encompasses himself and his television: "He'd devised an ingenious sleep-switch, receiving its signal from two electrodes placed on the inner skin of his forearm. When Fergus dropped below a certain level

of awareness, the skin resistance increased over a preset value to operate the switch. Fergus thus became an extension of the TV set" (56). Evan Godolphin, after his airplane crash, receives "a nose bridge of ivory, a cheekbone of silver and a paraffin and celluloid chin" (100). Esther's transformation at the hands of Schoenmaker (*Schönmachen*: to make oneself look beautiful; *Schönheitsoperation*: cosmetic plastic surgery) is less overtly radical (104-08), but her rhinoplasty changes her personality as well, and in a dehumanizing manner: she is now in a state of ongoing sexual excitement, "as if Schoenmaker had located and flipped a secret switch or clitoris somewhere inside her nasal cavity" (109). The same mechanistic logic informs McClintic Sphere's reflection that, "if a computer's brain could go flip and flop, why so could a musician's" (293). Sphere's speculation is realized in Bongo-Shaftsbury, who terrifies the young girl Mildred with a demonstration that he is an "electromechanical doll":

He rolled up the shirt cuff and thrust the naked underside of his arm at the girl. Shiny and black, sewn into the flesh, was a miniature electric switch. Single-pole, double-throw. Waldetar recoiled and stood blinking. Thin silver wires ran from its terminals up the arm, disappearing under the sleeve.

"You see, Mildred. These wires run into my brain. When the switch is closed like this I act the way I do now. When it is thrown the other—" (80)

Similarly, V in her various forms is characterized by a melding of body and machine or prosthesis. As Vera Meroving, she has a false eye containing the mechanism of a clock, its face marked with the signs of the Zodiac. As the Bad Priest disassembled by Maltese children, she has a wig covering a tattooed scalp, artificial feet, a star sapphire implanted in her navel, false teeth, and a false eye (342-43). How much of her is really human is left unanswered, since her dismemberment is interrupted; but her disassembly and particularly the sapphire in her navel remind us of Benny Profane's version of the story of the boy with a golden screw where his navel should have been, a story Profane associates with his own personal nightmare of disassembly:

To Profane, alone in the street, it would always seem maybe he was looking for something too to make the fact of his own disassembly plausible as that of any machine. It was always at this point that the fear started: here that it would turn into a nightmare. Because now, if he kept going down that street, not only his ass but also his arms, legs, sponge

brain and clock of a heart must be left behind to litter the pavement, be scattered among manhole covers. (40)

SHROUD and SHOCK, the synthetic humans at Anthroresearch Associates, also confront Profane with the problem of his own and his species's identity or nature. As hybrids of things living and dead, these manikins exist in the ambiguous region between life and death, the realm of the inanimate in *V.*, and bring into question whether these categories can be sustained. SHROUD emphasizes the ultimate lack of difference by remarking to Profane that he and Profane will one day be the same, without saying whether that means living or dead (286).

Other examples of the blurring of the line between life and death abound. In *V.*, Rachel Owlglass is so much in sexual love with her MG that Profane cannot "find the key to her own ignition" (27), and Mélanie l'Heuremaudit dies by impalement because she has omitted her inanimate insert (414). In *Gravity's Rainbow*, Tchitcherine has steel teeth, a silver plate in his head, and gold wirework in his right knee (337, 349, 702, 704). The robot that leads the colonel underground to Happyville is more living than dead (645), and Byron the Bulb has a life of his own (647–55). Felipe imagines a consciousness for rocks (612), and Lyle Bland sees the earth as "a living critter" (590). Gottfried becomes a living implant in the rocket (750–51), which, as Katje suggests (209) and Enzian believes (362), may itself be alive. Slothrop's autonomy is compromised, in part at least, by his conditioning (or perhaps even by an implant of pseudo- or quasi-animate Imipolex) at the hands of Laszlo Jamf to respond to specific stimuli that give him an erection that "hums from a certain distance, like an instrument installed, wired by Them into his body as a colonial outpost here in our raw and clamorous world, another office representing Their white Metropolis far away" (285). Klaus Närrisch's impending death is described as an approach to Brennschluss (518), and Franz Pökler's ambivalence is described mechanistically when he tries to decide whether to submerge his personality in his rocket research: "he hunted, as a servo valve with a noisy input will, across the Zero, between the two desires, personal identity and impersonal salvation" (406). Kurt Mondaugen thinks of the self in terms of "electro-mysticism":

He thought of himself, there and here, as a radio transmitter of some kind. [. . .] Think of the ego, the self that suffers a personal history bound to time, as the grid. The deeper and true Self is the flow between cathode and plate. The constant, pure flow. Signals—sense-data, feelings, memories relocating—are put onto the grid, and modulate the flow. We

live lives that are waveforms constantly changing with time, now positive, now negative. Only at moments of great serenity is it possible to find the pure, the informationless state of signal zero. (404)

We see not only the living mechanized but the non-living anthropomorphized. Walter Rathenau's spirit describes the chemical conglomerate that synthesizes oils, plastics, and dyes as a "growing, organic Kartell" (167) that impersonates life; and Marcel, the chess-playing robot in the Raketen-Stadt, manifests intelligent non-life (675). The ultimate interface is that between life and death, but even this division becomes ambiguous when life becomes difficult to distinguish from its impersonations, as described by Rathenau in his parable of the petrochemical industry. After pointing out that "[t]he interface between coal and steel is coal-tar," Rathenau invokes the metaphor of waste feeding into the system: "But to make steel, the coal tars, darker and heavier, must be taken from the original coal. Earth's excrement, purged out for the ennoblement of shining steel." The movement of this cycle is "not from death to any rebirth. It is from death to death-transfigured" (166).

In *Vineland*, the Thanatoids represent another type of "death transfigured": they blur the boundary between life and death, and their bodily presence is tenuous, at best. Prairie is surprised to find Weed Atman's hand "nearly weightless" (366). By contrast, the Sisterhood of Kunoichi Attentives has attained a supernaturally strong grasp of their bodily boundaries. Sister Rochelle and DL Chastain are both able to imitate their environments so precisely that they can make themselves invisible (111, 250-51); DL is also able to penetrate another's being with the Ninja Death Touch (131, 151, 157). These abilities seem to be connected to the Attentives' "rules" of behavior, which are overtly system-based. DL says "a kunoichi's first rule is Try to stay *out* of trouble, both within herself and then in terms of the outside environment" (167-68); and Sister Rochelle reminds DL that clause Eight section B of the Ninjette Oath is "To allow residence to no one who cannot take responsibility for both her input and her output." Prairie immediately translates this latter principle into bodily terms, relating it to her own maxim "earn what you eat, secure what you shit" (109), further emphasizing the image of the "body system."

The weight of these examples in *Vineland* points to a continuation of Pynchon's longstanding interest in the body as system. From his earliest fiction onwards, Pynchon's treatment of scatology, and of the body boundary generally, has been neither simple nor superficial. *Gravity's Rainbow*, that most often *started* of books, has legions of readers who have put it aside in disgust at images like that of Brigadier

pudding swallowing Katje's excrement. To my knowledge, at least one back-seat reader has thrown the book from a moving car as Slothrop plunges down the toilet of the Roseland Ballroom. Yet understanding how such repellant images bind large patterns of themes throughout Pynchon's fiction is vital to fully accepting their use. The fundamental dichotomies of ingestion and expulsion, mechanism and vitalism, and body and environment illuminate Pynchon's deep concern with how open and closed systems shape our thinking about life and death.

—University of British Columbia

Notes

¹The terms "input" and "output" denote, respectively, an effect of the environment on the system and of the system on the environment. Implicit in this terminology is a spatial metaphor that suggests the system is physically "inside" its environment rather than adjacent to it. This metaphor begs the question of whether an input or output can exist in isolation, without any interactive effects, since inside and outside may not constitute the whole of reality. For example, it is possible to imagine a reality of numerous systems rather than a single system with an amorphous environment. Thus the terms "inside" and "outside" are of questionable value in any absolute sense.

²Blauberg 151–57 provides a good survey of positions on open and closed systems. The authors present a chronology of developments on the distinction between open and closed systems, beginning with Bertalanffy's original analysis in the 1930s, and finishing with an analysis of their own which offers a full spectrum of models, from absolutely closed to fully open systems.

³William Slothrop's inversion of Christian morality in *On Preterition* points out the ambiguity of the categories of preterite and elect, and of the role Judas plays as the "waste" of the Passion story. Pynchon's tale of William Slothrop therefore operates analogously to Borges's story "Three Versions of Judas," whose character Nils Runeberg contends that Judas alone truly sensed Christ's divinity and acted in the best way possible to reveal it. Pynchon's own family history also contains the example of William Pynchon, who in 1650 published *The Meritorious Price of Our Redemption*, a book condemned as heretical and burned in Boston. See Winston 254–55.

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