



**MANIFESTO**  
in Five Easy Movements  
by  
**CHANCE**

The Drill Press

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# I

## **You Think You Live in a Free Country?**

In 1959, two men working for UNIVAC wander into a bar after the late shift. A woman aggressively flirts with one of them. He pursues the flirtation and is arrested by her two male companions. The other is told the name of a magistrate and sent off to arrange bail. After returning to secure his duped friend's release, one of the cops asks if he believes he lives in a free country. He considers this question for the first time in his life; his answer is no. The cop tells him to never forget it. Nor does he; after seventy years in the US, a veteran, a lifelong Republican and a retiree from the defense industry, he is reminded of it daily.

So when did the takeover become fait accompli? It certainly was not complete in 1959. Unlike a typical coup, this has been an accretion of control over daily life, like the gradual warming of a bathtub from comfortable to scalding. Most humans are too blinded by belief in the necessity of commanded structure to recognize the self-organization of internal logic, even when it is obvious in the web of life. Certainly less so as it weaves a web around their own puny, meaningless lives. Inculcated with the media mythology of jackbooted thugs as synonymous with police state, they fail to see through the veneer of liberty to their own puppet-hood.

This growth of corporate control to capture humanity as peonage has seen rapid progress, beginning in earnest only about a hundred years ago with legal innovations in Europe and the US. Whereas historically the masters have worn a visible

face, now they are the faceless corpocrats applying bland rules to fleece and discard while their monstrosity builds an international dominion of docile dupes. Winners are chosen and remunerated lavishly, losers tossed, the faceless majority living vicarious lives of quiet desperation. A handful of the corpocrats prosper while most end expunged, all of them spiritually desiccated whatever their material condition. And no one speaks the unspeakable, branded untenable by corporate media and education.

For want of better term, since there is nothing within contemporary organizational nomenclature or those vast mythologies called economics or political science to capture its essence, call it corporacracy.

## **Essence**

The human condition cedes independence to organization, a common theme in human history. Escape comes at great cost. But Kafka saw the bud presaging this bloom, understanding the coming oppression as beyond any scale possible in the past. And even as the internet seems to free humans to express themselves openly, by Kafkaesque metamorphosis their expressions become irrelevant blogs, infantile meanderings that show nothing more than the imprint of groupthink on their anti-imaginings, co-opted in service to the beast while these "freed men" wriggle like flies caught in its web.

Contemporary US society everywhere sets minefields disguised as Elysian Fields, a gauntlet of booby traps set by a police state in service to corporations elevated to the status of protected super-

individuals behind which monsters hide in faceless carnage of the human spirit. The police state ensnares the serfs not with black helicopters or theft of private property but with the institutionalization of serfage to private debt for the shiny slave bangles that soothe them in their captivity while further entangling them. Indentureship is the price for even basic medical care, inflated cost the price of going it alone, the entire edifice a novel form of socialized medicine guaranteeing cheap labor to the giant corporations. Indentureship may be too mild a term for citizens cultivated as domestic stock.

The horror is that the process is an automaton, an example of a feedback loop with amplification, beyond the brutal methods required in a slavocracy because the slaves no longer see any masters, instead only the bland face of the corporacracy soothing them with the tit of popular culture, educating them to accept the tit without question, offering them protection from whatever dangerous boojum threatens with foreign influence, convincing them of freedom of choice through the pointless act of voting. A bureaucratic Golem that threatens to engulf the world. An emulation of a model for freedom within its own universe of discourse, with its own internal logic, which in the metalogic of verifiability is seen to be an inconsonant model of freedom outside any defensible meaning of the word. To those trapped within, the outer world is the nonstandard model, yet in moments of lucidity they are terrified by glimpses of an economy that is a giant Ponzi scheme disguised to look like something called free-market capitalism.

## Implementation

To object that a nation cannot be a police state if the citizens need not go underground is to call up the myth of police statism propagated in commercial films about Nazis and Communists, ignoring the reality of daily life in these unsubtle incarnations. Mythology becomes a significant contrivance, playing its greatest role in hiding the horror from the entrapped.

The mechanism itself is a mundane stroke of genius that could never be the product of human conspiracy, a demonic mechanization of servitude that can only be the product of chance. The huge living automaton of slavery arose from a mountain of bleak accounting law to assist living for the future to escape the emptiness of the present.

Debt and fear are the basic instruments of control. Build a culture driven by conspicuous consumption, competitive spending, pecuniary reputability, predatory emulation and the canons of decorous living. Instill a propensity to consume and waste via socialization through "education," convince through "education" that such a propensity is natural to all men, that it is, in fact, the motivating factor for all human behavior. Such a system can feed upon itself like a perpetual motion machine. Its feedback control mechanisms are ingrown through debt and fear and indoctrination parading as education and news, though there is need for constant policing, particularly against thoughts outside the boundaries of the accepted paradigm. It is not acceptable to have members living outside the machine, and so the notion of crime is extended and reinforced by the canons of

reputability, decency and social odium. Finally, the crowning touch is the carrot of non-economic employment for those with the proper attitude and aggressiveness, lifting them above low-class productive employment into the realm of pecuniary employment called management. That such a perpetual consumption machine is possible, indeed natural and all-pervasive, is part of its own mythos.

When exactly did the US become the most successful police state in history, so successful that its citizens believe they are free? There is no demarcation line between then and now, so subtle is the unseen machinery of state. It is not even clear how to describe it. Perhaps as a sort of corporate-military state, an unholy alliance of a military welfare state. Not even a subtle coup slipped in unseen; instead the nation grew into the machine, wove its own web, trapping itself. Now the machine grows the web to entrap the entire world.

Meanwhile, the fiction of opposition parties is promoted with increasingly malicious and hysterical political campaigns, all the more realistic because the participants themselves believe they are in opposition. Yet the existence of opposition is belied by noting none vote against military spending, no one attempts to curtail the fever to invade or otherwise harangue trumped-up enemies with bellicose language and threatening intent. Affirmation and opposition, pro and con, for and against, all painted in binary black and white, contention neatly captured within the self-perpetuating paradigm of the machine. What keeps the whole edifice from revealing its true face is the size and role of the uniformed military, small in manpower and hidden from direct



view. The vast majority of the military contraption exists within the corporacracy, extending so deeply into civilian life it provides the major source of technical employment, the wellspring from which flows the pecuniary energy maintaining perpetual consumption. Socialistic state disguised as free enterprise.

## **Illusion and censorship**

The media itself mechanizes one component of censorship. Consider, for example, the cable corporations that control large market segments, swathes of consumers that cross the spectrum of political thought. It has become commonplace for many of them to delete network programming with which they do not agree.

But this behavior is blunter than much of the control that infuses daily life. The enforcement of Orwellian Newspeak invented by political propagandists is far in excess of *1984* or *Animal Farm*, yet the network media, a cog in the machinery, accepts it at face value. Nor dare they ask the obvious, direct questions, as is seen by watching even the toughest of interviews.

The so-called educational establishment plays an ever greater role in this censorship. No longer concerned with teaching reading, writing or arithmetic, the sole goal of the educational component of the corporacracy is indoctrination, once called socialization. The core curriculum of official mythology establishes the bounds of thought outside which no credence may be given.

Up through high school, texts are no longer chosen for their prose quality or originality in presenting concepts. They are designed and written per committee to the correct groupthink precepts. As a result it becomes necessary to invent tests based on the precepts to guide the "teaching process." Success is defined against these tests which measure little ability to read, write, or reason. Because of this, it becomes necessary to teach high school graduates in semi-skilled positions to perform basic functions that used to be expected of everyone. Most high school graduates are ill prepared for rigorous college, so new avenues to collegiate ceremonial certification open via extended high school courses, the path followed by most who graduate. With university education more a ceremonial certification than in the wildest nightmares of Thorstein Veblen, businesses that require competence in some areas are often forced to scrutinize transcripts, administer their own tests and provide remedial training, or demand further training and certification in specific functional areas that ought to be the province of short-duration trade schools.

## **Literature**

Literature removes blinders from those with sufficient intellect and openness to fathom it. The mind-numbing pap that passes for entertainment for those unwilling or unable to develop mental abilities to digest dense prose pregnant with complex ideas and information (in the technical sense of the word) is not now, has never been, and never will be literature. Writing for those unwilling or unable to engage

their cognitive functions to visualize the noumena behind the language is not worth the trouble.

So what is the purpose of literature? The short answer might be, To foment intellectual revolution. The insulated, smug, self-satisfied culture that hates freedom and learning and life needs a wake-up call. This is perhaps a manifesto, a call for a new literary movement for a new century and a new millennium. A call to bore through the tough outer shell of induced groupthink protecting the hypocritical mush of clichéd writing and fuzzy thinking that passes for literature and general intellect in the bullshit nation, much as the Urosalpinx cinera drills into the soft body of the *Crassostrea virginica*. Of course, any such manifesto would not be worth the paper on which the words are laser printed.

As Orwellian Newspeak becomes the language of mythomaniacal corporacracy, cognitive dissonance the official modus operandi of government, literature ought to focus on breaking the spell official mythos casts over the society. As the function of news and official information agencies becomes more and more mythopoeia, infixion the goal of education and media, literature ought to stand outside the locked paradigm and raise a dissenting voice that cracks the shell to lay bare the rotten innards. The sad reality, however, is as in mathematics and science: almost none of those in society at large have the mental wherewithal to grasp even the most basic of concepts. So the writer is left with a small audience capable of the deliberation and discipline and patience necessary to appreciate and assimilate difficult work.

This calls for people looking for higher entertainment, for whom thinking is a pleasure, not a

chore. It requires those willing to think independently of groupthink.

As with mathematics or science, there are numerous pathways to enlightenment. At best, the writer casts his bread on the waters and hopes to have an effect.

## **II**

### **Where's the hole in that donut gone now?**

Pretend for argument sake there exists a real world independent of one's sensory portals. Suppose that world to be accessible to a single individual. (What the word accessible means in this context is not clear, since to experience reality implies cognitive perception, and all cognitive perception as Homo sapiens know it is filtered by sensory instrumentation. Hence there is no direct sensory perception of the world as it is, the noumena of Kant. But assume for argument sake one did find a viable method to pierce the veil of the phenomenal layer to the noumena.) How could that reality be conveyed to those unable to sense it? What would they think of the conveyer? The prophets of the Old Testament, men like Elijah and Elisha and Amos, Jonah and Jeremiah and the rest, give an inkling of what the experience might be like.

What if you were the prophet? How would you approach the conundrum of expressing your access to fellow human biocomputers in a language with no universe of discourse extending to include the aspects of the noumena? Your problem is opposite the error of belief in existence simply because of a name, an error aptly illustrated by R. G. H. Siu in *The Tao of Science* by asking, What happens to the hole in the donut once the donut is eaten? Unfortunately for you, the two problems look the same from the outside.

Common human behavior presages a following of those who find the expression of another's reality

to be reality, without any direct experience of it. The confusion of emotive bonding with direct knowledge is so generic to Homo sapiens as to pass without notice. Except you, like the mathematician with a concrete idea tied to no physical equivalent but expressible without ambiguity, would know they didn't get it. And then what? Metalanguage to dissect the linguistic inadequacy? New language to express the inexpressible? Is it possible to plant the idea in the cognitive function of other humans? In mathematics, this is certainly possible, but the range of cognitive extent of mathematics is accessible only to a small group of those with the requisite mental ability. The remainder of humanity is too mentally undevelopable. For you, having no ready linguistic tools at your disposal, the problem is more severe.

So you are left with few tenable choices. Develop a new paradigmatic language, which could take generations if not hundreds of years to come to fruition, or work within something like mathematics, limiting your reach to a handful with the requisite combination of intellectual capacity, patience and ability to concentrate and remember. Both might provide the distinct advantage of Whorf's thesis, creating a new breed with a new worldview molded by a new linguistic structure modifying the cognitive filtration of experience. Feasibility is the issue.

Another alternative is to reach out with metaphor and subversive linguistic modification in a new literature. In this case, the potential audience could be larger. The downside is that no longer is it possible to know whether the concept is transported to the other. Nor does this approach provide the potential longevity and scope of scientific theory, as a

simple comparison of Newton and Shakespeare makes evident to those who are educated. To those who don't understand the statement, it is suggested that your education is closer to ceremonial certification. (Note that this is a scale, not a dichotomy.)

Since at this point in the twenty-first century the corporacracy extends to the major publishing houses brimming with blind and dumb automatons squeezed from tubes of universities freshly inculcated with Newspeak slogans to co-opt literary experiment for the numbing of those who might have the potential to gain from fresh visions, the task encounters an insidiously egregious obstruction. Experimental literature has become a put-on, co-opting honest experimenters like Gaddis or Pynchon in service to commercial bloating of the egos of would-be intellectuals, allowing them to skip the original visions of the experimenters for the mundane pap and prattle peddled as experiment. Pseudo-intellectual nonsense and praise of mediocrity in literature follow intellectualizing other mindless activities, like elevating football and baseball and golf to formidable mental exercises or praising cliché, here-today-gone-tomorrow rock music and other pop trash as though it were for the ages.

Into this you step with something startling and new. It is left to you to set yourself apart from the pretending bilge. The question becomes how to avoid the quagmire?

### **What is fiction?**

The newspaper is fiction, as are the newscast, the speech by the President or any other politician,

the official government economic indicator, the unofficial and the quasi-official economic indicator and all associated numbers and statements regarding it, the balance sheet of a corporation, the history you were taught, the economic construct you learned, the financial explanation or political rubric to which you subscribe, and everything that can be swept into that giant variant of fiction called social science, including psychology and the oxymoronic absurdity, political science. All of these must be approached and judged as different genres of fiction, just like the novel, the motion picture, the television series.

Presentation is as much a part of fiction as content. Presentation of the work tells the viewer whether the work is to be considered "real" fiction, that is to say, fiction to be believed, or "unreal" fiction. A perfect example is the difference in the way a US newscast might present US derived economic indicators versus those derived by the old Soviet Union. No matter how absurd the fiction, if presented within the appropriate framework of Official-Speak, a dialect of Newspeak constantly bombarding citizens, it becomes tautological by virtue of a twisted internal logic.

Bombardment also has the power to create believers. How many who are repeatedly exposed to a commercial crediting a deodorant with improving a golf game will come to believe it? Certainly the ceremonial magic transferring sexual power to special automobiles holds sway in our culture. Nor is the clash of belief with what might be termed reality so uncommon, as illustrated by the dissonance of a porker who considers herself svelte and denigrates fat sopranos.



This special framing of fiction within a particular cultural interpretation of reality is nothing new. All the major religions present axioms that are accepted without question by their adherents and seen as ludicrous nonsense by outsiders. These superstitions are built on mythologies that claim miraculous demonstrations of their reality, events that never materialize within one's own lifetime, though some brands of organized superstition implement a process whereby such fantasies are ceremonially certified real. Of course, all this constitutes a particular genre of fiction. The sermon and Mass are special forms of performance art for delivering blessed esoteric pronouncements and experiences to the faithful.

Much of what is called journalism is not approachable as anything other than comedy. Some is higher comedy, as when an announcer attempts to present some event through a given time-variant nationalistic worldview. Generally pretentious and always tedious, these comedic pieces are most humorous when viewed from a distance of time or culture. Returning to an example, a historical piece about the economy in the decade of the sixties would not be the same if presented from the Soviet Weltanschauung as from the US Weltanschauung, even though both might represent the same "facts." From the perspective of time, both grow increasingly laughable.

So the comedy is in the presentation itself. The performance cues consumers as to how the work is to be taken, never mind the content. For this reason, there are many genres within news presentation.

One of the most entertaining of comedic news events is the gaggle of uninformed pundits arguing, debating or simply discussing topics about which they have no understanding and for which they have no basis for opinion. The most appropriate image is the talking head. A favorite routine is a fat, brassy clown dressed in loud, dissonant suit, shirt and tie, forcefully proclaiming he could not recall when the public seemed so disconnected from economic reality in the face of "objective numbers." In fact, disconnect between citizen insight into the economy and official government numbers is common, testifying to the selective memories of these journalists. As when Ronald Reagan tried to persuade US citizens that there were many jobs by reading advertisements for such skills as CICS programmers, about which he himself doubtless knew nothing.

However, more entertaining is the fictitious concept of "objective numbers," presented as handed down by some deity, though if the "objective numbers" had come from the old Soviet Union they would no longer be objective. The funniest part is that the one mouthing the pronouncement has little to no idea of how these "objective numbers" come to be. Never mind that they are subject to constant revision, deserving the modifier officious rather than objective. They are themselves fiction, obtained via incantation and other ceremonial magic based on a particular brand of economic mumbo-jumbo and for interpretation via the underlying brand of economic superstition from whence springs the mumbo-jumbo. Mathematics is brought to bear to certify the ceremonial magic, though mathematics itself may be

used for any sort of nonsense. Witness numerology, a "science" to which Isaac Newton subscribed.

## **Death of the written word**

Most news events come under the rubric of performance art, not literature. Only newspapers, novels, comic books, most computer manuals, magazines of all types, in general most printed work falls into what is here meant by literary fiction, at least as used by editors for major publishing houses and by agents. There are some written works that are not fiction, but they tend to become outdated rapidly. Examples are phone books, maps, directions, prices in catalogs, television and movie listings, restaurant menus, recipes, automobile manuals, some computer manuals, posted gasoline prices, other requisite tedium upon which society depends for regular functioning. The reader ought to be able to extend the list. Essays, histories, social science, law, the Declaration of Independence, the Constitution, these all are fiction. Law is a special case, since it is meant to be applicable as written, which one who challenges the veracity of the tax code can learn to great chagrin. The difficulty is that law is constantly mutating in its application, both over time and with deference to the powerful ones who defy it under special circumstances.

That humans prefer performance art since it requires no active processing of words in a written state can be taken as obvious, the oral tradition being easier to ignore while passing through the ears. It is likely the case that this derives from the inability of most humans to read with comprehension any-

thing but the simplest work. This applies to those with college education, graduate school, law degrees, business degrees, engineering degrees, almost any ceremonial certification, with few exceptions. The problem is not vocabulary or syntax, though these can be stumbling blocks, but instead the ability to think clearly enough to recognize general arguments outside keywords and buzzwords to sort through to the idea being expressed. Assuming there is such. There exists a strong tradition in journalism and politics and law and religion of stringing together syntactically correct sequences of words without semantic content. This is indeed the hallmark of the so-called social sciences, as well as of much contemporary philosophy.

Perhaps this is the real reason for the retreat from the written word. The visceral reaction is easier to induce from oral polemic with visuals than from written harangue. Politicians and media pursue gaggles, not solitary thinkers, depending on the numerous not being thinkers, instead manipulable with images and key-words chosen for unthinking effect. The disability of anti-think of masses of Homo sapiens is by now well assimilated in the corporacracy.

The key to control is provision of mass consumables. Things lure into debt to ensure indenture-ship allowing little time for reflection on conditions until they become noticeably oppressive. Add to this plenty of planned leisure. The idea of planned leisure for quieting masses has been understood for ages, but with new communications technology it is offered on a massive scale. To invest it with the canons of erudition, the pretense of noetic depth is added so that the consumer feels at the stepping stone of ge-

nus. This is in keeping with a society in which ceremonial certification by higher education is guaranteed to all citizens through a course of study from which any difficult matters are pruned. Hence the mythic dichotomy into two types of intelligence, the analytic and the intuitive, called up by those who fail to see that they are the one and the same, a failure resulting from never personally experiencing either. This is the intellectual equivalent of the implication that the reason one fails to enjoy football is because one fails to understand the rules, much as one fails to appreciate the beauty of differential geometry because one fails to comprehend tensor bundles on smooth manifolds.

Retreat into banality is easily understood, since the majority of citizens are too shell-shocked by the twentieth century to consider contemplating life in the twenty-first. But no matter how one retreats into pap glorying a mythic past, the future is the already present, waiting to hand one one's head. And so popular culture is a palliative and a place to hide, offering those hiding pseudo-shelter as they must venture out and face a hostile world full of technology whose workings they cannot begin to fathom, which they can barely operate, and which promises relief from quotidian odium only to add to it, trapping them within its web of inner logic. They become slaves, to technology, to socially induced consumption, to corporacracy for which they are cattle to be herded, milked, and penned. All the while they are left with no manual to guide them, without wherewithal to understand one were it before them, and blind to their true condition.

Interestingly enough, this condition has led to the death of the written word as a means to present new visions, with the masses left only to the devices of corporate media: television, motion pictures, talk radio and popular music radio of personally preferred genre playing ditties the stations are paid to play by the corporations that create and distribute the stuff.

All this is part and parcel of the indoctrination program that begins with so-called education, forced for at least twelve years and then encouraged for at least four more, at the end of which time the citizen is to go out and service the debt already worn like an albatross around the neck, an albatross soon to balloon into an elephant. This is real life, the real world, and it is no wonder the US is perhaps the greatest zombie culture of all time.

## **Literature again**

Literature should be a slap in the face. It should provide a manual to guide a course through the dross littering the social byways. It is in part the new job of literature to destroy the illusion of freedom and liberty and free enterprise fostered by the corporacracy. Unfortunately, this becomes increasingly difficult as the stranglehold of propaganda tightens. As Benjamin Whorf would note, language influences thought and the language of the corporacracy is Newspeak.

The subtle danger of the corporacracy is censorship of literature and other written work falling outside the correct worldview. This is affected by withholding the official stamp of certification through control of a marketplace manipulated rather than

free, unless one believes that payola and outlet ownership are not control. This censorship runs deeply by virtue of control of the media by conglomerates supported by educational establishments both for youth and adults that foster groupthink and correctness of vision, not free thought or curiosity. Perhaps this will backfire in a sickness unto death, but probably not. Paul Goodman laid bare this trend decades ago in several famous works, currently out of print though remaining in demand.

The great difficulty is that one must write to a small audience. The vast majority of citizens neither possess the requisite intellect nor the ability to pierce the veil of misinformation to get at the noumena of their own reality. Literature must be for those who can grasp higher entertainment.

This is another dichotomy, higher and lower entertainment, hinted at earlier. Higher entertainment is that which takes pleasure in thinking. This is discouraged by the corporacracy. Thinking is to be done as little as possible, and only in the appropriate setting. More and more that setting disappears. It is not required anywhere before college, and for the most part is not required in college. Publishing companies encourage writers to ape the screen, mostly of the television or blockbuster film ilk, and discourage anything that might require the reader stop and experience, understand, or make sense of sentences, words, characters, events or scenes. And most are happy to oblige, readers and writers alike.

Why fight it? Integrity, that out of fashion notion called upon by politicians when they are caught cheating, stealing or worse?

Some would say to make money, but to write to make money borders on insanity, as one has a better chance of winning lotteries. Some do make money, but never because they write excellent prose or tell interesting stories. And many who have made money who wrote well, like Mark Twain, made the money in other ways. For Clemens, it was the lecture circuit, an early form of stand-up comedy.

If you believe that skill at putting words to paper will help you sell books, you have not read the bestsellers. If you have read them and continue to believe it, then you cannot write and so might have a chance (albeit infinitesimal, but still better than if your prose jumps off the page).

To make money buy a franchise, become a plumber or electrician or auto mechanic or other skilled worker and start your own company, start a small business contracting to the DOD through the mechanism of the SBIR program ("Thank God for the government, they'll buy anything"), make or sell ecstasy or crank, become a physician or faith healer or shaman, practice law. All of these are surer paths of gaining money and contribute more to society than writing.



### III

## Ballard's Thesis: Eating the Hole

In 1974 the novelist J. G. Ballard published a preface to the French edition of his novel, *Crash*. It later appeared in the original English in *Foundations*, number 9, November, 1975. Ostensibly defending the place of "science fiction" in literature, his essay is more apropos now than then. Particularly since "science fiction" does not exist.

Ballard's dismay regarding the disreputability of "science fiction" when compared to the nineteenth century novel form that continues to be accepted and popular is in part addressed earlier. Most generic writing of whatever sort provides existees a comforting idyll in the mythos of residing in a comprehensible, static society or universe in which they might make a difference, where there is some meaning associated to the minutiae of relationships between the primates called *Homo sapiens*.

Ballard did not address the idea that the disreputability of the nonexistent genre called "science fiction" might stem from horrific prose and myopic vision. Terrible prose is a small issue, since there is no paucity of dreadful, leaden prose in the current crop of nineteenth century literature on the market, as a perusal of the works of many Pulitzer Prize winners will attest. Of course, this is in keeping with the current trend in the US where everyone is a genius, no matter how stupid, where to make someone feel inadequate is an egregious crime. Hence the literary agent, a bizarre gatekeeper akin to head lice, urging writers to not use big words, long sentences or correct grammar.

Ballard considers the second of these items, the issue of myopic vision, a success of this thing he calls "science fiction," claiming it was constantly being overtaken by its visions. He seemed unaware that this overtaking amounted to nothing more than the poverty of vision laid bare. No one can claim such absurdities as *Dune* or *Stranger in a Strange Land* were overtaken by their visions, as was the laughable *2001: A Space Odyssey*, a piece of hubris that Ballard considers a variant of another laughable work, *Gone With the Wind*. Nor have any of these works any more to do with science than any of the others, including *Gone With the Wind*.

### **Post Messiah's *Quantum Mechanics***

Ballard's panning of novels that reject the language and images of technology and science is delimiting. He contends that the language and imagery of science makes "science fiction" (he considers William Burroughs among its practitioners) unique in portraying the universe as dynamic, placing it within a metaphysical framework. Two novels that serve as counterexamples to his thought, both twentieth century novels in the true sense of the word, both dealing with the sticky issue of time and causality central to twentieth century physics, are Thomas Pynchon's *Gravity's Rainbow* and José Saramago's *The History of the Siege of Lisbon*.

In *Gravity's Rainbow*, the language of science and technology plays a large part. A cosmic joke of behavioral psychology dominates the theme with reversed causality afflicting the protagonist, Tyrone Slothrop, caught in a web of entanglement of mate-

rials and operant conditioning and reversed conditioning amid rockets raining down on London during WWII. This would certainly meet with Ballard's approval.

Saramago approaches the theme of causality and time and cultural dynamic in a more muted fashion, crafting a quiet story of a lonely proofreader, Raimundo Silva, leading a simple life in Lisbon. While proofreading a history of the twelfth century siege of Lisbon in which crusaders helped expel the Moors, he makes a most uncharacteristic intentional change to the text. By adding a single word, he has the crusaders refuse to help the king of the nascent nation of Portugal.

This inexplicable action terrifies Silva. He does not understand why he did it. He fully expects to lose the freelance position which barely allows him to make ends meet. And yet the move changes history in a surprising way. His inexplicable action creates a new position at the publishing house that leads to an unexpected meeting with a woman soon to become his lover.

This interesting perspective is what is sometimes called advanced action in the philosophy of quantum physics, one possible way to explain entanglement of photons. To understand the notion, consider billiard balls. No one expects a billiard ball to move across the table from a collision before the impact, since it is assumed events are uncorrelated before their joint action. Yet with advanced action, it is from future correlation that a joint action occurs in the past. And it seems clear that this is what Saramago has in mind, though he might not imagine it in terms of the block time of modern physics. In fact,

early on he dismisses technological language and images and metaphors by discussing how useful an unaffordable computer might be to the poor book-bound protagonist.

The point of these two mini-reviews is that according to Ballard this nonexistent genre he calls "science fiction," one that might include *Gravity's Rainbow* but surely not *The History of the Siege of Lisbon*, is the unique vision capable of producing such metaphysical works. Perhaps instead it is his vision of this chimera "science fiction" that needs to be expanded, contracted, or otherwise modified, or even scrapped altogether. Better scrapped, along with all generic classification.

"Science fiction" is truly the hole in the donut.

## **The novel as life**

To progress to the utile in Ballard's essay, consider the striking connection between then and now in what Ballard calls the balance between fiction and reality. He contends that in the previous decade, referring to the nineteen sixties, this balance had changed so that, "We now live inside an enormous novel." Novel may be too organized a concept for what had transpired, but quibbling over terms is not relevant, since to first order his concept resonates. He writes, "We live in a world ruled by fictions of every kind..." and goes on to list marketing, advertising, and politics conducted as advertising, among other fictions, all blurring and intermingling identities within the realm of consumer goods.

As previously addressed, this effect has multiplied in the new millennium. Now everything is pre-

sented as a consumer item, no matter be it car, tomato, idea in quantum physics or biology, drug, political philosophy, religion, or excuse to invade. And now everything except a very small part of the world is pure fiction. Not necessarily a novel, or a short story, but through and through fiction.

### **The novelist as scientist**

Ballard claims that the writer's "role is that of the scientist, whether on safari or in his laboratory, faced with a completely unknown terrain or subject. All he can do is to devise hypotheses and test them against the facts."

Besides displaying an alarming lack of understanding of what scientists actually do, this idea is downright silly. However, it does give insight into some of his novels. One that typifies this naïve notion is *The Concrete Island*; obvious in manipulating the world, the reader and the experiment, it does not convince. It will be useful to understand why, and this will be taken up later. For now, it's best to follow up on this scientist thing, since there is some gold to be extracted.

Both the novel and the short story should be built on theory. If the author does not grasp the theory globally, which need not be verbalizable, and does not absorb it into the work, the work will ultimately fail. This is not to say it might not entertain some muddle-headed reader, since it is nearly impossible to predict what the reading public will find entertaining. The vast empire of empty-headed readers is mostly moved by what they are told ought to move them, a fact that shows with the conver-

gence of novels, television, and motion pictures, now indistinguishable except for minor differences in genre and language and requisite "maturity."

With theory, the author can be guided by the interchangeability of truth and aesthetics, as is mathematics. Moreover, theory supplants the silly notion that somehow the language of science and technology is a magical means of implanting science and technology into fiction. This is Ballard's idea: "Science and technology multiply around us. To an increasing extent they dictate the languages in which we speak and think. Either we use those languages, or we remain mute."

Hogwash, this misplaced belief in a language of technology and science qua science. When Ballard writes, "Increasingly, our concepts of past, present and future are being forced to reinvent themselves," he is making an almost meaningful statement. Yet for all the abuse of the language of technology in his own fiction, he seems never to have touched the advanced concept of time and causality that Pynchon and Saramago both present in the works discussed above. And while Pynchon makes artful, sometimes mocking use of the language to which Ballard alludes, Saramago eschews it.

The reality is that those who shy from theory in their fiction are mute. Their work is drivel, the snot forming with the hopeless aspirations of anti-intellectual poseurs of intellectuality. It shows, too.

## **Science fiction as the hole in the donut**

Missing from the above posted list of fictions are mathematics and the so-called hard sciences

such as chemistry, biology, and physics, (though for simplicity sake the remainder of the discussion concentrates on mathematics and physics). Instead of hard should be substituted experimental, a discriminator that differentiates them from all the "social sciences." But hard has a second sense, namely that these sciences require thought and lead to sharp notions and principles that can be tested explicitly and objectively, particularly through application to new problems. This appalls most humans because such hard disciplines are not amenable to pure memorization and regurgitation of slogans or events or lists, as are the social sciences, but require comprehension. This makes them dangerous for several reasons: they can show individuals that they are deluded regarding their intellectual capability, they can cause those who learn them to ask difficult questions that go to the heart of a superstition, they can change minds, and they have the power to transform and create. As to the latter, consider the challenge of Elijah to the Baal worshippers in Kings, except now reversed with science challenging religion to pray a satellite into orbit. Would we kill those whose prayers are not answered, as the monster Jehovah's man Elijah did with the Baal worshippers?

Another useful consequence of this other meaning of the word hard is that mathematics might be included in the classification. Though not experimental, it is certainly hard in this second sense.

Hard science is indeed fiction, but with special structure that requires meaningful, accessible self-correcting mechanisms. Meaningful is given a specific sense, namely that the self-correcting mechanisms tie to the story in both the small and the large, that

is both in terms of the particular fragment to which it is directly applicable and to the larger global milieu in which all the stories merge. In experimental science and mathematics, no one story should contradict another.

For this reason, psychology is not a science: no global story of psychology can coexist with the plethora of mutually exclusive local ideologies. There are experiments, besides the two-way simplistic training of pigeons and rats, that have a physical basis, including the electrical control of brain processes by Dr Jose Delgado dating back to the nineteen-sixties or Benjamin Libet's work showing that the brain makes a decision before the brain's owner is aware of said decision. However, these seem to spring from no testable story, though one will develop, that is certain. Part of the difficulty for such a story stems from the superstitious reverence given human consciousness by Homo sapiens, with their concerns about such "timeless questions" as where does consciousness reside, doubtless a nonsense question but not to those who insist in believing that something survives the cessation of the electrochemical generation on which human thought seems to depend. Fear spawns great resistance to learning the truth about anything removing mankind from a special status in the cold, indifferent universe. But as with the Copernican revolution, the truth in this case will out because it is rooted in the physical world. And it will fall into the domain of modern biology spawned by the Darwinian revolution.



## **Oxymoronic bullshit: social science? or the Invisible Hand masturbating**

Of course, by social science one could mean behavior among hard scientists, but that is not how the term is taken. It goes with other oxymorons like political science. And one must throw in such stuff as economics here, too, no matter how much mathematics is piled on.

What has this to do with literature? It is a form of literature, and novelists in the twenty-first century need to be familiar with these non-experimental, non-corrective fictions, these non-sciences, as well as with the hard sciences as defined above. (They need not use the hard sciences in their writing, though they will if it is to be relevant, just as Saramago used the notions of modern philosophy of quantum theory in a novel completely devoid of the language of science.)

There is hope for psychology among the literary forms that go by the catchall social science to become hardened due to the intervention of biology and physics and chemistry rooting it in physicality; it is different for economics. In that pseudo-scientific orgy of mathematical methods, no development of method with even a glimmer of hope for prediction and experimental verification is possible. The essence of economics is superstitious ceremonial magic, rooted in metaphysical gibberish such as invisible hands and free markets, invented by Adam Smith out of jealousy for Newton's success with the metaphysical notion of gravity; or in Hegelian historical dialects, a fantasy turned on its head by Marx. These ridiculous "theories" became the magical methodolo-

gy of competing political camps, thereby giving them status that allows no objective consideration. Nor is this so odd, given the current social movement in the US by a small cadre within the great body of organized superstition called Fundamentalist Christianity to cast science as superstition and superstition as science. Nor are they alone, since this is also a goal of New Age shamanism. The Fundamentalist Christian movement attempts to ape the Muslim states of the middle east and is a part of the strong tendency towards groupthink abetted by Orwellian linguistic control techniques made possible by lack of education, intentional miseducation, hatred of science and mathematics, complete misrepresentation and misunderstanding of the methods of science, and mentally ill individuals in high places. Of course, the superstition of Smithism plays particularly well with the mythology and superstition of Protestantism, as Weber pointed out.

Entering the new millennium, the economic mythology of Smithism holds sway, and so its stock has risen with this "proof" of the efficacy of its big magic. Unfortunately, its active principle, the invisible hand of the market, is unlike its inspiration and apparent imitatee, gravity, which cannot be seen but which can be indirectly measured with great precision.

The indirect measurements of gravity are tested with real effect, as with inertial measurement units to guide aircraft, rockets, and missiles. Their precision is key to their application. Newton's fiction, though now discarded in favor of Einstein's fiction, is tested every day with ever greater precision.

On the other hand, Smith's fiction allows no such measurements, nor does it provide any sort of effective application. The failures of the Federal Reserve and similar bodies of wizards in other so-called Free Market nations to invoke the Gods of the Marketplace to guide their economies to greater growth through the sacrifice of short-term interest rates or to cause longer term rates to rise with the ceremonial invocation of fractional point hikes gives rise to long quasi-mystical disquisitions resembling both incantations in incoherent tongues and the twisted logic of oracles, presented on command to august political bodies providing the wizards their national standing.

In fact, economics must be an anti-science, since whenever reality contradicts its premises, a phenomenon so common it goes unnoticed these days, when called to question the economists turn the method around, questioning reality as an aberration. Nor does anyone measure the power of the invisible hand, nor its withering when free markets are raped, as happens repeatedly by nations wishing to avoid economic and social debacle. Do these violations cause a disturbance in the markets, thereby weakening the invisible hand over time? Why not devise measurements?

Perhaps the greatest experiment for modern economics regards the celebrated Black-Scholes theory of options and other financial derivatives. Though based on the sound and beautiful mathematical theory of the Ito stochastic calculus, correctly making use of Ito's lemma providing the quadratic variation's effect on the formal mathematical derivative of martingale processes with non-differentiable

sample paths, and earning the Nobel Prize in economics for its inventors, when applied it led to one of the greatest financial debacles in history. The Long Term Capital Management corporation, guided by the two Nobel Prize winners for this theory, provided the sine qua non of science: disproof. The theory is wrong, though few seem willing to investigate further. The problem lies not in the mathematics nor the incontrovertible idea itself, which simply adds risk to interest rates in the equation for options, but rather in assumptions underlying the entire economic theory within which it resides.

So cast aside hope for social science to merit the second word in its name except in those areas susceptible to inroads from biology and physics and chemistry. Ditto for religious superstition, though you will be presented an ever-increasing onslaught of religious nonsense masquerading as science.

The key issue to take away from "social science" is that of what not to do. Do not allow its mythology to guide the novel into more cliché left over from the nineteenth century, with which drivel the world is currently overstocked. Eschew the trite stories these false seers pass on. Eschew it all: psychology, sociology, economics, political science, all except descriptive anthropology and ethnology. If you want to learn about Homo sapiens, read the descriptive work on other primates, particularly the chimpanzee and the bonobo.

## **IV**

### **Anti-Intelligence, Anti-Entropy, and Information Death**

Information theory developed in the context of communications to answer specific questions regarding the transfer of data across channels. In general, the questions regarded strings of symbols transmitted via a noisy environment to a receiver of some sort. Skip the technical details of the setup and concentrate instead on the idea of information lurking within strings of symbols appearing magically before your eyes: if you can guess the next symbol correctly every time, you need not read the message because no information is imparted. Often the symbols are considered to be independent of one another, so that the string `fqrm` would be as likely as `farm`. An English speaking reader seeing the former would likely substitute the latter since the information content of `fqrm` is too high in English. This is because in English a `q` without a following `u` is unusual, and unusual is the hallmark of high information. `Farm` is expected more frequently than `fqrm`. Besides the surprise element, semantic notions also might urge substituting `farm` for `fqrm`. But information theory ignores the semantic content of strings of symbols, considering only their likelihood. (Exercise: what is the information content of being surprised at guessing the next symbol correctly every time if one has no idea of the semantic content of the message?)

Consider partitioning the sequence of symbols into blocks separated by tokens such as `.` or `;`; partition further into subsequences of these blocked segments within larger segments, separated by space

with indented openings, and so on until one builds a sequences of symbols blocked into ever increasing blocks, similar in form to what is now before your eyes. This is the process of writing, though it could be carried out by machine using an algorithm assigning symbols according to some transformational rules. The sequence of symbols could be generated so as to have low information content in the sense of surprise, though they may have little to no semantic content. Who knows?

Now consider how information and thermodynamics are related via entropy. Here is an example taken from Karl Petersen, *Ergodic Theory*: consider a box with a partition far to one side with a particle trapped in the small space, so you have a good idea of where it is. Now assume that the partition can move with this particle's bombardment. Apply a constant heat source to the particle so it constantly bashes itself against the sliding partition, gradually moving it to the other side. By bashing the wall, the particle does work, so needs to invigorate itself with heat, thereby raising entropy. The increased entropy leads to loss of knowledge but increases information, since as the partition moves you know less about where the particle resides but conditionally have a store of more surprise. Both uncertainty and disorder have simultaneously increased.

Consider a novelist bashing itself against a partition to produce words within a format as discussed above, but now according to some algorithm not so carefully delineated as for the computer. The algorithm is hard-boiled, or cozy mystery, or science fiction (something already shown to not exist outside scientific theory), or chick lit, or erotica, or literary

fiction, on ad nauseam. It is based on the work of some other novelists, usually by way of worshipful emulation or of ceremonial magic, in Y's hope that aping X with a pecuniary following will bestow pecuniary success on Y. Now the partition doesn't move, or it perhaps moves an infinitesimal bit, so that any rise in entropy is miniscule. The publishing world overloads the reading world with bloated dross, the output of myriad novelists in myriad partitions, exact duplicates of one another, Y and X or X and Y, no matter which order. (Mathematically speaking, the publishing industry is said to commute.) Entropy decreases, no surprises; nothing new allowed. The process finds an algorithm via constrained humans, optimized to support the mythos of the corporacracy, writer's workshops and writer's programs teaching the canons of literary reputability that define the proper partition.

This is cold death, information death. The publishing world fills with pretentious information zombies, the writing dead. Better literature would be produced by random novelists. At least then there would be surprises.

### **Information based literary criticism**

The astute reader objects that the above is nothing more than metaphor. But information theory is not metaphor. Not in any sense. Perhaps its use above seems metaphorical, but it can be made precise. The slight difficulty is in the notion of semantics, which is a primitive for use in literature and can be stretched. Kathy Acker comes to mind. (Exercise:

Make the above discussion precise. Use Kathy Acker.)

As a precept one should take that literature, here meaning novels or short stories of higher entertainment implemented for those few able to grasp, profit from and enjoy strings of words requiring cognitive enterprise, ought to raise the entropy level. The reason is that otherwise little to no information confronts the biocomputer perusing the strings. The creature dashing inside the box needs to move the partition, widening it, optimally breaking out of the box. The peruser, not knowing whence comes the strings, sprawls before the river of uncertainty opened in its imagining center. A mind is opened to a novel vision of the noumena. Entropy rises, a step towards ah-ha.

The goal of literature being to open new visions by providing new worlds, to break through the standard vision of the machine, uncertainty must increase because more information is available, because the vision of reality, of certainty, shatters. Uncertainty of vision increases.

This is opposite religion and other forms of superstition, including dogmatic social science, which seek to narrow vision by providing certainty. They lower entropy, the end being cold information death frozen in a static world vision. Science seemingly has a similar goal, a mistaken assumption made by these organized superstitions, but the fact that science can throw away a theory in the face of conflicting evidence says the opposite. It is a form of fiction that raises entropy by expanding the horizon, allowing startling new visions of reality. Quantum theory trumps any so-called "science fiction" in this regard.



It is itself a higher form of higher science fiction, as is general relativity, expanding horizons and new potential world views. Entropy increases with science, and anything that considers lowering entropy to be scientific method misses the point of scientific method.

The method is to disprove, not prove. Nothing is proven by experiment; one repeatable failure destroys theory forever. But not so in economics or sociology or religion.

The bound theories of information and entropy provide a basis for comparative literature. Notions such as mutual entropy and mutual information content, conditional entropy and conditional information, can be defined and used to make these notions precise. This awaits further work.

### **Poor Slothrop**

Pynchon's Slothrop in *Gravity's Rainbow* undergoes continuous entropy increase. With every new uncovering of the code symbols surrounding his place in the cosmos he loses knowledge and gains information, interconnections growing boundless; the more he learns the more uncertain he becomes until he disintegrates. Meanwhile, all those entangled with him suffer a slow freeze, entropy decreasing until they are immobilized without possibility of surprise.

## V

# Theory in Theory and Practice: Truth and Beauty

Mathematics is the quintessential art form of the twentieth century, blooming on vines planted by the Greeks, tended by masters from the centuries before Newton, taking root around the middle of the nineteenth century to burst into glorious colors in the twentieth. Jean Dieudonné calls it the music of reason, but perhaps better is poetry of reason. The quintessence of conceptual art, totally internal, directly communicable from one thinker to another, cognitive processes provide the virtual gallery. As Shoshichi Kobayashi puts it, "All geometric structures are not created equal; some are creations of gods while others are products of lesser human minds." (Preface to *Transformation Groups in Differential Geometry*.)

Ordinary people recoil from the notion that mathematics is guided by aesthetics. The idea of mathematics as an art form is as alien to the brain of twentieth century Homo sapiens as is thought. It is particularly odious to those who consider themselves artists or writers or musicians, the so-called creative types. These people, ironically, tend to be the least creative and the dullest of all humans as the bulk of their work attests. They lack that most necessary quality of the creative: curiosity. One is less likely to find a mathematician who eschews literature, art and music than one is to find a so-called writer, artist or musician who appreciates mathematics.

But theory is the foundation of all useful and interesting literature, and the utility of theory is a

lesson most easily gleaned from mathematics. Think of it like this: Tinkering in some lab is not science. The work of science is building theory. What comes from labs can guide theory in science, but is not theory. And theory is fiction.

The work of mathematics is building theory based on aesthetics, guided by a formal notion of truth akin to a meaningless game played with scribbles on paper, all of it independent of the sensory, existent world. Because of this freedom from here and now, the model of theory adopted herein for literature is from timeless mathematics.

Literature is not the laboratory-based activity that Ballard takes as his model, a silly notion of what science ought to be. Instead it is theory built on experience, and the writer with small experience produces small work. But so does the writer with large experience and little depth of thought, since depth of thought leads to theory. There needs to be interplay between experience and theory. (Exercise: Read chapter 1 of Albert Messiah's *Quantum Mechanics*. Though technically dated, it tells the story of the beginnings of a fundamental change in scientific thought through experiments. This is the interplay ordinary people do not grasp.)

## **Mathematics: outside the realm of the senses**

In lieu of paying credence to experiment, the modus operandi of mathematics for auto-correction relies on what is called proof, the deduction of truths via pure reason using explicit rules with no relationship to the physical world. One can be certain of the

correctness of a proof in the same way one can be certain of the outcome of a chess match.

Just prior to the twentieth century many issues regarding mathematical proof were made explicit and coalesced into their own school of mathematics, imparting a style noted for its unbounded imagination, varieties of truth and the fact of completed infinity versus potential infinity. When Georg Cantor began the movement it led to the kind of controversy seen with Dadism, Surrealism and other styles of painting, and was as riotous as Stravinsky's *Rite of Spring*. Like all successful artistic movements, Cantor's came to influence all other areas of the art. The early controversy led mathematicians to apply their mathematical methods to the study of mathematics itself, calling the school metamathematics. (This bears no relationship to metafiction.) In so doing, they developed exact ideas about truth in deduction, different variants of truth, means of verifying these truths, and the precise relationships between these notions of truth.

So mathematics is not a science with an empirical standard of self-correction, but is rather a purely cerebral art form, the only conceptual art. Mathematical techniques and machinery lend themselves to great nonsense built on an edifice of unverifiable superstitious pronouncements like economics or finance as easily as to experimental sciences like physics. One could as well build a mathematical edifice for Ptolemaic physics or the magical systems of Éliphas Lévi or Aleister Crowley.

Precision is the hallmark of mathematics, the facility of exact mental constructs so clear no one who understands them can doubt that they are visu-

alized identically by all who comprehend. Mathematics is so powerful in its descriptive function it leaves no room for doubt regarding what is meant. This is in part the key to its applicability to both experimental and non-experimental approaches to the noumena, as well as to literature. And yet the more precise the delineation potential, the more restrictive the range of the describable. This turns out to be an important precept for literature. Precision is essential, but so is ambiguity. Proper implementation of the theory of the work dictates when each is required.

Most important and worthy of repetition, the guiding principle of mathematics is aesthetics: if the ideas are not beautiful they are likely untrue. This point is crucial for novels and short stories. Truth and beauty are in a very real sense identical.

The case is similar in physics, with aesthetics one light in the search for truth, but not with such deliberation and single-mindedness. As of this regurgitation into words, physics is in crisis, its two major modern theories not meshing. This has bred new concepts with yet another fertile coupling between mathematics and physics.

Regarding the relationship between physics and mathematics, Eugene Wigner published an essay, *The Unreasonable Effectiveness of Mathematics in the Natural Sciences*, wherein he points out that the two edifices evolve independently, with mathematics entirely untouched by the physical world. Yet they overlap and concur in remarkable synchronicity. Mathematics provides the vehicle for precision. New concepts arise in mathematics with no relationship to physics or the physical world; yet they eventually clothe new visions in physics. Wigner wonders if per-

haps there is some underlying truth for them both, though one might do better to consider them as constrained by the same mental constructs, the same filters of the noumena.

In fact, mathematics can couch any fiction with precision, as pointed out just above. And in truth there is really no more ceremonial magic in Crowley than one finds in the standard curriculum of Business Administration, with such rites as the business plan or market research to appease the invisible hand, incantations based on branding and logos and words related to the ceremonial recitation of the business plan to minor deities who provide money for reasons no one can divine, but which seem to have no relationship to the success of the enterprise.

More to the point, however, mathematics provides the most cogent lessons and training for novelists and story tellers in the twenty-first century.

### **Aesthetics in mathematics: fundamental example**

In lieu of explanation, a simple theorem exemplifies the aesthetic principle in mathematics. At the heart of what may be the most elementary of mathematical topics, Isaac Newton's and Gottfried Wilhelm von Leibniz's basic mathematical theory called calculus, it provides the foundation for a major portion of the edifice of mathematics. Without an understanding of calculus, a cornerstone of the modern worldview, one is constrained to a pre-eighteenth century mentality, living with a worldview imposed without active participation. Moreover, not knowing the theory of calculus implies an incomplete liberal

arts education, not to mention missing one of the great artistic achievements of all time, indeed one of the crowning achievements of human thought. Those certified as college graduates and not knowing this theory are as likely to be certified in an engineering curriculum as a liberal arts curriculum. The reason for this striking similarity in seemingly disparate disciplines is left as an exercise for the reader to ponder.

The fundamental theorem of calculus expresses a startling relationship between the derivative and the integral, unifying two seemingly disparate concepts into a cohesive form that brought about revolutions in mechanics, geometry, and philosophy. Not only does it surprise thinkers with its non-intuitive relationship, but also with deep, direct connections to a vast hierarchy of concepts reaching into higher dimensions, leading to such profound ideas as cohomology in algebraic topology.

For those not acquainted with this fundamental artwork, an outgrowth of the beginning of modern thought, it may be time to study mathematics to the level of this theorem, a high school topic in advanced nations, before blindly writing novels or short stories. After all, without a modern viewpoint you can't possibly write about your own century. And note that it is impossible to appreciate twentieth century philosophy without an understanding of mathematics, no matter how much you read the popularizations of Gödel's theorem or of Wittgenstein's critiques. This may not seem significant to those wishing to continue to rehash the passé detective writers, romance writers, chick lit, or similar pap, but for those hoping

to step up and present something new and meaningful, it leaves a gaping ideational maw.

### **Back to Ballard: precision, truth, beauty, lies**

Given that the reader has some inkling of aesthetics beyond the media variety implanted in the collective consciousness, a dangerous assumption to be sure, this section progresses on to the relationship between truth, beauty and precision via a dissection of Ballard's *The Concrete Island*.

Ballard clearly has a theory in mind in this short work and he presents it in such a manner that the reader bridles against an ending forced to fit. This seems to be Ballard's idea of providing a thought experiment, in keeping with his insistence that science is lab tinkering and the novelist apes scientist.

Notice that until this paragraph, the word lie has not found its way into the text. A lie is interesting in that it can be something not generally taken as fiction, something delivered in the style of nonfiction and certified nonfictional with official blessing and yet meant to deceive. The intent to deceive is what distinguishes the lie within the general world of fiction.

Politics is full of such lies. The lie is the meat of politics. And because the lie is blessed with the ceremonial virtue of truth, even though it is a lie the politician can claim to have not lied. This is even after the intent to defraud is clear, since the biggest lies are certified truths. In other words, lies in politics are truths in fiction.

Ballard's *The Concrete Island* is a lie.



That said, understand when some word is modified with an adjective without being carefully detailed, as in rambling without saying in what sense rambled, or liberating without saying the effect on the liberated, or any of a seemingly endless list of jingoistic keywords, defined with opposite meaning in opposing cultures, such as glorious for the old Soviet or Chinese Communists or freedom for the US and Britain and much of Europe, it is always a lie in the sense given above. The same is true when a central character is described as pretty, for example. Unless the reader decides if the character is pretty, this is a lie.

Ballard neglects to delineate his theory. His character and his setting do not implement the theory. He does not detail with appropriate precision what is essential to support the theory. A work that could have bristled with life and authenticity falls flat and empty and is, in the end, unconvincing. He never convinces the reader of his character's original plight. The protagonist's desire to remain in his prison to escape what might be taken as a meaningless, facile existence is a lie, certified true by the fact of being the conclusion of a novel. It remains arbitrarily decided by Ballard, not a natural outgrowth of the protagonist's previous life. It is forced because he does not detail his characters and their role in the theory except as pawns to his point. It is a lie.

To be more specific, an initial problem with *The Concrete Island* is the description. The locale and the circumstances of the protagonist being trapped there without anyone noticing is so poorly described it is not possible to get any idea of how it could happen. Were a careful locale and circumstance constructed

early on, the idea would gain plausibility. Instead, the reader is asked to suspend disbelief and it lingers as an impossible situation.

Nonetheless, readers will either forgive this and accept the premise or shut the book. For those who slog along, the protagonist's life experiences are thrown out as offhand remarks when necessary to move the experiment along. His injuries are not clearly delineated, so the extent of the injuries are never apparent, and miraculous healing occurs as needed. The woman and her companion on the island are not detailed sufficiently to make the experiment anything less than a blatant manipulation. Only those pieces that seem interesting to Ballard for the sake of his experimental result matter, and the book reads as a fudged lab notebook. In the end, the assumption made by Ballard about his protagonist qua experimental subject doesn't hold water.

### **Beyond Ballard: operational meaning**

Examples of not providing specific detail abound in news reporting. For the sake of irony, consider here the joyful example provided by the mathematician probably better known to US citizens than any other mathematician in the world, Theodore Kaczynski, the so-called Unabomber. Of course, the reader likely never read one of Kaczynski's papers in function theory, or even has the vaguest idea of what they concern. Nor has the reader likely read his manifesto, though it is widely available on the web and is probably his best read work. But recall that the media labeled his manifesto rambling. No one said in what sense it rambled, though they im-

plied it was the incoherent ramblings of an anti-technology madman.

In fact, if you read it you will find it to be more coherent than most of what appears in the popular press. A man who wrote such cogent mathematical papers as Kaczynski would not ramble. And in fact, the style in his manifesto puts him ahead of nearly all journalists and essayists in the US. He knows grammar and he knows how to punctuate, something found in very few journalists. His work is more coherent than almost anything one will find in any newspaper in the US.

In reality, what the word rambling tells the reader is something about the user of the word, not the noun which it modifies syntactically. That is a problem with language. Just because a word exists does not mean it refers to something in the world. And just because someone modified a noun does not mean that the reader is being told something about the noun being modified. In fact, unless it is explicitly explained how that noun merits such a modifier, the reader is being told something about the user of the adjective. For example, John Grisham uses the adjectives pretty and nice almost exclusively in lieu of description in his novel *Runaway Jury*, as in He had a nice smile, She had pretty eyes, She had a nice, pretty ponytail. This tells you that the author seems to admire certain smiles, eyes, and ponytails, but is too lazy or too unskilled to describe them. He hopes you will manufacture your own. And when journalists wrote that the Unabomber's manifesto rambled, they told the reader that they, the journalists, had not the wherewithal to understand it. If they bothered to read it all.

Operationally defined words. Not freedom, but what is meant by freedom operationally. Or democracy. Or pretty. Better to describe and let the reader decide if free, democratic, or pretty.

Consider JR, an almost perfect novel by William Gaddis. An outrageous story of a schoolboy building a paper business empire which he is unable to survey because he cannot get to the city on a field trip, it sneaks up on the reader via deft prose style and form, without bluntly presenting its theory. Written purely in dialogue without identifying the speakers, it forces the reader to concentrate on who says what until catching the rhythm of the language well enough to identify the speakers. By this time, the wild comedy has engrossed the reader in a tale many would otherwise abandon as too stupid.

The fundamental beauty of this work shines through in its amazing prescience. The novel presages the irrational internet bubble led by shallow children fed massive allowances masquerading as venture capital by adults with more money than sense. Perhaps this event was symptomatic of a decaying culture in which adults strived to live, through their coddled children, lives put off for a future that never came.

If it had not happened, no one would have believed it possible. If Gaddis had stated his theory in an essay detailing the irrationality and childishness of business, no one would have paid attention. If he had chosen to tell his tale in the style of Toole's *Confederacy of Dunces*, it would have failed with the same resounding thud as Toole's Pulitzer Prize-winning dud. By choosing the form dictated by theory, his beautiful satire became comedy in the

highest sense. And it came to pass in "real life," demonstrating the truth of the work.

## Exercises

1) The brutal tradeoff between precision and the range of the describable is seen clearly in both mathematics and physics, particularly with respect to so-called states of consciousness, assuming anyone really knows what is meant by the word consciousness. This assumption must be made to state the exercise.

Imagine and describe the consciousness of a cat without using anthropomorphism.

Describe a seagull with eyes on each side of its head, assumedly unable to focus them for binocular vision but able to watch either side. Describe its internal state walking a path between potential predators on either side.

One can imagine the consciousness of another human more readily.

For (fe)male readers, describe the internal consciousness of a fe(male) human in the throes of orgasm. Do the same for the internal consciousness of a schizophrenic doing anything.

2) Describe a theory for a novel in which a woman living in the country is so formally educated she cannot understand how to pick tomatoes and so sits under a bush while a chicken plucks at her head. Imagine a Saturday Night Live skit based on the premise. (This is chapter two of *Cold Mountain*.)

3) Read chapter one of Albert Messiah, *Quantum Mechanics*.

4) Read the first six chapters of Walter Rudin, *Principles of Mathematical Analysis*. Write an essay on the aesthetics of the fundamental theorem of calculus, describing the proof as given in the above work.

5) Write a short story using a theorem from mathematics.

6) Write a short story using a result from physics.

7) Write a short story in which Ptolemaic astronomy is true or accepted as true and plays a central role.

8) Explicitly describe the theory for each of these stories.

9) Write a short story that describes the experience of reading either the work of Messiah or of Rudin assigned above.

10) Write an essay explaining why English literature majors and chemical engineers are equally unlikely to appreciate the aesthetics of the fundamental theorem of calculus.

11) Rewrite this essay in Orwellian Newspeak.

This work simultaneously appeared on the computers of our three founding editors as they made plans to start this publishing house. Investigation revealed slight variations in text which over time merged into this version; under the properties were three different comments, though the title and author were as given. One comment stated CHANCE: Computer enHANced, another CHANCE: Computer Hosted AliEN intelligenCE. In the third a longer description: A work by silicon life forms created by information and inhabiting the web. Later one of us got an email with no address simply stating Collective intelligence from bits to words.

So it seems that the author is CHANCE, as in stochastic or random. Perhaps a theory can be inferred from Norbert Wiener's work *Cybernetics: or Control and Communication in the Animal and the Machine*. The last two sentences of chapter five are most pertinent, which state that information is neither energy nor matter. Can this be evidence of that assertion? You ought to read this book before you do anything else.





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