The Sense of Wonder. The so-called sense of wonder has been considered one of the primary attributes of sf at least since the pulp era. The titles of the most popular sf magazines of that period—Astounding, Amazing, Wonder Stories, Thrilling, Startling, etc.—clearly indicate that the putative cognitive value of sf stories is more than counter-balanced by an affective power, to which, in fact, the scientific content is expected to submit.

Unlike most of the other qualities regularly associated with the genre, the sense of wonder resists critical commentary. A “literature of ideas,” as sf is often said to be, invites discussion of ideas; but the sense of wonder seems doubly to resist intellectual investigation. As a “sense,” it is clearly not about ideas and indeed seems in opposition to them; wonder even more so, with its implications of awe that short-circuits analytic thought.

Readers of the genre expect its works to provide a powerful experience of translation from the mundane to imaginary scenes and ideas that surpass the accustomed and the habitual. The experience is that of witnessing in a physical, haptic way phenomena beyond normal limitations of conception and perception that human beings have not been able to witness before, yet have been able to imagine. Most theories of sf as a historical or cognitive genre do not have much to say about this sense of liberation from the mundane.

In fact, much can be said about the sense of wonder. It has a well-established pedigree in art, separated into two related categories of response: the expansive sublime and the intensive grotesque. The sublime is a response to an imaginative shock, the complex recoil and recuperation of consciousness coping with objects too great to be encompassed. The grotesque, on the other hand, is a quality usually attributed to objects, the strange conflation of disparate elements not found in nature. This distinction is true to their difference. The sublime expands consciousness inward as it encompasses limits to its outward expansion of apprehension; the grotesque is a projection of fascinated repulsion/attraction out into objects that consciousness cannot accommodate, because the object disturbs the sense of rational, natural categorization. In both cases, the reader/perceiver is shocked by a sudden estrangement from habitual perception, and in both cases the response is to suspend one’s confidence in knowledge about the world, and to attempt to redefine the real in thought’s relation to nature. Both are concerned with the states of mind that science and art have in common: acute responsiveness to the objects of the world, the testing (often involuntary) of the categories conventionally used to interpret the world, and the desire to articulate what consciousness finds inarticulable.

The grotesque is, arguably, the dominant sensibility of modernism—and of postmodernism, as well, with one qualification. In romantic and modernist
sensibilities, contrasts between ideal forms and anomalous deviations were considered to be monstrous. For the postmodern they are norms.

Scientific thought was an important instrument in expanding the nineteenth century’s sense of the richness of nature, which gradually came to include the freakish anomaly as a legitimate part of the natural order. Scientific discovery was often inspired by the need to accommodate anomalous experiences and phenomena that had not been provided a place in the taxonomies of established knowledge. Anomalies and monstrosities were central to the development of empirical materialism. Artists impatient with naturalism might invent bizarre deviations from the norm to demonstrate the power of the imagination over the habits of nature; and defenders of natural order might treat such freaks as hostile attacks on the orderliness of creation. For experimental science and discovery, the monster is an opportunity to test received knowledge, and to expand the area of scientific understanding. Phenomena that violate the boundaries of science’s received systems of categories—like the salamander, the platypus, the virus, or the pulsar—became the occasions for detecting the increasingly complex and creative powers of material nature. This increase in power was a function of science’s increased power to explain nature’s levels and combinations. Science extended its imperium by providing rational accounts for phenomena previously felt to belong to a “super-nature”—the sacred, the taboo, the magical. Its instruments of observation provided tools for discovering more and more of such boundary violations, while its instruments of synthesis provided means for adding to received creation.

The science-fictional grotesque is based on this historical pattern. SF’s characteristic sense of grotesque wonder is the response to new, boundary-violating phenomena that are either discovered by scientific observation or synthesized by scientific invention. The grotesque phenomena are believed to be intelligible in naturalistic terms, but are nonetheless surprising prodigies of nature’s imagination. Verne typically avoided the grotesque, much preferring the sublime. His best-known monster, the giant squid of *20,000 Leagues Under the Sea* (1870), is a manifestation of the dynamic sublime; in its struggle with the Nautilus, all participants gain in stature: the squid, the submarine, and the human seamen. Verne lost much by refusing to introduce fascinating freaks—not only mystery, but also the sense of a dynamic nature, in which creation continues relentlessly and humanity’s status in the future is made uncertain by beings that have yet to emerge. But he gained the centrality of the human figure, and its ideal expression, heroism. The power of the sf-grotesque can be seen in the fact that Verne’s path did not become the main one of SF in the West, and continued to be preferred only in more traditional societies—in Eastern Europe, Asia, and South America, where modernity was still conceived in terms of the human conquest of nature.

In the West of the early 20th century, wholly committed to modernization, Wells’s scientific romances established the paradigm—and Wells was devoted to the science-fictional grotesque. In his most important works we see several of the models that would be followed by future writers. The Martians of *War of the*
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Worlds (1898), the Morlocks of The Time Machine (1895), the Selenites of The First Men in the Moon (1901), and the beast-men of The Island of Dr. Moreau (1896)—all represent different fusions of elements that are combined only in the grotesque imagination. Here, however, rather than appearing as mere anomalous individuals that can be expunged from the human record, they constitute alternative populations, civilizations, and competitors for the human niche. Each of them, even the pathetic Beast Men, are “hopeful monsters”—they have agency and a place in the imaginary history of the world. The Wellsian grotesque became the model, then, not only for the science-fictional fascination with mutation as the embodiment of historical-civilizational change, but also for imagining the improvements that humanity might make for itself through auto-evolution. The Wellsian emphasis on evolution as the overarching master narrative, and on organisms as its usually hapless agents, naturally led to exuberant fantasies of biological transformation

Postmodernity and the Grotesque. With the postmodern period, we can no longer view the monster and the freak as romantic outsiders. As Geoffrey Galt Harpham writes:

in more a innocent time it was possible to create a grotesque by mingling human with animal or mechanical elements; but as we learn more about the languages of animals, and teach more and more complex languages to computers, the membranes dividing these realms from that of the human begin to dissolve, and with them go the potentiality for many forms of the grotesque. In short, the grotesque—with the help of technology—is becoming the victim of its own success: having existed for many centuries on the disorderly margins of Western culture and the aesthetic conventions that constituted that culture, it is now faced with a situation where nothing is incompatible with anything else; and where the marginal is indistinguishable from the typical. Thus the grotesque, in endlessly diluting forms, is always and everywhere around us—and increasingly visible.

It is a characteristic point of view of the postmodern sensibility that its forms and continuities are tenuous and vulnerable to interference and deformation, that they do not have any real integrity over time. The dominant scientific paradigm of Information holds that, in Haraway’s words, the “world is a problem of coding” (164). Being is a matter of the organization of information, and all putatively discrete beings are versions of code that can be translated, conflated, and interpolated into one another, in whole or in part. This vision emerges from the intersection of many disparate yet confluent streams of contemporary experience. Informatics and digitization are the most obvious technical inspirations. As digitization is extended to more and more aspects of technoscience and the distribution of functions in social life, it becomes natural to think of both the object-world and consciousness in terms of replication, simulation, and recombination of information. A consequence of this is the shift from thinking of phenomena in terms of their origins, paths of formation, and interdependent contexts and conditions, to thinking of them against a horizon of the technological replication and imitation of natural processes through
programming and recombination. In such a world, the grotesque has little of its previous significance, for the de-definition of forms is an accepted aspect of social reality. The aesthetic perception of the integrity of discrete forms and individual beings required for the formal confusions of the grotesque and the metamorphic flux of the sacred is weak in the Information Age.

When the genetic modification of organisms seems merely a commercial decision, when a gene of a flounder can be implanted in the genetic structure of a tomato so that produce will withstand long journeys to market in refrigerated vehicles, or when jellyfish genes can be implanted in monkeys so that they will glow “naturally” during scientific experimentation, then the integrity of forms is not a matter that societies can struggle to defend. Of course, the promise of such a combinatorial conception of the physical body is that it can be protected better against disease and feebleness, reconceiving it as a mechanism for keeping itself in operation.

But the success of genetic engineering and digitization is only part of a complex of events and experiences that have reinforced the perception of collapsing boundaries in the postmodern era. The sense of discrete containment that underlies some of the central traditional concepts of the body-politic, the nation, the state, race, gender, the family, the ego, the organism, the real, and which inspired conceptions of dialectical contests among competing self-contained entities, has weakened as their formal institutions of representation have weakened. States and nations no longer contain corporations and populations. Human relationships, and even individuals, are deconstructed into micro-units, each of which can be hailed in a diverse and relentless circulation of images and entrainments. The continuum of experience requires new conceptions of representation. The AIDS pandemic, along with less widespread “coming plagues,” has created an awareness of the interconnections of bodies and practices throughout the world, and their essential vulnerability to “viral intimacy” (Bukatman 270). Prosthetics, a technology deeply implicated in the project to overcome mortality through the continual upgrading of the physical body, has accustomed the West to think in terms of the fundamental compatibility, and hence the likeness, of animals and humans on the one hand, and machines and humans on the other. When a baboon’s or a pig’s heart can be easily transplanted into a human body, the human heart has no special status, nor does the integrity of the human body as a whole. Even more influentially, the construction of artificial body parts that can be controlled through myoelectric circuits, bridging the gap between machine signals and human signals, gives a substantial basis for the expectation that the cyborg-state will be routinely accepted and that whole economies will develop out of the production and refinement of machine-human interfaces. The ultimate step in this progression may well be the application of molecular biology to the cultivation of organs to be harvested when needed by failing bodies; or even the construction of system-regenerating backup systems within individual bodies.

My last example of the techno-cultural stream that has swept away the traditions on which the troubling grotesque depended is the postmodern volatility of the gendered body. With the availability of transsexuality, i.e.,
technical procedures to change individuals’ genders, sexuality can be viewed as a matter of technical artifice, to be constructed not by nature, but by choice, even in its material manifestation. The traditional ideology of gender-attraction and complement as a matter inscribed by nature is weakened by the technical capacity to overrule natural physicality. Paradoxically characteristic of the tendency to view ideas in terms of their possibilities of reification, concretization, and their circulation as commodity-fetishes, the transmorphic prosthetics of gender center on the construction of new bodies via artificial sex-organs and hormonal metabolisms. Proceeding under the aegis of liberating the body from the ideology of natural determination, the concept of the body as a field for prosthetic auto-construction has had the side-effect of making the entire body into a fetish object vis-à-vis the disembodied conception of “the body” in cybernetic and prosthetic discourse. For the body now stands as a heavily charged trace object of a remotely remembered—and only vaguely comprehended—sense of the encompassing unity of natural physicality, the sense of simultaneous physical and social containment that came from a fated/unalterable relationship to one’s body. The uncontrolled proliferation of body-versions, like the uncontrolled proliferation of texts, creates infinite possibilities of construction and a powerful, vague longing for a stable position, orientation, and relationship to the rest of the object-world.

The mutability of the human has always been a central topos of sf, at least since Wells’s *The Invisible Man* (1897) and J.D. Bernal’s vision of mechanized humanity in *The World, the Flesh, and the Devil* (1929). As prosthetic technologies have evolved since the end of World War II, the notion of human-machine hybrids has become increasingly accepted. At first, the integrity of the body was considered so sacred that fantasies of cyborgization were rare. Robots might fulfill their functions, as Asimov’s implausibly human robots did in *Caves of Steel* (1954) and *The Naked Sun* (1957). It was more acceptable to audiences to imagine a completely artificial human than a product of prosthetic grafting. Doubtless this was because before the graft could be made, some part of the human frame would have to be removed. The grotesque fantasy of truncation reached its consummate expression in Bernard Wolfe’s *Limbo* (1952). Profoundly influenced by Norbert Wiener’s writings on cybernetics, Wolfe described a future dystopia in which immobility is idealized; in a phantasmagoria of castration anxieties, men amputate their limbs, only to provoke a counter-culture of amputees who have acquired prosthetic surrogates.

This attitude remains a strong one, surviving even in cyberpunk, which has often wrongly been felt to be wholeheartedly sympathetic to prosthetic upgrades of all kinds. In Gibson’s “Winter Market” (1986) the narrator tells an elegiac tale of a successful new rock star who elects to become functionally immortal by grafting a servo-mechanical exoskeleton to her body that will regulate her life functions. Although she can now be maintained far beyond her human shelf-life, she is drastically limited in her movement and expression. In a similar vein, Cordwainer Smith’s classic story “Scanners Live in Vain” (1950) tells of a self-selected, priest-like class of space-pilots who have undergone special treatments...
that make them functionally immortal. They live in a state of emotional and spiritual pain that seems intolerable to organic humans.

The negative view of the cyborg is still powerful, but this, too, has weakened dramatically in recent years. We can trace how quickly the change came about by observing the transformation of attitudes expressed in James Cameron’s two *Terminator* films (1984; 1991). In the first, the Terminator’s relentless destructiveness is viewed as a function intimately related to its mechanical nature. Throughout the film, machines are represented as dangerous interferences with human connections. Answering machines, walkman units, televisions, motorcycles—all contribute in different ways to the danger in which Sarah Connor is placed. The Terminator is a version of a Monster from the Id, a heartless biker killer, while Sarah is presented as an exaggeratedly feminine woman. By the time *Terminator 2: Judgment Day* was released, attitudes had changed so much that audiences had no difficulty imagining the “re-programming” of the T-800 into a beneficent cyborg, a figure sent to guard precisely the same Sarah Connor that his earlier incarnation had been sent to eliminate. On the one hand, the “armored body” version of the cyborg had become acceptable, through the popularity of body-building (as demonstrated by the fact that Sarah Connor had been transformed into a hard-bodied guerilla), but also because the youth culture proved to have much less investment in the organic than their parents. The demonized entity in *Terminator 2* is the T-1000, whose cyborg body is human only by convenience. Without moving parts and metamorphosing into whatever shapes it wishes, the T-1000 represents the flexibility of technology to simulate without limits. It also manifests what Harpham calls the introduction of the mythic in a non-mythic context: a being whose very essence is metamorphic metal, the opposite of the humanoid father-surrogate who acquires the domesticated alias, “Uncle Bob.” The T-1000, like so many liminal figures in sf, is almost simultaneously sublime and grotesque. Its fascinating shape-shifting would be the object of sublime awe were it not for its sadistic violation of mundane flesh. In the space of a few years, Cameron’s films record the evolution from fear of all cyborg beings into a discrimination between good and bad cyborgs. The same process can be seen in the evolution of the androids in the *Alien* films—from the evil Ash of the first film (1979), to the good Bishop in the second (1986), all the way to the hysterically altruistic Call in *Alien Resurrection* (1997)—as well as in the very introduction of a cyborg into the fanatically humanistic *Star Trek* through the seriocomic Data, filling the niche of the robotic but demi-human Vulcan science-officer, Spock.

This new appreciation for cyborgs, once viewed with suspicion and distaste as negative grotesques, occurs at the same time as the publication of “A Manifesto for Cyborgs” (1985), Donna Haraway’s influential essay in feminist socialism. Haraway proposed to seize the myth of the cyborg and to make her own uses for it. For her, the cyborg represents not the half-human, half-machine monster of traditional “sci-fi,” but a being who may be organically intact yet whose place in a technoscientific network makes her dependent on interactions with the global cybersystem. For Haraway, people, and especially women, gain by identifying with the cyborg. It is a creature that has no organic origin, and so
need not buy into the legitimating mythologies of patriarchy, myths of origin and fall, that condemn women to derived status. The cyborg identity liberates the subject from the myth of Eden, from the Freudian unconscious, and from a debilitating organicism that identifies women with inertia and matter. With Haraway, the cyborg became an ironic figure—not a mechanical man, but a fluid being existing as an operational identity in a circulation of ideas and interests that may hail and consolidate new collectives.

Japanese sf employs cyborgs with obsessive regularity. Central protagonists are often robots or cyborgs, and the futuristic cities they inhabit are so wired that they too are cyborgs in their own right. Japanese science fiction rarely presents the cyborg state as inherently negative; it may inspire ambivalence, but rarely condemnation. For every bad cyborg there is a surplus of good ones. The cyborg is, as Haraway has written, not a creature of nature. Its origin is always in question, and whatever its first state was, it was never purely biological. By the same token, it does not reproduce itself biologically. It does not provide origins. Cyborgs are by definition not linked to traditions, to families and clans, and to traditional nations. They are separated from any organic community (for their membership can only be virtual and artificial), and the proliferation of positive cyborgs in Japanese anime marks not only a fascination with high-technology, but also an attempt to imagine what personal identity might be like after the full deconstruction of traditional communal loyalties.

The Grotesque Interval. For Harpham, the grotesque arises with the perception that something is illegitimately in something else. The most mundane of figures, this metaphor of co-presence, in, also harbors the essence of the grotesque, the sense that things that should be kept apart are fused together. Such fusions generate the reaction described clinically by Freud, who noted that when the elements of the unconscious “pierce into consciousness, we become aware of a distinct feeling of repulsion.” (11)

Such category confusions inspire disavowal, but they provide evidence undeniable to the senses. They present “a certain set of obstacles to structured thought” (xxi), and the mind is troubled, trying to find a solution to the problem posed by perceiving what it should not be possible to perceive. Grotesque objects stand at the margin of consciousness between the known and the unknown, the perceived and the unperceived, calling into question the adequacy of our ways of organizing the world, of dividing the continuum of experience into knowable parts. (3)

In art, the combinations of elements usually involve style-markers indicating social position, conflating “the normative, fully-formed, ‘high’ or ideal, and the abnormal, uniformed, degenerate, ‘low’ or material” (9). The perceiver strives to discern a pattern in the jumble of disparate elements, some new explanation or matrix in which the pattern will appear harmonious and even necessary. Harpham conceives of the grotesque in terms of an interval, an extremely rich approach with much to offer the concept of the science-fictional grotesque. For Harpham the interval is a gap shared by the object and the perceiver. In the object, it is between the past form of a thing and what it is becoming, its
particular evolution. In the perceiver, it is the gap in which consciousness is suspended, unable to discern not only a unified form of the object, but also the broader implications this has for the laws of form in the world in question. The grotesque obstructs the mind from completing its effort of quick understanding, arresting it when it wishes to get on with its routine of knowing, and forces it to learn something it is not sure it wants to know.

The interval of the grotesque is one in which, although we have recognized a number of different forms in the object, we have not yet developed a clear sense of the dominant principle that defines it and organizes its various elements. Until we do so we are stuck, aware of the significance, or of certain kinds of formal integrity, but unable to decipher the codes. Resisting closure, the grotesque object impales us on the present moment, emptying the past and forestalling the future. An identical force sustains the knower and the known, for this interval is the temporal analogue of the grotesque object, with its trammeling of energy and feeble or occluded formal principle. (16)

The response to this suspension of mental movement is a quickened drive to interpretation. Harpham argues that the grotesque is a naive experience, dependent on the context of representational art, i.e., art in whose figures we are inclined to believe. The more one wishes to believe in the truth or reality of the representation (and hence the less one wants to bother about interpretation and the ontology of fiction), the more one will try to discover some interpretation that will complete the design, and end the suspension “either in the discovery of a novel form or in a metaphorical, analogical, or allegorical explanation” (18).

Like the sublime, then, the grotesque seeks a set-back position from which to understand unnatural fusions in terms of their principles of order. In fact, one of the resolutions it may spawn is precisely a shift from a literal vision to a symbolic one, “and suddenly the deformed is revealed as the sublime” (20). But the object may resist and remain unassimilable, “in the interstices of consciousness” (4), becoming a constant source of interpretative anxiety. Harpham argues that this state of mind is what inspires the sense of taboo, of objects and liminal beings that defy classification because they somehow collapse natural boundaries in their own beings, while inhabiting, as anomaly and exception, the familiar world. By the same token, grotesque objects bring a fundamental principle of mythological thought into the rationalistic mode of perception. While the latter strives to set up clear distinctions and dependable frames of reference, the mythic imposes the principle of perpetual metamorphosis, according to which “no realm of being, visible or invisible, past or present, is absolutely discontinuous with any other, but all equally accessible and mutually interdependent” (51). The grotesque, according to Harpham, introduces mythic thought in a nonmythical context, “contaminating” the pure aspirations of rational thought with the fluctuating, metamorphic, class-defying world picture of the sacred.

Not only are sacred and awful truths mingled with fictions, but in the world of myth, truth itself is polluted. What scholars call the “ambivalence” and “ambiguity” of the sacred reflects the beliefs that an object can be sacred and yet actual and palpable, or, more important, that the holy is identical with the
unclear.... Edmund Leach says that myth mediates oppositions by introducing a third category which is “abnormal” or “anomalous”.... The radical form of the ambiguity of the sacred is the notion of “sacred uncleanness,” a concept that occurs throughout the form of alienated, fragmented, and decomposed myth we call grotesque. (55-56)

In another context I have proposed that sf can be conceived in terms of two linked gaps in the reader’s consciousness, not dissimilar to Harpham’s grotesque interval.² Sf elicits from its audiences the feeling of hesitation facing two intertwined but distinct questions about the imaginary world represented in the text: on the one hand, whether the imaginary changes are possible or not, and on the other, what their social and ethical implications are. The first is a matter of plausibility—what the text says about the way the world works. The second is a matter of ethical evaluation: what the text says about the values that guide or emerge from the imaginary alterations. These two gaps are, of course, not essentially distinct, for in fiction, unlike history, the world is changed according to the designs of the artist and the art. The science-fictional gaps may be resolved in the register of the sf-sublime; the technoscientific transformation offered in the text, or in the presentation of the text, may inspire a sense of technology’s capacity to produce limitlessness. Alternatively, they may be resolved in the register of the sf-grotesque, in which technoscience is the occasion for releasing and revealing the uncontainable transformative energies of the world. Harpham’s interval—between the transmutative fluidity of the object and the classificatory uncertainty of the perceiver—becomes a fundamental moment in the reception of sf.

**Sublime/Grotesque.** The sublime and the grotesque are in such close kinship that they are shadows of each other. Even when they are not occasioned or facilitated by technoscience, both are related to scientific reason. Reason is the mode of awareness that seeks, and makes claims for, a balance between mind and empiria, through the testing and manipulation of concepts formed from the observation of nature. Both the sublime and the grotesque exceed rational balance by resisting the observer’s attempt to encompass what it observes. The sublime surpasses reason toward the abstract. Its characteristic awe is induced by the experience of the uncontainable, illimitable extension of nature and technology’s second nature beyond human powers of comprehension. The mind tries to understand the principles of nature underlying abstract scientific laws and models. The grotesque surpasses reason toward the concrete. Its characteristic awe, the fascination of the anomalous and chaotic, comes from experiencing combinations of elements that cannot occur, or should not occur, according to the established categories of scientific reason or customary observation.

It is not always easy to distinguish the two, and the grotesque of one age easily becomes the sublime of another. Quantum physics was once viewed as grotesque, now as sublime. The proliferation of subatomic particles is, from a classical perspective, an excessive phenomenon, no less repulsive to reason than the platypus. However, when the premises that reveal the rational principles
behind the grotesque combinations or excesses can ultimately be discerned, they often lose their strangeness, or become sublime. The residual grotesque, whose excess exceeds the development of reason, remains a horror.

The grotesque is usually felt to be inherent in an object of perception, as opposed to the sublime’s internal mental drama. But they are not truly different in this regard. In both experiences, the observer and the object are in surprising relationships. The resisting object forces the observing consciousness to recoil and reorganize its concepts and its horizons of possibility.

Sf spectacle is based on the creation of grotesque effects to demonstrate the fluidity of the real. In some cases this may entail a critique of habituated conventional reality by introducing a “scandalous” object or concept that is nonetheless completely in accord with scientific reason. In this vein the x-ray, the Rutherford-Bohr atom, and the concept of entropy might all have been considered grotesque by conventional society, based on past scientific orthodoxies. Science’s social function in these cases is to extend what a culture considers acceptable to conceive. The Vernian project was essentially to present the reader with a wider and wider extension of the imperial domain of received science, the imperial status quo. But sf is generally unsatisfied with such realistic models and favors grotesque ordeals of consciousness. The science-fictional grotesque usually involves a phenomenon that appears to violate not only cultural common-sense based on decayed models, but the models of normal science also. The play in this construction of monsters is in providing grotesque spectacles that violate our understanding of nature while also discovering rational explanations for them. The scandalously grotesque combinations should be explicable in terms of unscandalous rational processes. This is not an unusual process in our real experience of the world. A disturbing physical “defect” or behavior can usually be rationalized in the context of accepted scientific cause and effect processes, through concepts such as teratogenesis or environmental pollution. Even where witches and magic are considered to be the primary causes of disturbance of the norm, there is a certain rational economy in assigning certain kinds of magical causes to certain kinds of effects.

In sf, the audience expects, and writers enjoy, the construction of disturbing anomalies that fulfill two requirements: they appear as immediate threats to the human perceiver in their concrete, bodily presence (i.e., they are not vaguely imagined possibilities, but made to seem as palpably embodied as the human), and they are perceived as general threats to the conception of reality as something stable enough to be understood by human beings. The sublime threatens to make the human subject feel insignificant and powerless against manifestly superior natural power. It creates fearful awe not at the prospect of being physically annihilated, but at the feeling that one’s own mind—and the minds of human beings in general—will be seen as a local, limited, and unnecessary human construction, ultimately drowned in the oceanic magnitude and diversity of what can be perceived. In the sublime, the ego fears losing itself in the vast, orderly production of what is always already the case. The grotesque, by contrast, makes the subject feel fearful awe at the possibility that one’s own mind—and again, the human mind in general—cannot keep up with the
metamorphoses of materiality; that the categorical containments of natural physicality that we wish to see as scientific truths, and that allow us to hold physical existence at arm’s length in order to elaborate un-physical, aesthetic concepts, are catastrophically unstable and will undermine our thoughts by displaying to us the chaos-producing resistance of bodies to order.

As with the sublime, the grotesque involves a recuperative recoil, allowing us to see the disorderly and repulsive as a part of the natural order, thus letting us believe that we have established a better, more encompassing mental order, more resistant to the shock of the anomalous. In sf, this recoil usually involves the skillful elaboration of an explanation that uses scientific, pseudo-scientific, or simply ratiofantastic reasoning (i.e., narrative motivation that transparently imitates the forms of rationality, but with fantastic premises, as in the works of Italo Calvino, Thomas Pynchon, and Jorge Luis Borges). Often the explanation is merely the fanciful extension of certain supposedly rational premises to absurd conclusions. In Poe’s “The Facts in the Case of M. Valdemar,” for example, the premise and the explanation merely extend the Mesmeric notion that the control of animal magnetism through the mesmerist’s will can control physical functions. The success of the tale comes from the implied natural primacy of physical decay over the power of the will to resist it. The physical, in the end, not only prevails against the mental and ideal—i.e., will-power and the prospect for scientific proof of the soul—but does so with a horrifying and disgusting insistence.

As I rapidly made the mesmeric passes, amid ejaculations of “Dead! Dead!” absolutely bursting from the tongue and the lips of the sufferer, his whole frame at once—within the space of a single minute, or even less, shrunk—crumbled—absolutely rotted away beneath my hands. Upon the bed, before that whole company, there lay a nearly liquid mass of loathsome—of detestable putrescence.

(103)

This epiphany of mutable carnality achieves its power through its contrast with the careful, medical-technical language of the narrator, who has tried to treat the body of his client as a manipulable text, with steadily decreasing success. In horror-inflected sf films, we often see similar attempts to contain the mutability of physicality in technologically-ordered environments, the laboratories and hospitals, the VR-rigs and scan-screens, that are coded to be visual articulations of scientific control. In them, each switch, instrument, and illuminated display is a physical concretization of the ordered anticipations of scientific testing. Rarely will we see in sf the tested body remaining contained by the lab. Its career will usually lead it from the failed hermeticism of the techno-container, through the middle-class, to the funkiest parts of town—the Tenderloins and Combat Zones, the decrepit factories, the subway tunnels, and underground grottoes that are culturally coded for the unclean, the secreted, the clandestine proliferation of organs escaping from bodies. It is now a dominant theme in horror-inflected, grotesque-intensive sf that the anomalous organism can never be contained, and that even the laboratory is a superfluous gesture. In the work of David Cronenberg the assumption at the outset is that the flesh is
furious at its containment and will somehow, sometime, find a means for releasing itself even from the body’s tyranny.

The sexiest category of the grotesque in sf, as in most art, is the excess of the organic. For human beings, it is organic tissue that changes most quickly and involuntarily that “betrays” the mind’s desire to slow time down. The organic imposes viscousness on bodiless thought, and seems indifferent to the ego’s desire to keep the whole thing together. The organic imposes on the contemplating subject, with its associations of messy birth, uncontrollable body functions, inevitable openness to disease, and the dim awareness of a complex, unconscious interiority that can only be imagined tactically. To be known, the organic can only be felt. For the Platonist, simply thinking that the soul requires the always already dying body is the ultimate grotesque. But it is not only, or even mainly, the awareness of physical mortality that makes the organic grotesque; it is also the awareness of its excess of life, tipping the balance toward mere physical being, and away from form. The sublime is law set free of life; the grotesque is life set free of law.

Perhaps future AIs, or Lem’s robot-constructors, will find siliconity grotesque. For us, the sf-grotesque usually involves some surprising, repulsive invocation of the primacy of organic physicality. Aliens are, almost by definition, re-imaginings of physical form—either in ways more repulsive to us than our own, or in ways that make our own seem repulsive. Xenological fictions, using the model of anthropological study of other cultures, regularly display the excessively physical character of cultures: the Klingons’ food in *Star Trek*, the alien’s treatment of his prey in *Predator* (1987), the “wandering” microbes of Gwyneth Jones’s aliens in the *ALETIAN TRILOGY* (White Queen [1991]; North Wind [1994]; Paradise Café [1998]), and the natural cannibalism of Michael Bishop’s Asadi in *Transfigurations* (1979). Even in fictions where physicality seems less important, sf will hold onto the grotesque organicism as a trace. Evolutionary fictions similarly depend on the sense of uncontrolled physical transformation unfriendly to the familiar human form. Stevenson’s Mr. Hyde represents the same return of repressed physicality (overdetermined with his ape-qualities, sensuality, and pleasure in bodily violence). In a contemporary version, Ken Russell’s film *Altered States* (1980), the Jekyll-like protagonist, Eddie Jessup, gradually de-evolves at the cellular level, losing his human form. And even *Star Trek’s* Vulcans, generally depicted as super-rational humanoid with few grotesque qualities (other than elvish ears), were gradually endowed with a form of sexual drive that comes on infrequently but that annihilates their rationality and turns them furiously sexual, beyond even human understanding.

The best topos for examining the sf grotesque is the alien, a being that is by definition strange, corporeal, and approximately as complex as a human being. The problem in the construction of the sf-alien is that, unlike the fantastic dream monster from the Id, it must be recognizable as a distinct being and it must be sufficiently knowable for its differences from familiar entities to be inferred. We expect an alien to be manifestly the result of a scientific-evolutionary logic. It must be intelligible in the logical terms of our own evolution, i.e., through some version of Darwinian theory. Alternatively, if the fictive science requires a
Lamarckian or other fantastic natural process, then this process must be explicable in terms that imitate the interactions of forces in an imaginable evolutionary ecology. If no such explanation can be found, then some effort must be taken to show that they have been attempted in vain, and that the mechanism surpasses the capacities of human science.

This evolutionary logic applies both to the creature’s physicality (its anatomy, its physiology, its place in an ecological system), and also to its mentality. It must display qualities of sentience: purpose and intention, communication, information processing, and modeling. An alien is not a differently-evolved animal. Alien fauna, such as *Dune*’s sandworms, may have characteristics similar to alien intelligences, but the concept of the alien in sf demands that it be a differently evolved intelligent, or otherwise mentally-sublime, creature that stands over against the human in its ambiguous position between animal form and higher sentience and occupies its equivalent position in a different evolutionary hierarchy. By ‘mentally-sublime’ I mean a creature whose thought processes make it aware of its contingent position in the universe. It knows it is materially circumscribed, and that its mentality is capable of sublimity, even if it does not have a culture. The notion of the alien thus implies a statement of belief in varieties of anagenesis (i.e., progressive evolution) and a hierarchy, at the top of which stands some form of dominant intelligence. The most frequently employed version is of a centralized, humanoid, individualized brain-body model. However, distributed system-intelligence is an accepted détour—such as Stapledon’s Martians in *Last and First Men* (1930) and Lem’s cyberflies in *The Invincible* (1964)—as are disembodied or subtle forms.

**The Descent into the Grotesque.** The grotesque is a more complex figuration than the sublime. The sublime threatens thought/perception with the infinite expansion of an idea that is so integral, so impossibly unified, that it not only contains, but annihilates all multiplicity within it. The sublime stuns thought with the prospect of the inconceivable unity of the universe, within which only the very great is differentiated. The grotesque, in contrast, turns the arrested attention intensely toward the object, where it detects a constant metamorphic flux, an intimate roiling of living processes that perpetually change before the understanding can stabilize them. This process is one of steady “descent” into interiors, into the “grottoes” of being, in the hope of finding a core, but always finding more transformation.

There are stages, or levels, of this descent. At its most abstract it is what we might call the mathematical grotesque. At this level, the sense of scandalous contradiction in form emerges when the ideally pure mode of mathematical thinking is inextricably associated with the sense of hard, quasi-physical labor. For example, because of the value that elegance and economy have for mathematicians, any proof that requires excessive work to arrive at a simple conclusion can be considered grotesque. Similarly, if a proof appears not only complex, but also complicated, requiring elements that are foreign to the original framing of the problem, the proof will appear disturbingly excessive. If the problem can be conceived simply, then, in mathematical aesthetics, the solutions
Edmund Burke considered the product of great labor to be sublime, but only if the resulting edifice is of such magnitude that its result is commensurate with its labor (77). We rarely see versions of the mathematical grotesque in sf, but the prospect of biological computers or evolutionary epistemology applied to mathematics makes it easy to imagine an account of fictive mathematics that will depict it in adaptationist or even physiological terms. (Lem plays with this idea in “A History of Bitic Literature” [1985] and more seriously in Solaris [1960], with Grastrom’s heretical speculations that all mathematics is anthropomorphic.)

In art, by analogy with the mathematical grotesque, any narrative or presentation that is developed in a manner foreign to its conventional terms produces the effect of grotesque incongruity between manner and matter, between the familiarity of theme and the oddity of performance. In European literary usage, the grotesque is also a specific technique of narrative, in which the tale is told in a tone at odds with its subject matter, as in Gogol’s “The Nose” (1835), in which a fantastic situation is related in deadpan, officious diction. The humor of such inappropriate tellings is usually satirical, drawing attention to the absurdity either of the referents—whose conventional discursive context in reality is bogus—or of the social discourse represented in the narrative diction, and often to both, as in Capek’s Absolute at Large (1922) and The War with the Newts (1936).

What we might call the scientific grotesque comes with the recognition of an embodied, physical anomaly, a being or an event whose existence or behavior cannot be explained by the currently accepted universal system of rationalization. The exception to a fundamental principle of form or evolution cannot be ignored, for a universal rational system that is contradicted by even one phenomenon is not universal. Anomalies draw the attention inward toward the apparent violations of common-sense, rational elegance, or logic. A phenomenon that violates the law of conservation of matter, of non-contradiction, a physical constant, or the causal chain must be understood and interpreted into the scientific system or the system itself must be changed to accommodate the new principles that do explain it. In this way, pulsars and black holes required fundamental re-formulations of basic astrophysical ideas. Einstein considered black holes (which his general theory predicted) to be grotesque, as he also considered quantum indeterminacy an equally grotesque phenomenon from the classical perspective. By the same token, time travel is considered by most physicists to be a grotesque violation of common-sense, even though it is a soberly rational idea in Minkowskian spacetime. Questions about the validity of anomalies—and the reconceptions of physical laws they may force upon scientists—continually arise in science. Sometimes they lead to paradigm shifts, sometimes to “renormalization.” At this level, sf treats the scientifically grotesque anomaly as the basis of its fictive science and the source of its novums.

The grotesque works by implosion and introjection. The anomaly draws attention to the core-phenomenon of a mysterious design in the midst of a familiar one. The mathematical grotesque draws attention to the gap between the problem and its solution. The sublime extends human cognition outward toward
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infinity, where it cannot alter the situation it contemplates; instead, it will be consumed by the vast certainty of cosmic power. With the sublime, physicality is dissolved in the concurrent ideas of extension, magnitude, and complexity, abstractions that paradoxically become impossibly present. With the grotesque, awareness is turned inward toward physicality and presence, contingency and change, with the added problem that it may actually change the thing being observed and implicate consciousness in the mutations of the objects. The grotesque perceives the world as radically mutable, resisting human rationality as a petty urge to organize reality for its own convenience. The object world becomes a field of interstitial beings, and this includes both one's body and even one's own consciousness of self, which perpetually mutate before they can establish a dependable identity.

Thus, in Greg Egan's "Reasons to Be Cheerful" (1997) a man suffers from an excruciating neural disorder that induces in him an overwhelming sadness, but gradually has his receptors replaced with nanotechnologically-synthesized neural foam that permits him to manipulate his own emotions. This concretizes a fundamental philosophical question: are the values associated with our emotions the consequences of material processes? If they are, then what do they mean? And once this situation is "transcended," where the emotional components of personal purpose and happiness are transformed into manipulable mechanisms, and happiness becomes a set of willed operations, is the meaning of these states any more clear? This is also the problematic of Philip K. Dick's Do Androids Dream Of Electric Sheep? (1969). In the dreary future society of the novel, humans are equipped with Penfield Mood Generators, machines that provide them with any emotion they wish, including, as it happens, depression. They also can interface with "Mercer Boxes," devices through which the faithful can become empathetically absorbed in the drama of their tragic savior figure, Mercer. Through the Mercer Box, a sense of ethical integrity is established that is not manipulable, through transported suffering and compassion, even though the box is an artificially constructed, virtual-reality apparatus. Another, more extravagantly grotesque, version occurs in James Tiptree's "A Momentary Taste of Being" (1975). In that tale, a crew of human protagonists exploring the cosmos for a planet suitable for emigrants from an overcrowded earth are overcome by an irresistible physical and emotional, quasi-sexual attraction for an alien organism. After a quasi-orgasmic consummation, the humans gradually dis corpore and evaporate into spectral traces, leading the protagonist (whose low libido saves him from the catastrophe but leaves him alone in the world) to conclude that human beings are merely the sperm destined to fertilize the alien cosmic egg, and then to die. In Tiptree's story the sublimity of the cosmos and space-travel are converted into a grotesque physical, sexual interior.

As Harpham states, the grotesque involves a mythological logic of constant mutation of forms, the morphing, as it were, of any being into any other (51). This instability makes the physical world an indeterminate and insecure place, suffused by forces ultimately hostile to the human need for categorical and social stability. Perceptions can easily be revealed to be hallucinations. Bodies are constantly reminded that they are not armored containers, but rather invitations
to opening and wounding, arenas of autonomous life-forms, diseases, mutations, intimate viruses. Violence is inevitable as long as humans require bodily integrity and rational order. The violence of the sublime is overwhelming and experienced by the mind, which is thrown back and down by the immense other that it has ignored in its self-construction, like a swimmer consumed by a colossal wave. With the grotesque the violence occurs in the bodily base that was likewise ignored by consciousness; it is constantly opening up, metastasizing, refusing to settle in.

In sf, we recognize this as the universe of Philip K. Dick’s works, where reality is volatile, constantly opening into parallel, alternative, realities. Dick plays with the reader’s desire to read these proliferating realities in symbolic terms, as metaphors for states of mind. But they are not—and their concreteness ultimately led Dick to mimic his readers’ interpretive urge, and to conceive of a theology that would explain the universe in the terms given by sf, and the theological hypostasis of what in his sf are fictive demiurges. This is also the guiding principle of David Cronenberg’s films, where the grotesque is much more directly linked to bodily metamorphosis and vulnerability. With Cronenberg the experience of changes in the continuum of the real is precipitated by disturbing interpenetrations of technology and the human organism. His is a delirium that displaces Dick’s near-sublime sense of the infinite proliferation of realities into the quintessentially grotesque spectacle of technological artifacts as the genitalia of a metamorphosed human species whose main, unconscious purpose is the construction of a utopia of unlimited sexual stimulation of ever more promiscuously proliferating and metamorphosing bodies. Technology becomes fetish-production, the quest to turn the world into a VR rig for the unlimited production of orifices and techno-phalluses.

The grotesque’s metamorphic physicality has always linked it with femaleness, to the degree that some theorists argue that it is essentially a response by exaggerated male rationality to exaggerated female physiology. The association of the female body with materiality, sex, and reproduction in the female body, makes it an essential—not an accidental—aspect of the grotesque. The socially constructed différance which means that male and female bodies are not only physically different but are also hierarchically arranged and asymmetrically valued underlies the literary use of woman’s body as the primary figure of debasement. (Miles 90)

The very origin of the term grotesque refers back to dark and moist interior spaces, and the metamorphic energy is easily associated with the momentous, uncontrollable, and juicy changes that occur in the female body (at least compared with the conventional norm of the male body) in menstruation, pregnancy, childbirth, lactation, menopause. From the phallocratic male perspective, these physical processes are uncomfortably insistent; they distract, they interrupt, they stink, and they stain. They are seen as physical concomitants of women’s grotesque mental processes—the changeability, undependability, materialism and inability to abstract from their immediate, personal situations. They are prone to disease because they are too open to the world; they are liable
to infect, because their interiors can flow out onto others. Sf often draws on this deep association, as does horror literature, but only rarely in a conscious way, as in C.L. Moore’s Medusa-like “Shambleau” (1933) and H. Rider Haggard’s She (1886-87). Usually it plays out only in displaced form, as in the Alien series’ monstrous mothers, and in the disorienting feminization of male sf bodies made vulnerable to penetration and contamination, including Max Renn in Cronenberg’s Videodrome (1982) and Father Hoyt’s crucifixion by the Bikura in Dan Simmons’s Hyperion (1989).

The male is positioned at the mercy of a banished biological nature in which not even the body provides that “halo of protection” that Baudrillard once referred to. Thus the hyperbolization of the body must be read as both a confrontation with and a denial of the limits of the rational. (Bukatman 265)

This coding of threatening space as feminine has been a characteristic of sf film long before the postmodern horror of Alien. In fact, such films have often included literal cave-like grotto-esque spaces in which female, world-threatening transformations occur. Don Siegel’s Invasion of the Body Snatchers (1956) reaches its climax in an abandoned mine-tunnel, where Becky has been replaced by her pod self and attempts to seduce Miles, the audience’s surrogate. Mothra (1961) and Rodan (1956) both begin with scenes of their birth in isolated caves. The threat of the giant ants in Them! (1954) is brought to an end when the last queens retreat to the caves of Los Angeles’ sewer system, where they are burned alive in the midst of reproducing their nest. In less overt forms, laboratories function in similar ways, a motif apotheosized by Morbius’s inner chambers of Forbidden Planet (1956), which open into the even vaster chambers of the Krel dynamo. To identify all interior spaces as exclusively feminine may be reductive and essentializing, but the reproductive and metamorphic uses to which many caves and grottoes are put illustrates the presence of the mythological that Harpham detects in the grotesque.

The grotesque body is not a mere natural body; it is a hypertrophy of physicality, irrepressible growth, producing excrescences, protuberances, enormous noses and ears, pimples, tumors, genitalia. Cronenberg’s bodies are always generating vile growths; in Rabid (1976), Videodrome, Naked Lunch (1992), The Fly (1986), and eXistenZ (1999) the percolation of organicism will not rest. In sf this proceeds beyond mere dermoplastic exuberance. An important current of alien-construction in recent sf film has been the conflation of multiple evolutionary qualities combined in one organism, a device Harpham notes is a characteristic of the grotesque for Bachelard. Alien’s creature has a famous metamorphic growth-cycle, from the arachnoid-octopoidal “face hugger,” to the angry larva eating its way out the viscera like a wasp baby, to the multiply coded adult (which changes in each film) that is both vagina dentata and penis dentatus. The alien of the Alien films has a second rapacious mouth embedded in the first; its body is silicone and its blood is acid. It is hard and reticulated like a machine and yet drools fluids all over itself. “Brindle Fly” in Cronenberg’s The Fly and the Predator similarly display aspects of multiple evolutions; the former
because he is a genetic splice of a fly and a human, the latter simply because he has the body of a human and a face like a warthog’s.

The physicality may well continue inward, away from the facial and dermal surfaces to the grotesque core, to the flesh that is both the support and the food of the carnivorous organism. The sf-grotesque delights in the representation of visceral flesh, sores, sex organs that appear as wounds and tumors, dismemberment, cannibalism, organs without bodies, the eclipse of the abstract imagination. Finally, the grotesque reduces to goo. As the body continues to withdraw from the human gaze, it loses more and more of its structure—first its body, then its organs—finally leaving only the proto-form of plasma. The core is reduced to formless jelly, which yet has power: to melt, to cause deliquescence by touch alone, to contaminate. (What deconstruction is to the sublime, deliquescence is to the grotesque.) Poe’s attractiveness is due in large part to the promise of evoking decay, a promise classically delivered in “Valdemar.” Films such as Cronenberg’s Videodrome and The Fly construct their narratives in order to support the spectacular progress of the ying bodies toward their decomposition; and by analogy, the decomposition of the solid bourgeois scientific sense of the separation of mind from embodiment. (This same process is developed in a sublime register by Greg Bear in Blood Music [1985], a work of great originality and audacity precisely for the way it “turns” the motif of deliquescence from one of the most dependable devices of the grotesque into a device signifying transcendence.) In his quest to discover his original essence, Altered States’s Eddie Jessup devolves first to proto-human, then to a marmoreal mass, finally to a cosmic, plasmic cell.

**Solaris: The Literary Sf-Grotesque.** It is rare for a work to display all the qualities of a given constellation of effects, but Lem’s Solaris represents a fully-realized and categorically complete expression of the science-fictional grotesque. The planet’s anomalous position in the universe of human understanding is made clear through a detailed and varied history of hypotheses about its behavior, each of which fails to become legitimate knowledge. The basic premise of the novel’s scientific grotesque is that the ocean-planet Solaris appears to regulate its own orbit around a binary star, permitting it to even out the drastic changes in temperature that would normally make the evolution of life, or indeed any kind of homeostasis, inconceivable. Such a phenomenon is so unprecedented for the human astrophysical imagination that it immediately inspires new theories and models, each of which is somehow liminal vis-à-vis established scientific models. It may be a “pre-biological formation” the size of a planet, a “homeo-static mechanism,” a powerful magnetic geological formation—all models that share their fundamental emptiness. With closer research, all these hypotheses are discarded, leaving a new set of more refined liminal hypotheses: that the plasmic ocean that covers the planet’s entire surface is a single gigantic cell-like structure, and that it has some form of sentience capable of regulating its orbit.

As the exploration of Solaris continues from a space station in geosynchronous orbit a mile above the surface, the hypotheses about the planet are
either discarded one by one or relegated to a library of unprovable and useless dead ideas. The only thing that can be known about the planet is that it consistently defies being understood by any of the tools of human science. It is an anomaly in almost every aspect of its physical being, and thereby repels all previous human models of astrophysics, biology, planetary geology, etc. It cannot be studied in any rational way, because the measuring instruments used to collect data return mysteriously transformed, still measuring something, but without any indication of what that something is. Even time cannot be measured normally on the surface, since the plasmic ocean appears to be able to change the time along one and the same meridian.

This anomaly elicits a wide range of responses, from religious awe to the rage of spurned suitors. After a hundred years of failure to understand the ocean, most of humanity tires of the whole thing, leaving only a tiny band to doggedly pursue it, and leaving the project’s funding in grave danger. By the time the protagonist, Kris Kelvin, arrives on Solaris Station, the condition of the scientific grotesque—i.e., an anomaly that violates the norms of reality, creates a mathematically grotesque response. The planet is, in a sense, a simple being: it is not subdivided into cells, it does not extend the range of its putative power beyond its own orbit, it has no second nature on its surface. But this simple creature elicits the most voluminous commentary and scientific imagining of any object in nature. Thus, in response to the “resistance” of the object, human beings produce attempted models, hypotheses, and proofs that grotesquely display their own labor, without illuminating the object. The work might be sublime if it could produce an understanding of the sublime object—a planet that is both mathematically and dynamically sublime. But since it cannot, the enormous human intellectual labor is merely the display of the forms of human cognition, made empty by their inability to reach the object. (Interestingly, a similar sense of this mathematical grotesque is imputed to the ocean by the Solarists, who describe the immense complexity of symmetriads in mathematical terms; in Kelvin’s words, “the completed symmetriad represents the spatial analogue of some transcendental equation” [119].)

The stalemate produces a sense of threat in the Solarists. Even though the planet does not threaten them physically, their sense of legitimacy as scientists and human beings is threatened by the planet’s apparent sabotage of their rationality. The planet clearly exists in concreto (the notion that it is a collective hallucination is not seriously raised in the novel), but it has no rational explanation. As a result, humans who pride themselves on their rationality as proof of their superior powers in the cosmos encounter a wall. A wall is sublime. But in the case of Solaris, the wall is inside the minds of human beings—for the ocean itself is maddeningly active. It continually produces surprising phenomena that cannot help but draw the attention even of the most fatigued Solarists in toward itself. Following the introjective path of consciousness characteristic of the grotesque, the Solarists are drawn to examine the planet ever more closely, and with each approach the sought-for core dissolves in yet another plasmic transformation.
The closer the Solarists come to the surface of the planet, the more obvious it is that the planet resists understanding not only because of its “core anomaly”—its cosmic physical power—but because its fluid physicality is in continual metamorphosis. Made of a plasma, the ocean is a single formless entity capable of emanating immense and elaborate structures, the *mimoids, symmetriads*, and *asymmetriads*, towering quasi-edifices of mind-boggling complexity that rise into the stratosphere and then decompose quickly back into the planetary substance. These excrescences never repeat themselves. A leading Solarist, attempting to place the ocean among the known things of the universe, has to invent a category, of which the planet (true to its anomality) is the only member. Its main quality is that it is a “metamorph.” This constant changeability thus extends from the simplest to the most complex structures. It is even capable of generating simulations of human forms, apparently perceived through some mysterious reading of the brainwaves of human Solarists. The grotesque implications are clear: Solaris is not only about a stable difference from the known, i.e., the different physics that seems to obtain in its orbital behavior. It is also about internal, constantly mutating and proliferating differences, the metamorphoses that will not allow rational categorization to establish the limits necessary to describe and define.

These grotesque qualities are fairly abstract and clearly reflect Lem’s conscious intentions to create an ungraspable alien. But the logic of the grotesque continues into what may be less conscious on his part. For the metamorphic quality of the planet clearly takes on the gendered aspects characteristic of the grotesque. The plasma ocean is increasingly related to female form, or rather formlessness. There is ample reason to believe that the “Phi-creatures” that appear on the Station, apparently simulations by the ocean of repressed fantasies or memories of the Solarists, are all erotic, and perhaps all female. (Two of them certainly are female, Kelvin’s Rheya and Gibarian’s “African Aphrodite,” while Sartorius’s is most likely a female child. Snow’s is restrained in his closet.) This alone would not indicate the female-grotesque, however—except perhaps in the dry sense that the rationalistic Solarists are forced to confront the most unpleasantly incongruous, erotic aspects they had thought repressible, only to discover they are instruments in their relationship with the planet. Rather, it is the planet itself that takes on more and more female qualities.

As Manfred Geier has written, even the apparently objective physical qualities of the ocean irresistibly connote femaleness, even female genitalia (204ff). In the relationship with Kelvin, the ocean, first through the dreams in Chapter 12, then through Rheya, and finally in the direct quasi-encounter at the end of the novel, is always coded as feminine. In the dreams, a painful and formless union seems to be taking place with a mysterious subject, producing what can be easily construed to be a child. Rheya may very well be a recording instrument of the planet, analogous to the instruments sent down to the planet’s surface by the Solarists. In that case, Kelvin’s love affair with her sends a very specific, and indeed romantic, kind of information to the “mother.” Rheya’s final sacrifice, moreover, is a classically—indeed, stereotypically—“feminine”
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exercise of sacrifice for the sake of her man, a noble gesture that nonetheless
takes on grotesque dimensions when it is viewed not from the comfortable,
seductive context of romantic fiction, but from the outside, as the act of a being
doubly determined by the inferable purposes of the planet and Kelvin himself.4

The ocean itself is fascinating and grotesquely excessive. Its mimoids and
symmetriads protrude from the planet’s surface, or spurt up like ejaculations. It
reproduces “giant babies.” Its physicality is uncontrollable, illimitable. And of
course it is a limit-form of plasma. At its most basic level, this creature capable
of orbital control and, in its gigantic protuberances, the manifestation of what
one Solarist considers the physical analogue of transcendental equations, is an
undifferentiated mass of plasma, a production-machine without organs. It is a
clear manifestation of the differential grotesque.

The grotesque qualities of Solaris are not confined to the ocean and its
constructs. The book tells its story through a constantly destabilized narrative;
generic protocols are grafted onto one another so that Kelvin’s austere realistic
narrative reveals itself, on close inspection, to implicate all sorts of distinct
romanesque forms: ghost story, Kafkaesque parable, quixotic romance, Swiftian
satire, and case-history, among others. These distinct narrative forms flow into
one another, with the appearance of the Phi creatures, revealing that the ocean
is as resistant to narrative appropriation as it is to scientific rationality.5

In Solaris, the grotesque interval is narrowed by certain boundary-producing
elements of the sublime evoked by the novel’s concluding encounter between the
ocean and Kelvin. Science—or at least a transformed scientific ego represented
by Kelvin—may yet become open to a new type of infinity in the universe, that
of sentient variety. There may have been an “understanding” between
incommensurate sentient beings that remains dry, elegant, and indeed courteous,
respectful of cosmic difference. The story of the encounter, moreover, unfolds in
a chaste and economical language, extending from Kelvin’s narrating ego,
philosophical dialogue, and the arche of Solaristic records that tacitly embrace
the entire history of human scientific exploration. Finally, Kelvin’s biography
leaves no residue after the novel’s end; no repressed or unspoken element of
personal or species history remains to return and spoil the party. This
interpretation forces us to read the novel naively, which is a pretty tall order. It’s
worth remembering that there is no indication of any trouble with the Solarists’
unconscious in the beginning of the novel, either. None of the Solarists’ rhetoric
betrays that they are aware that their language might carry unspoken
unconscious meanings, and this may also be true of the author.4 The grotesque
is thus on the verge of its transformation into the sublime recuperation.

The Alien Series and the Spectacular SF-Grotesque. The Alien films convey
a very different sense of the science-fictional grotesque, appropriate both for
cinema’s kinetic rhetoric and for postmodern culture’s pervasive concern with
transmorphic, boundary-dissolving phenomena. The individual installments of
Ripley’s career are clearly intended to be linked into an Alien megatale; it is also
clear that they are always after-the-fact additions. The audience is thus invited
to imagine a unified “saga” at the same time that it knows that each new film is
an improvisation. The Alien films are consequently already grotesque in their moment of presentation, requiring their audience to close enormous temporal gaps between episodes (during which major protagonists die), while also opening up gaps in stories that appeared to be closed. The fourth film, Alien Resurrection, has taught the public to abandon the expectation of closure altogether; Alien 3 had claimed that the Alien xenomorphs were completely destroyed, yet a way was found to bring them back.

The linking narrative of each episode is, from this perspective, also a pretext for displaying every-more-complex variations on certain themes. On the narrative level, these have to do with the constantly shifting relationships between Ripley, the Aliens, and the independently metamorphosing androids. As the stories become increasingly defined by themes of physical interfusion and reproduction, genealogy and affiliation, each category of character moves further and further from its original “conception,” while always maintaining a trace of its origin.

At the level of image and visual design, furious category confusions occur incessantly. Boundaries between genders, between machines, humans, and animals, between technology and organic life, all come down. Interiors project outward, while exteriors invade. Some horrible excess of de-containment attends each boundary violation: explosions of blood, brains, android juices, alien vital-acid and drool (or “shit,” as the grunts of Aliens prefer to call it) are expected and required. Visually, there is the constantly metamorphic interfusion of technological design and organic form, foreground and background, interior and exterior, environment and agent, costume and body. Category excesses abound: the prison planet Fury of Alien 3 is peopled by excessive men (all with YY-chromosomes); Ripley is excessively female, a woman pregnant with a Queen; the Alien has two mouths, and evokes the menacing genitalia of both genders; it is metallically organic, while the Alien Spaceship of the first film is organically metal; androids are endowed with their own spurring life-juices, coded as both milk and sperm; men give horrific birth, females have deadly phalluses. Bodies are regularly violated, separated into parts, forcibly fused and consumed; they are doubled promiscuously, becoming shadows of each other, until the traditional contest of horror fiction, of same against other, becomes excruciatingly difficult to sustain. By the fourth film, even the most solid generic conventions implode, along with the psychological responses they encode. The cathartic exorcism of the monster that is the raison d’être of the horror film is subverted, and the excessive expulsion of the Alien child at the end of the film evokes more grief than relief.

By Alien Resurrection the oppositional relations between the human and the inhuman have been completely reconfigured to form a series of intersecting potentialities. The lack of an oppositional relation between self and Other, human and monstrous, means that the final confrontation between Ripley and the alien child is structured around similarity and therefore permeated by a sense of appalling loss. (Constable 197)

From the outset, each of the films intends to subvert fundamental generic conventions of sf and especially horror film. The position of heroic agent is
dependably occupied in all the films by Ripley, a putatively representative female subject in a niche that had been, before her appearance, reserved for men. Ripley is also free of the despotism of romance; her affections are for non-male coded beings: Jonesy the cat, Newt, and Call. (The significant exception is Clemens in *Alien 3*. Arguably, Ripley’s polymorphous sexual mobility would be compromised if heterosexual connections were entirely excluded from her history.) Ripley is consequently free to establish her position outside the heterosexual dyad.

Because of this, she represents a mobility in her relationships unprecedented in sf film. At first this mobility is confined by her unrelenting hostility to the Aliens, a relationship she is ultimately—and forcibly—“liberated from” by her position as cyborg fusion of alien and human. Ripley thus metamorphoses from heroic survivor, to heroic surrogate mother, to tragically compromised carrier, to *Alien Resurrection’s* solo cyborg-dyke-warrior-leader-alien-mother, the appropriator of every available form of power. The Alien evolves through similar relational changes. It did not take long for the audience and the film-makers to perceive the uncanny inverted doubling relationship between the two bodies. The Alien xenomorphs in each film act as Ripley’s shadow: stalker, maternal competitor, horrific guardian, and monstrous offspring. The inverted doubling naturally involves their physiques. As Ripley is transformed from an object of conventional visual pleasure into a being increasingly part of her ever darker visual and technical environment, the creatures become proportionally humanoid and social. (In each film, Ripley’s appearance becomes less and less visually defined vis-à-vis the environment. She fuses with the mechanical lifter in *Aliens*; she is made to look like the prisoners in *Alien 3*; and in *Alien Resurrection* she appears almost to emanate from the interior design of the lab-ship.) Finally, in *Alien Resurrection*, the inverse movement becomes convergence: in a brilliant scene, Ripley and the audience discover horrifying relics of previous experiments in joining Ripley’s DNA with the Alien’s, her own grotesque ancestry.

The grotesque condition is complicated by a third order of creature, the android, who is also presented in constantly mutating fashion in each film, both in physique and in relation to the human beings. The science officer Ash of *Alien* appears to be unambiguously human at first. When his head is knocked off, his interior is revealed to be bulbous and lymphatic. The butch and brutal Ash’s body becomes a counterpart of the Alien creature’s sexual ambiguity, its fluids calling to mind both milk and semen, transforming the dour, hyper-rational, Spock-like science officer into a double obscenity, a sexless concealed hermaphrodite sustained by its own sexual juices. Bishop of *Aliens* at first appears to be a simple moral inversion of Ash; but the audience knows that his shell conceals the repulsive interior obscenity, and expects it to be spectacularly revealed. The exposure comes when Bishop is impaled by the Alien Queen and rended in two. The autonomy of the cyborg’s individual parts (another primal motif of the grotesque) had been established in a scene in the earlier film when Ash’s head is electrically reactivated to access its databank (and to give Ash the chance to express his disdain for the human crew). In *Aliens*, Bishop uses his own grotesquely severed upper-half to rescue Newt. In contrast with Ash’s
liminal obscenity, Bishop’s cyborg ambiguity becomes a linking device, a physical copula. In Alien 3 the presentations of the androids in the previous films are recombined. Bishop’s head, now severed and in need of artificial reactivation like Ash’s in the first film, is pathetically compassionate, and elicits compassion from the audience: we gaze at a noble artificial soul in the waste-heap of its physical embodiment.

With Alien Resurrection, the grotesque has expanded in surprising directions once again (though not necessarily in aesthetically satisfying ways). The captive creatures, the alien Queen, and her hybrid offspring are more defined than any of the earlier films’ creatures, possibly because of the prominence given to their faces and their social behavior. The humans, for their part, display a number of carnivalesque forms: a dwarf and a giant, among others. The android, who now surpasses even Bishop in altruistic service to the human species, appears for the first time coded as feminine, in the form of the young woman, Call. The cavernous wound that reveals her android interior does not spurt and smear as her predecessors’ did, it merely drips with the familiar white, viscous fluid. It is perhaps even more explicitly sexual, because it so nearly resembles a vagina, which the Alien Ripley explores with almost prurient fascination. It is evident that both the cyborg and the human-alien are linked to lesbian positionality, in sharp contrast with the exaggerated masculinity of the other humans and the exaggerated maternal sexuality of the Alien Queen. Call’s wound evokes extravagantly sadistic imagery of sexual violation which, since it involves her constitutive circulatory juices, implies that she is a creation of sadistic fantasies (like the Alien Ripley herself), that she is the embodiment of sexual violation.

Few works of recent sf have attracted as much critical attention as the Alien films. Early criticism interpreted the initial film primarily in terms of social class, the Company’s capitalism, and the creature as an embodiment of capitalism’s rapacity. Since the early 1990s, the dominant approach has been through psychoanalytic, especially feminist, models. Viewing the Alien as the shadow of Ripley, and the relationship between Ripley, the xenomorphs, and the androids as one of triangulation, invites psychoanalytic critics to interrogate the origin of the monster and the cyborg and to code the screened relationships in terms of a self-defining female subject and her repressed unconscious conditions of possibility. For feminist critics these conditions are embedded in a patriarchal symbolic order hostile to the emergence of women’s autonomy. This interrogation has inspired a number of remarkably astute interpretive essays on the Alien films from several psychoanalytic perspectives: Jungian, Kleinian, Lacanian, Kristevan, Irigarayan, and others. The Alien films constructed a pattern of violent reproductive fantasies—forced insemination, android replication, horrific bug mothering, sadistic reconstructions of the female body—that epitomize the postmodern grotesque. In this context, it is interesting that the Alien series has elicited what might be considered a form of theory that is concerned with the psychological origins of the grotesque, and is correspondingly an example of grotesque thinking itself. Psychoanalysis is, after all, concerned with articulating the fantastic “archaic” consciousness of inarticulate beings, constructing infantile states of mind that
putatively generate later states and conflicts. All this is done by inference alone, from art dreams, neurotic behaviors, and deranged states of adults. The archaic stratum can never be reached, because it can never speak, yet it sends its messages into and through the language of grown humans. In this psychoanalysis repeats the basic structure of Gothic horror fiction, imputing to the mind a stratum of terrific creative energy not mediated by post-oedipal discipline. Psychoanalysis itself resembles paranoid/schizoid thinking, in the sense that it detects pernicious influence from an inaccessible part of oneself that is increasingly seen as existing in a network out in the world.

Psychoanalysis looks squarely across its own grotesque interval at a fantasy-producing core-experience that can never be fixed down. The resistant datum of consciousness—whether it be the archaic mother, the phallic mother, the oedipal dyad, the birth trauma, etc.—constantly changes its manifestations, appearing in various phantasmagoric forms so imaginatively excessive that they refuse to be reduced to a mundane moment of real childhood time. Psycho-analysis in this sense is the constant search, interrogation, and conjuring up of phenomena that may never accept their naming, and hence their exorcism.

Feminist currents of psychoanalysis have a particularly ambivalent attitude toward the liberation of conscious thought from its illusions of self-sufficiency and self-determination. For most feminist psychoanalytic theorists, these illusions are tied up with patriarchal indoctrination, the structuring of mind to serve phallocratic interests in the world. At the same time, the repressed pre-Oedipal stratum is recognized to have the power to damage thought itself, i.e., to make “recognition” and knowledge meaningless, to release psychosis along with resistance. This liberation may be coded as revolutionary and positive, as in Deleuze-Guattari and Irigaray; more often, it is coded as ambivalent and fearsome. Theories of the origin of horror in infantile separation anxieties—like Melanie Klein’s splitting and Kristeva’s abjection—offer a psychoanalytic theory of the origins of the grotesque. One writer has christened Kristeva’s theory “the grotesque of the grotesque” (West 251)

The Alien series points out that a new sf element is involved in such cultural psychoanalyses, namely, the artificial construction and dissemination of virtual experiences that suggest—and increasingly encode—subject-concepts. Unlike analysis, which claims to uncover formative real experiences that have generated powerful illusions, postmodern psychoanalytic criticism increasingly treats these experiences as indistinguishable from the virtual, and hence impossible to define in contradistinction to “what actually happened at the origin.” In this sense, as film and virtual arts increasingly become primary carriers of symbolic information, they cease to be mere symptoms and become part of a network of generative causes of subject-constituting fantasy life. Sf has a forward role because it presents both rationally explicable imaginary monsters and the technologically constructed worlds in which they belong. Sf films—especially those that bind with horror—externalize the unconscious with respect to the subject, granting unconscious authority to the apparatus of presentation. More specifically, psychoanalysis and film are, at least in the influential Alien films, increasingly grotesque as media. The sf film’s obsession with
metamorphosis, reproduction, and the externalization of the interior, all through constructed set-worlds, makes it a medium especially able to present the descent into the grotesque.

Although there is justifiably a great deal of dispute about the aesthetic value of each of the Alien films, they obviously have a subversive, disturbing artistic power in popular culture unmatched by other works of sf. Just as feminist psychoanalysts view the films as an arena where profound dilemmas of the social are projected—testifying to a loosening of traditional limits on the representation of unconscious fantasies that is mirrored in theoretical speculation—we might also view the Alien films in more general terms, as running experiments in the designation of a science-fictional grotesque as a dominant mode of representing postmodernity.12

NOTES

1. On Wolfe’s use of Wiener’s ideas in Limbo, see Hayles (113-20).
2. See my “The SF of Theory.”
3. I believe that Kavanagh was the first to use the phrase “penis dentatus” for the Alien (76).
4. Weinstone holds a different view, that the Phi-creature Rheya gradually evolves into a “resisting monster.”
5. On the interpenetration and interferences of different romanescque discourses in Solaris, see my “The Book is the Alien.”
6. At a conference in Krakow in 2000, Lem called Geier’s reading of the novel that of a “a psychopath,” eerily reprising an anecdote he is of fond of telling about a Polish psychiatrist who considered Solaris proof that its author must be mentally ill.
7. This is especially true for those fans who are also aware of the Alien comics, novelizations, and the popular Alien versus Predator computer games, whose “histories” often contradict each other.
8. On the subversion of the conventions of the horror genre in the Alien series, see Speed.
9. Speed reads Ripley’s tryst with Clemens as a bold inversion of the formulas for sex and gender in the slasher film (138-39).
10. The best grouping of these is in Elkins, which includes contributions by Jackie Byars, Jeff Gould, Peter Fitting, Judith Newton, and Tony Safford.
11. The Alien films have produced a virtual casebook of persuasive applications of psychoanalytic reading. Among the highlights are the Gabbards and Curveth and Gold, who read the films in terms of infantile psychic splitting described by Melanie Klein; Torry’s Lacanian interpretation; Barbara Creed’s much-anthologized reading of Alien through the lens of Kristevan abjection-theory; Catherine Constable’s elaboration and critique of Creed, with an Irigarayan reading of Alien Resurrection; Speed’s Kristevan salvaging of Alien 3; Rushing’s Jungian reading; and Bick’s nonaligned interpretations of the films’ genital imagery.

These readings are so rich that the fit between gloss and text sometimes seems uncanny. It would not surprise me if the Alien films’ creators turned out to have some familiarity with recent theories of the cyborg, abjection, the phallic mother, and other currently-favored models of the uncanny and the monstrous. They must certainly be aware of Ripley’s cult-status among lesbian viewers. The in-joke allusions to Baudrillard and Burroughs in Matrix are overt reminders that Hollywood filmmakers occasionally pay attention to theory; there is no reason to believe that the makers of the Alien films
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(who include Sigourney Weaver as executive producer) are unaware of contemporary academic discussions, even if their use of them is superficial. The near-mechanical use of Harawayan cyborg motifs in Alien Resurrection is striking, and Hollywood has always been friendly to psychoanalysis as a source of ideas.

12. Speed makes a similar claim, specifically reading Alien 3 as an allegory of postmodernism as abjection.

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ABSTRACT

The “sense of wonder” traditionally attributed to sf is closely allied to the grotesque, the aesthetic of representing objects interfused and combined in an unnatural fashion. In the postmodern period, the grotesque becomes a kind of norm, since science is able to detect and synthesize an unprecedented number of things never before seen in nature. The science-fictional grotesque begins from this premise, embodying in its central repertoire of anomalies a host of monsters, cyborgs, and aliens. The sf grotesque usually involves a descent from intellectual apprehension of anomalies into relentlessly mutable and mutating bodies, and these are often coded as feminine challenges to phallocratic scientific rationality. The essay treats Stanislaw Lem’s Solaris as a quintessential example of the literary sf-grotesque. In it, the grotesque core-object, the plasmic ocean, forces the Solarist scientists to reconceive their scientific rationality, while the narrative itself mutates from one form to another. The Alien films, by contrast, represent the spectacular sf-grotesque. In them, the bodies of the Aliens, the androids, and the humans undergo constantly metamorphosing embodiments and bodily relationships.