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Unbalanced Nature, Unbounded Bodies, and Unlimited Technology: Ecocriticism and Karen Traviss's Wess'har Series

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"Recycling won't save the Earth, and neither will prayer. The Eqbas are coming. … They're coming to punish us for genocide. And while they're at it, they want to restore Earth to a state of environmental balance."
Karen Traviss, *Matriarch*[1]

The aliens are coming—and they're coming to "balance" whatever is threatened by human exploitation (and that of other rapidly breeding, space-faring life forms). Just how difficult it is to define this balance beyond limiting population, building with minimal landscape alteration, and following a vegan diet becomes clear in Karen Traviss's six-novel wess'har series: *City of Pearl, Crossing the Line, The World Before, Matriarch, Ally,* and *Judge*. Every time the ecologically dedicated wess'har and their more interventionist cousins, the eqbas, seek to overcome "imbalances" such as the overpopulating and polluting isenj (a spider-like, high-tech species much like human beings), some unexpected troubles arise and unsettle hopes for balanced harmony. Balance, it seems, is very hard to describe much less maintain over the long term in the wess'har worlds. In fact, the series centers around efforts to contain a microscopic virus-like life form with almost unlimited potential for serious unbalancing: the *c'naatat* that infects and alters its host to be virtually indestructible via adaptation of interspecies DNA. *C'naatat* accentuates the porosity of individual bodies with its rapid changes and it thereby brings to light the near impossibility of defining a static and long-term form of ecological "balance" even on a more standard evolutionary time scale. Traviss thus shrewdly undermines the notions of balanced nature and bounded bodies by constantly erasing genetic and species boundaries; one cannot really speak of balance, after all, if the boundaries are always shifting through time and space. Her otherwise astute exploration of complex and fluid limits ends, however, with a simplistic equalizer: unlimited technology. Apparently, the energy necessary for

the eqbas's vastly superior nanotechnology miraculously has no ecological costs, not in terms of extraction, production, nor of waste, and *its use is unlimited*. At the same time, however, the eqbas claim that they can travel the universe, balancing entire worlds at whim with their nanotechnology, yet somehow *limit access to its power* in order to prevent the less ecologically-minded species like the isenj and human beings from utilizing it with rather different agendas. In this essay, I explore Traviss's provocative presentation of unbalanced nature and unbounded bodies with the guidance of the ecocritics Dana Phillips and Ursula Heise, but then I turn to the environmental philosopher, Val Plumwood, for insights regarding Traviss's spurious yet absolutely standard vision of an unlimited technological panacea. Traviss's series portrays how the boundaries and limits that we perceive as solid are often much less so than we believe, yet she also reveals—inadvertently, it seems—how easily we blindly ignore other, more solid limits.

I: Unbalanced Nature and Unbounded Bodies

Traviss, the British author of multiple "Star Wars" texts, served in the military and worked both as a journalist and defense correspondent. Her wess'har series follows her usual forceful writing exploring the extreme contexts and acts of war. In the first of the wess'har novels, *City of Pearl*, the human chaos and ecological devastation contrasts sharply with the wess'har who live non-invasively on the planet Wess'ej. These wess'har have left "the world before" and come to Wess'ej specifically to avoid the interventionist, "balancing," policies of their predecessors, the eqbas. For all their reserve, the wess'har fiercely protect the nearby planet Bezer'ej where *c'naatat* and the squid-like bezeri are native species. The wess'har still believe in balance, but with restraint since they are guided by the philosopher Targassat's questions:

> When do you say, 'This is how things should be'? At what point in its history do you consider a world to be balanced, to be as it should be? Life evolves, and becomes extinct

> through meteor strike, through natural disasters, through all manner of events that have nothing to do with the misbehavior of the dominant species. Where do you draw the line between the imbalance caused by one species and the natural course of events? I ask again: *How do you decide what should be restored*? All we can be sure of is that as long as we exist, we should be aware of those life-forms with fewer choices than ourselves, and tread as lightly and as thoughtfully as we are able. All else is artificial intervention, one opinion set above another. There is no single point of perfect balance (*Matriarch* 94).

In other words, Traviss highlights the idea that balance is neither clear nor even possible when one looks at the development of life through time. Of course, the eqbas are still headed to Earth to bring "balance," because it is as much about "justice" or retribution as it is about ecological health. In that human beings explode a nuclear bomb salted with cobalt on Bezer'ej and thereby kill almost the entire species of sentient and aquatic bezeri, the eqbas will not change their minds on this issue: the matriarch from Eqbas announces at the end of the second novel, *Crossing the Line*: "Tell the *gethes* [carrion-eaters or humans] that we are coming…Tell them that we too believe in balancing, and that the bezeri will have justice, even if none are left to witness it. What threatens you threatens us" (*Crossing the Line*, 373). Balance: is it a response to a threat, a call for retribution, or a foggy vision of utopian harmony?

However problematic the concept of "balanced nature" is, its seductive allure is not limited to Traviss's wess'har worlds; it remains a dominant paradigm here on Earth for much of environmentalism. Indeed, the belief in a "balance" in nature flourishes in our exploitative and capitalistic culture. There is a common assumption that the competitive and technologically-driven marketing experience in which we seek our daily nourishment can be countered by peaceful retreats to aesthetic sites known as "nature" (these usually involve elaborate tourist attractions or, for the more robust, the promise of solitary excursions penetrating green or desert brown wilderness zones carefully preserved for affluent visitors in good hiking boots). If nature has often been viewed in the past as the realm to be conquered and tamed for human use, it has

more recently acquired a green, perhaps even evergreen, hue as a distant site of harmony and holistic calm that can tame and revitalize our tired bodies and souls. Natural beauty contrasts sharply with the horror of our rapidly altered landscapes of concrete and strip malls, and such a contrast perpetuates a vision of balanced greenery endlessly cycling through day and night, seasons and years, even while remaining somehow static and the same until humanity arrives. While nature in such visions evolves through time and includes predators and parasites, it still offers repose and equilibrium in contrast to the realm of hyperactive humanity. It is as if the dream of harmonious, unchanging nature "balances" for us the endless changes and "progress" of technologically-driven global marketing practices. Both sides of that equation are flawed.

In the environmentally-minded literary approach of ecocriticism, there are those such as Phillips and Heise who do not so easily fall prey to the allure of "balanced" nature. I begin with Phillips as the skeptical ecocritic who provides us with a more, well, balanced view of nature as unbalanced, and then consider how Heise's concept of "deterritorialization" de-naturalizes the local and posits it within larger, global concerns that are as dynamic as nature itself. Phillips is the preeminent skeptic speaking against effusive nature reverence, the ecocritic who would dampen the celebratory return of "realism" in nature-writing, and the environmental voice calling for a more grounded approach to understanding our current ecological crises. Of balance and ecology, he writes that:

> ecology has come to be identified in the popular mind with such values as balance, harmony, unity, purity, health, and economy. It's fair to say that many people regard these values, however, utopian they may be, as all but indisputable and as all but synonymous with the very word 'ecology.' Few laypersons dare to question these values publicly, and imagery expressing our collective devotion to them, and indeed to everything green, pervades our daily lives."[2]

Phillips's provocative assertion about how we need to rethink the basic assumption of "ecological balance" underlying much of environmental thinking is, unfortunately, all too often

overlooked even as it is, in my view, his most extraordinary contribution to the field of ecocriticism. Many ecocritics remain primarily concerned with Phillips's call to include "theory" in our environmental musings (by which he rather sensibly means that we should not disregard most of what has been done in the past fifty years in literary studies, even though he is as skeptical about certain aspects of critical theory as he is about reverential nature writing), and they thereby leave out of consideration the two chapters in his book dedicated to providing better insights into the science of ecology and its implications for ecocriticism. While ecocriticism claims a relation to ecology, Phillips notes that literary scholars more often than not avoid the apparently uncomfortable work of looking closely at the underlying concepts currently accepted in that scientific field. It is here where we in ecocriticism should pay particular attention to Phillips: when he insists that we consider more precisely the scientific aspects of ecocriticism's "eco." What he finds is that we need to rethink our assumptions about balance.

Both Phillips and Heise demonstrate that the quest for balance is off-kilter. Indeed, recent work in ecological science no longer describes the natural world as a site of harmonious balance, as Phillips emphasizes:

> [Paul] Colinvaux argues that stability should never have been thought of as an ecological phenomenon in the first place. He writes: 'Stability and balance are not so much functions of life acting on life as they are reflections of the underlying stability of physical systems. Perhaps the greatest error recurrent in ecological thought is that which claims stability as a function of biological complexity.' In other words ecological stability is a product not of biological forces but of geological and climatic stability. And of course geology and climate only *seem* stable to us because of our limited ability to appreciate the vast amounts of time involved in geological and climatic change, which can have and often does have cataclysmic effects.[3]

Like Phillips, Heise also quickly dispatches with the notion of "global ecology as harmonious, balanced, and self-regenerating."[4] She provides just one citation from the biologist Daniel Botkin who pointedly rejects orderly, steady-state ecological systems, and then she notes that this has

"momentous consequences for environmental literature and ecocriticism."[5] Phillips's summary of ecology's history is, on the other hand, extensive; yet let us nevertheless take him at his word here and not shy away from reviewing directly some recent scientific discussions about ecological balance as a confirmation of his assertions. Even just a quick look provides ample support for the need to reject the concepts of stability and balance in nature. John Kricher's 2009 book on ecology, for example, *The Balance of Nature: Ecology's Enduring Myth*, is entirely dedicated to debunking the notion. Kricher asserts:

> Historically, the notion of a balance of nature is part observational, part metaphysical, and not scientific in any way. It is an example of an ancient belief system called teleology, the notion that what we call nature has a predetermined destiny associated with its component parts, and that these parts, mosquitoes included, all fit together into an integrated, well-ordered system that was created by design. Such a belief in the harmony of nature requires purpose, a purpose presumably imposed by the goodness and profound wisdom of a deity (or deities). Such a view of how nature functions dominated human thought for millennia. For many, likely most, it remains a worldview today.[6]

Similarly, the journal *Bioscience* published a 2004 roundtable discussion on "Ten Suggestions to Strengthen the Science of Ecology," in which the notion of "balance" as a state of "equilibrium" is rejected: "Formerly, ecology was dominated by an acceptance, without proof, that ecological systems achieved equilibria. In recent decades, this idea has been rejected on the basis of the weight of evidence… Ecologists need to focus more on the dynamics of ecological systems…"[7] Both Kricher and the roundtable assert that ecology is the study of *dynamic* systems throughout time and across space without looking for final, steady-states at equilibrium.

Moreover, accepting the notion of "balance" in nature has another perhaps even more troubling implication for ecocriticism than merely ignoring recent science. In the 2001 collection of essays, *Cycles of Contingency: Developmental Systems and Evolution*, Susan Oyama describes how some of the problematic assumptions about "steady-state" communities in

ecology were made based on cybernetic models and "wartime engineering successes." Oyama states that in Joel Hagen's history of ecology as a discipline,

> the fortunes of the ecosystem concept and the organism metaphor are closely entwined. Organismic development, as usual, was considered autonomous, regular, goal-directed, internally driven…. Organism and machine metaphors coexisted in these early ecologists' work… [There was] a shift toward more formal cybernetic models after World War II, when many scientists were drawn to information theory. Inspired by wartime engineering successes, they envisioned a world governed by 'self-regulating feedback systems'; diagrams of energy flow through ecosystems showed clearly defined circuits, eventually manipulable from the outside… Communities became steady-state devices. This accords with popular visions of nature's balanced harmony.[8]

"Steady-state devices" based on military models of circuit systems that can be manipulated from the outside—such mechanistic systems are usually considered to be inimical to the more typical ecocritical emphasis on nature's animism. Kricher also asserts that thinking in terms of the balance of nature is to use the analogy of a machine.[9] In short, when ecocritics and environmentalists highlight nature's "balance" and harmony, they adopt—unknowingly, it seems—the model of nature as (like a) machine. We ecocritics should, indeed, heed Phillips and Heise when they reject the concept of ecological "balance," lest we perpetuate an outdated and mechanistic, steady-state view of the natural world.

The concept of balance in nature is thus a problem for environmental scholars, and it is the primary problem in Traviss's wess'har series. Of course, it is the wess'har who take it upon themselves to respond to human greed, violence, overpopulation, and nuclear bombs laced with cobalt that "unintentionally" commit genocide, to mention just a few of the behaviors for which "balancing" sounds not entirely unreasonable. It is also the wess'har who confront the spider-like isenj who reproduce until they cover almost every surface of their planet, thereby eliminating virtually all other life forms so that they must seek new worlds to colonize, populate, and pollute. The wess'har leave them alone when it's just the isenj's home planet of Umeh at stake; they

intervene only after the isenj colonize Bezer'ej and pollute its waters, thereby drastically reducing the population of the aquatic bezeri (whom the human beings later almost annihilate with nuclear bombs). Unfortunately, the wess'har efforts may achieve short-term population reduction (via "culling," genocide, or imposed sterility), but these efforts also tend to create new or to reveal additional imbalances. After the wess'har destroy the entire isenj colony on Bezer'ej in order to protect their beloved bezeri, for example, they learn to their horror that these squid-like victims had decimated all other large life forms from their oceans through intentionally blood-thirsty hunting practices. When asked about pictures of large, whale-like creatures from their historical documents, one bezeri, Saib, responds: "They were not our prey. They encroached on our hunting grounds and we found less to eat every year. They were too big, dirty and dishonest and stupid. We hunted them down and slaughtered them all so they would never take our food again" (*Matriarch* 336). Saib also states unequivocally that they do not regret this competitive genocide "because they were inferior" (*Matriarch* 336). In sum, the bezeri wiped out their sentient competitors by hunting them to extinction and by consuming most of the prey species so that any remaining starved. They, themselves, contributed as much to their own crisis as did the isenj by decimating not only their prey but any competitors. (Im)balance has layers and histories that reveal themselves upon closer inspection. Which phase, which population, and which species entails ideal balance? As Kricher notes, these questions are "value judgments."

Traviss's wess'har series makes clear that balance is, indeed, a concept based on value judgments and that these judgments can be flawed. One could say that Traviss's universe is much like ours; it is undergoing changes no matter how avidly one tries to avoid them, and those changes have resounding environmental implications. Traviss opens the series with an Earth in the future that is overpopulated and overly toxic, so much so that there are "en-haz" officers, that

is, environmental hazard police, who regulate and oversee business practices (well, it is fiction, after all). Her protagonist is Shan Frankland, an en-haz officer and a tea-drinking "copper" of apparently "masculine" height, strength, and resolve to use violence whenever necessary. Shan successfully reveals herself in most every situation to be "one of the lads" and hence a perfect candidate for the wess'har matriarchy. There is some oddly gendered logic here: Traviss insists that Shan, as the most extremely "masculine" of human females, is ready to join and even dominate a matriarchal society where females rule by hormonal scent consensus but otherwise appear to share many traits of stereotypical human males. Wess'har females are larger, they conceive the babies but hand them to the males to gestate and nurse, and they are dominant physically and emotionally, thus appearing as the "rational" gender, whereas the nurturing males are always swayed by clingy emotional and physical need and are most often portrayed while engaging in domestic chores such as cooking and childcare. Male wess'har die, in fact, without the intimate contact that provides them with rejuvenating DNA from females. Aras, the soldier dubbed by the isenj as "the Destroyer of Mjat" for his genocidal destruction of their Bezer'ej colony, appears to be the exception to this gender play yet he rapidly becomes dependent on Shan and soon clings to her as emotionally as any wess'har male. The dichotomized gender logic based mostly on a simple reversal with a few special touches is reductive, but Traviss's environmental reasoning is more promising. Shan is, after all, on a mission to care for all life forms as having equal validity and the right to exist without exploitation whether male or female, earthly creatures or those from other planets. Her early work is to carry out "routine inspection[s] for biological and environmental hazards that [businesses] are not licensed to manage" (*City of Pearl* 7). Shan's interactions with businesses and her attempts to inspect and regulate the hazards that they create lead her to support, secretly, the efforts of eco-terrorists. Because of this hard-

core "green" tendency, she is sent on a mission whose scope she does not understand to a planet where alien species are living together in harmony with a lost colony of human beings.

Or so it seems. The colony left earth for religious reasons and has with it an "ark" of DNA taken from many plants and animals. They are waiting for some divine sign that they can return to Earth and repopulate the lost species. Shan, it turns out, is supposed to find the ark and bring copies of specific agricultural products' DNA back home so that the European government can give them out freely to farmers and thereby break the absolute monopoly of gen-tech agribusiness over all food products. However, it turns out that behind this secret mission, there is another agenda: getting samples of some promising biological matter found locally on Bezer'ej. This matter is the native "parasite," or symbiont, *c'naatat*, that maintains any life form it "infects" at all costs, including whatever radical changes are it "deems" necessary (without any apparent consciousness). It is able to make these changes by scavenging any and all DNA from other life forms with which it comes into contact and through "experience." As Traviss describes it:

> Aras had lived with *c'naatat* for centuries by human reckoning, and its ability to manipulate genetic material and keep its host alive still surprised him. It seemed able to do very nearly everything; it tinkered, it borrowed, it scavenged, it rearranged, it remodeled, and it defended. One set of genes that had taken its fancy was genetic memory—a legacy from his isenj captors when he was a prisoner of war. And, as *c'naatat* crossed membranes from host to host, in blood or in the act of copulation, memories surfaced in other minds (*Matriarch*, 7).

The flexibility of *c'naatat* and the resulting fluidity of body form and rapid recovery makes those infected virtually immortal; they can only be destroyed only by complete dispersal of the body such as through a violent explosion. Aras, for example, survived years of isenj torture while a prisoner of war when they experimented with efforts to kill him. Every attempt simply gave the *c'naatat* quicker "reflexes" to repair the body. Shan, herself infected, makes this even more

obvious when she spaces herself at the end of the second novel in an effort to prevent human governments from getting access to *c'naatat*. Her friends find her body months later floating in space, covered in a waxy substance, emaciated and in stasis, but alive. Traviss's *c'naatat* suggests (promisingly) that biological or natural balance is impossible, and yet (troublingly) that it is the *biological* that is dangerously uncontrollable whereas technology will, in the long run, provide the controllable counter force necessary to create "balance."

When Shan first arrives on Berez'ej, it does not take long for her to realize that this place, the native planet of *c'naatat* where the colonists are living, is also the former site of sweeping isenj cities that were completely destroyed and the entire population exterminated and banned by the wess'har for polluting the seas and decimating the bezeri population. Aras is the last remaining wess'har soldier infected with *c'naatat* (the rest destroyed themselves in the lonely despair of longevity), and he stays alive in order to enforce balance on Bezer'ej. He allows the religious colony of humans to remain since they have the ark containing so much biodiversity and because they agree to follow his restrictions. The peaceful colonists, portrayed as atypical human beings, luckily share with the wise wess'har the convenient preference to avoid *c'naatat* like the plague. Once Shan learns more about *c'naatat*, she is determined to avoid letting it get into (more typical) human hands, although she herself ends up infected at the end of the first novel. During a territorial dispute with the isenj, she is fatally wounded and Aras decides to infect her to save her life. He does this because he's quite taken with her matriarchal strengths and wess'har-like logic about protecting all life forms equally (and because he's a "needy male" wanting a dominant female…); hence he makes a split-second decision to share *c'naatat* with her through blood contact, despite having spent centuries of trying to avoid spreading it at all costs. Once Shan becomes *c'naatat*, she unites with Aras in his long-term quest to "maintain" balance

on Bezer'ej and to keep the parasite from aggressive life-forms who would exploit its power. These two are later joined by another human being, a marine, Adrian Bennett, or "Ade" who is accidently infected by Shan. The three of them become a family, in the matriarchal wess'har manner. The rest of the series follows Shan, Aras, and Ade as they work with the wess'har and the eqbas who attempt to keep (or seek) "balance" on worlds quickly spiraling out of control.

With the eqbas's quest for imposing balance across the universe, we find an situation similar to what Heise describes as "deterritorialization," or a shift away from the more typical ecocritical emphasis on the local and the regional. While many assert that our (earthly) versions of globalization and the shift towards global power structures would decrease local power and hence damage environmental awareness and self-determination by disconnecting us from the costs of our choices,[10] Heise suggests in contrast that an eco-cosmopolitanism based on deterritorialization might provide us with a broader perspective and so a form of greater ecological consciousness:

> This deterritorialization of local knowledge does not necessarily have to be detrimental for an environmentalist perspective, but on the contrary opens up new avenues into ecological consciousness. In a context of rapidly increasing connections around the globe, what is crucial for ecological awareness and environmental ethics is arguably not so much a sense of place as a sense of planet—a sense of how political, economic, technological, social, cultural, and ecological networks shape daily routines. If the concept of deterritorialization foregrounds how cultural practices become detached from place, it also points to how these practices are now imbricated in such larger networks.[11]

Heise's assertion that recognizing global power structures could produce more environmental consciousness may be overly optimistic, yet she raises several extremely important issues. First, she clearly demonstrates that an emphasis on the "local" is just as constructed as our "imbrications" within larger networks and global systems of exchange and connections. Furthermore, these imbrications make all the more evident the fact that nature is always unbalanced. Heise asserts that "nature in its local manifestation does not appear as a stable

ground in which human identities can be firmly rooted but as a dynamic force of constant transformation."[12] An eco-cosmopolitanism, according to Heise, would

> imagine local environments less as foundations for an unalienated existence than as habitats that are ceaselessly being reshaped by the encroachments of the global as well as by their own inherent dynamism. With such a deterritorialized sense of place, the environmentalist's task would not so much be to preserve pristine, authentic ecosystems as to ensure their continued ability to change and evolve.[13]

Seeking the continued ability for systems "to change and evolve" is, without doubt, a pragmatic goal yet it certainly leaves open many "vexed" questions, as Heise notes, such as "the difficult question of how an endorsement of constant transformation and change would allow one to discriminate between the inherently dynamic evolution of ecosystems and the kinds of disruptive change that might ultimately lead to serious ecosystemic problems and failures."[14]

In other words, dynamic ecosystems are always in flux and so there are no clear limits and boundaries to begin with, much less once human actions join in the ongoing processes of change. According to Heise, the scale of change cannot be understood in its entirety if focusing only on local life forms and systems, and such a narrow focus can lead to misperceptions about nature's ongoing evolution. Unbalanced nature is hence "natural," and yet, nevertheless, certain forms of change and the extremely rapid pace of human alterations can seriously endanger biodiversity. Distinguishing between nature's inherent dynamism and the implications of human actions since the industrial revolution (and earlier, albeit at a different rate) becomes as complicated as the wess'har philosopher, Targassat, suggests with her questions about when, whom, and what to balance. Recognizing, as Heise does, this complexity of scale leads to more accurate views on nature's dynamism, yet it also means that we face a situation that is much less clear cut than the simple and outdated dichotomy opposing balanced nature with disruptive human beings and their technology. While Heise doesn't expect fiction to provide all the answers

to these complex questions about dynamic ecosystems and how we might proceed environmentally in this age of rapid ecological degradation, Traviss certainly offers some interesting paradigms for studying worlds without balance, and worlds that receive balance only artificially thanks to the technological interventions of the eqbas.

Significantly, Traviss portrays worlds spiraling out of control primarily because of the permeability of bodies whose "lines" are always being "crossed" both by the spread and alterations of *c'naatat* and by the exchanges among species.[15] Bodily boundaries are erased as biological material runs amok. Not only regions and planets, but also bodies are deterritorialized and unbalanced in the wess'har series. Indeed, bodies are unbounded, open systems of exchange functioning like small environments, or worlds, unto themselves. Shan speculates to herself about how *c'naatat* makes this apparent: "She was just an environment to be preserved with whatever came to hand" (*Crossing the Line* 2). And, again: "*I am a world too,* she thought, *C'naatat* only wanted the best for its environment, for her. It wanted a stable colony, just like the settlers of Constantine" (*City of Pearl*, 390-91). Shan and Shapakti, the eqbas scientist seeking to understand and control *c'naatat*, discuss *c'naatat*'s role. Shapakti begins:

> 'I want to know about *c'naatat*. We all do.'
> 'You're looking at it.'
> 'How does it make its decisions?'
> 'I think it treats a host like a planet. An ecosystem.' She had to use the English word: she had no wess'u for it. 'Except it takes a lot better care of it than *gethes* would.'
> 'Can you feel it?'
> 'No. I can feel what it does, but I'm not conscious of it as an entity or a community' (*The World Before*, 207).

Above all, *c'naatat* works with the body as an ecosystem that is constantly open to import and export from others. Indeed, the entire second novel, *Crossing the Line*, illuminates transgressed lines (bodily, species, and political) that are crossed through choice, accident, and desire.

This may be Traviss's most insightful idea with or without *c'naatat*: the insistence that any ecosystem, bodily, planetary, or otherwise, is deterritorialized or both open to flux and constantly threatening to overspill into others; in other words, the body, like nature, is not in balance and it is influenced by external forces both far and near. Traviss details at length the traits that Shan and Aras gain from encounters with other species: for example, Aras looks ever-more human and Shan has luminescent lights in her hands like the bezeri. But these changes are fluid and come and go as the *c'naatat* plays with its world, shaping it at "whim." The apparently non-conscious genetic manipulations of *c'naatat* thus resemble the arrogance of the eqbas who intentionally "shape worlds to their wishes" (*The World Before*, 19), despite the good intentions for survival in both cases. The inevitable missteps of such alterations become clear in each of Traviss's novels, on many levels. Beginning at the level of the body is a productive step towards rethinking the myth of the balance in nature, and it also highlights some of the irresolvable tensions arising from unbalanced nature.[16] Travis hence offers a deterritorialization of the unbounded body with other life forms that parallels Heise's deterritorialization of the local with the global networks. When beginning with the concept of un-localized and unbalanced nature as our starting point, we also face the fact that natural processes can become so radically unbalanced as to disrupt the biodiversity upon which we rely to survive. The actuality of nature as the livable biosphere, if we follow Heise, Phillips, and Traviss, lies somewhere in the muddled middle between the poles of static balance and change so rapid as to endanger most life forms.

II: Unlimited Technology

While bodies and ecologies are insightfully unbounded and unbalanced in Traviss's wess'har series, technology is another matter. It is contained, it is that which contains, and that

which finally allows closure in the final novel, *Judge*. Angered by human greed and their nuclear bombs, the restrained wess'har decide to call for help from their cousins from "the world before" who have greater technological might; and so the eqbas come to intervene, bringing their most advanced nanotechnology. The eqbas have three goals: first, they promise balance to the isenj on their native planet that is so overpopulated that the only species remaining are the isenj and some fungi they grow for food; second, the eqbas seek to decontaminate Bezer'ej from radioactivity in honor of the bezeri (though the fate of the bezeri becomes ever more complicated, and by the fifth novel, *Ally*, they are infected with *c'naatat*, living on land, reproducing again, and hunting all day long); and third, the eqbas head off to Earth for some serious "balancing" that is just beginning at the close of the series. All of these plans seeking "balance" have, it seems, a clear, wess'har logic to them; there is more, however, to the story. The terrible outrage that first brought the eqbas and their technology into the picture was the human beings' detonation of nuclear bombs to destroy the island where the *c'naatat* grows. This act failed to destroy the resilient life form but succeeded in decimating the bezeri far more than even the isenj's pollution had. Yet this plan of destruction that so enraged the wess'har is actually one that they themselves, at an earlier point in the second novel, suggest as a possible strategy to maintain balance (through more targeted means, of course, with less "collateral damage"). The matriarch Chayyas rebukes Aras for having infected Shan with *c'naatat*: "Aras, nobody has ever deliberately harmed the common good. I have no idea whether a penalty is appropriate. But if we were to destroy all traces of *c'naatat*, it would save much harm in the future, and not just for us" (*Crossing the Line*, 29). Aras is horrified: "I can't accept that. You can destroy me, and you can even destroy *Shan Chail*, but how can you justify wiping out the life-form in its natural place: It's part of Bezer'ej. We have no right to end its existence because it's inconvenient for us. That

makes us no better than the isenj. Or the *gethes*" (*Crossing the Line*, 29). Here they propose the very act they later condemn; the difference lies, apparently, in whether one commits genocide for the "greater good" or not and who is deciding. Traviss reveals how troublingly vague these delineations for balance are. The wess'har have obviously not ascertained exactly what balancing must entail and which decisions and sacrifices are acceptable in that process. The one thing everyone in the series remains very clear about, however, is that the answer is technology.

Significantly, the wess'har's philosophy of Targassat restricting intervention stills allows for the use of technology to annihilate the entire isenj colony on Bezer'ej in the name of balance. Hence the various human figures in Traviss's novels obsessively speculate just how much more extreme the eqbas's techniques will be on Earth, for they are fully invested in imposing balance from the outside when they deem it appropriate—and they have far more advanced technology. The imperial power this suggests barely registers as a problem in the series; after all, the eqbas seek not power per se but rather "balance," and they don't colonize, they just "clean things up" and then depart; well, in theory, at least. More often, they must leave behind some balancing enforcers on site (balance, after all, quickly unravels), and so they recruit the newly "balanced" and thus completely zealous converts, the skavu who unhesitatingly slaughter any who are not convincingly "green," to help on both the isenj's planet Umeh and on Earth. Maintaining balance across the universe requires, it seems, more man(eqbas)power than the "well-balanced" eqbas population can handle. Yet, despite the fact that Traviss raises many relevant questions for environmental thinking today with her portrayal of unbalanced nature and unbounded bodies, her acceptance of unlimited technology as a balancing force undermines the strength of her premise.

Turning back to our ecocritics, Phillips and Heise, for guidance, we find that although they clearly advocate beginning with the recognition of unbalanced nature, they are less

specifically helpful in terms of evaluating technology and its connection to science in this context. Phillips, for example, compellingly presents how ecocriticism's relationship to science is muddled by its continued reliance on outdated notions of holistic ecology, even while—rather paradoxically—ecocritics tend both to reject science more generally and yet to accept as an ideal the scientifically accurate portrayal of natural history in nature writing. Phillips is hence more concerned with cogently explaining the scientific principles and history of ecology to literary scholars (which he does admirably) than negotiating with science's "imbrications" within technological innovation and efforts to "know," alter, and control our surroundings. Technology for Heise is an inevitable and significant part of the re-imagination of the local place as the global planet, and by no means either the cause or the solution. Certainly, by rejecting the notion of balance in nature Phillips and Heise eliminate the possibility of simply demonizing technology as the great bringer of imbalance. Yet the question of technology demands additional interrogation—particularly in the form that Traviss proposes: vastly superior military technology as the panacea to all environmental woes in the universe. For a model that complicates and assesses our assumptions about technology and science *together* and in environmental terms, I now turn to Plumwood. In contrast to Phillips and Heise, she specifically addresses the negative aspects of "technoscience" and its relation to industry:

> Science is often identified as the ally and savior of the environment, especially since scientists have spoken out on climate change and have added the authority of reason to environmental concern in many areas. This face is real enough: science has played an important and often crucial role in exposing environmental damage and aiding opposition to it. But modern technoscience also has an uglier but less remarked face: technoscience has contributed to producing the environmental crisis at least as much as to curing it, applying to highly complex situations and systems specialized and highly instrumentally-directed forms of knowledge whose aim is to maximize outputs, often with devastating results. Four out of five scientists now work for corporations which bring precisely such an orientation to bear.[17]

Technology and science work together in their use of "highly instrumentalized" forms of knowledge, and to separate the one from the other is to see theory and practice as entirely isolated instances. Furthermore, our standard hope for "technofix solutions" needs as much re-evaluation as does the concept of balance in nature. Plumwood says:

> Technofix solutions make no attempt to rethink human culture, dominant lifestyles and demands on nature, indeed they tend to assume that these are unchangeable … But we did not just stumble by some freak technological accident into the ecological mess we have made, and it will take more than a few bright boys and better toys to get us out of it. Our current debacle is the fruit of a human- and reason-centered culture that is at least a couple of millennia old, whose contrived blindness to ecological relationships is the fundamental condition underlying our destructive and insensitive technology and behavior."[18]

Despite her complex exploration of fluid limits and unbalanced nature, Traviss proffers in the end of her series nothing more than a utopian "technofix solution" to the problem of *c'naatat* and to "balancing" Earth and other planets. Technology and science, in the hands of a few bright boys (and their matriarchs), appear to save the day and restore (or create a sense of) harmony.

Let us in this context nevertheless examine more closely Traviss's study of technology, for it is, in fact, more nuanced then I have thus far made it out to be. Traviss depicts specific levels of technology, and she questions the biological integration of them into bodies. Shan, for example, sticks to a "Swiss," a very old-fashioned hand-held computer screen and tool resembling an iPod; this tool appears amusingly antiquated in contrast to the soldiers' bio-screens built into their skin. Shan repeatedly rejects more high-tech and modern tools or weapons, but doesn't flinch when the eqbas arrive with nanotechnology ready to impose "biological balance." On the one hand, Traviss has Shan distinguish between what for her is an "acceptable" level of technology that does not transgress the bodily lines (unlike *c'naatat*), yet, on the other hand, she condones extreme technological intervention because the benefits for biodiversity outweigh, in her view, the costs in terms of human lives. Shan continually questions herself in

this regard, but decides that supporting biodiversity is worth even the military occupation of Earth and the "culling" of vast numbers of human beings. The logic suggests that biological lines can be and are transgressed. Technology, on the other hand, serves to prevent transgression, to maintain the lines, and to kill when "necessary." Furthermore, Traviss problematically equates the ability to maintain and encourage biodiversity with unequaled technological might used for military control over others. In other words, her technology resembles a totalitarian system.

The vast superiority of the eqbas's nanotechnology, which allows their enormous ships to break up into bubbles and reshape themselves, to form impermeable protective shields so that they can blast entire planets without risk to themselves, and to perform various clean-up operations, is repeatedly highlighted in the various novels. The human beings without exception compare their technological knowledge to that of the eqbas by using the demeaning terms of feeling like less "advanced" species —oddly enough in a series insisting that all species deserve equal validity—such as "monkeys," "chimps," or even "like a particularly retarded amoeba fresh out of the primordial slime" (*Matriarch* 10). What this celebration of technology brings to the series is not an in-depth exploration of the complex relationship between technology, bodies, and ecologies, but rather disappointingly just the simple fact that eqbas's version of "balancing" is inevitable and unpreventable because it is technologically superior. Brute strength in technological terms, in other words, will win out no matter what—luckily, though, it's in the hands of a species bent only on interventionist "balancing" in the universe. Shan ponders the targassati view that one must sometime intervene: "*You can't have the power we have and not use it for the greater good. You can't look the other way and pretend that matters will resolve themselves, because those least able to defend themselves will always succumb to the dominant and irresponsible*" (*Ally*, 35). Imagine, purely speculatively, of course, that technology might be

used to exploit others and assert military and economic power rather than just bring balance (or even democracy, as it were) to those unfortunate enough to lack it. In Traviss's version, the obvious problem of human beings getting their hands on this technology is raised only by Ade in passing and is quickly dismissed by the endless confidence of the eqbas. Ade asks: "So what if they asked you how to make one of those dispersing missiles?" and Esganikan, the eqbas matriarch leading the balancing project on earth answers "If we decided they could [make it with their own level of technology], we would refuse to tell them" (*Matriarch*, 133). And so it is: if the eqbas say "no," then that's it. One need not be concerned about the transgression of technological boundaries, apparently, and the spread of technological wizardry is entirely preventable (unlike thus far on Earth). At no point does the eqbas "balance of power" get disrupted, and no human beings acquire nanotechnology. Yet the entire series is dedicated to the problem of containing the disruptive biological power of *c'naatat* which keeps on spreading. In contrast to biological forms, then, technology in Traviss's series appears neutral and helpful—as long as it's in the right hands, where it most remarkably remains. Biological matter spreads, but technological knowledge is controllable: that is the absurd message here. It's a paradoxical assertion in a series documenting the inevitable spread, contamination, and boundary disruptions of living forms that is accelerated by space travel (requiring, of course, advanced technology).

Furthermore, all of the technological marvels are possible with absolutely no environmental costs (in defiance, perhaps, of the second law of thermodynamics). That notion is as problematic as is the deluded hope for a technological panacea, but it is equally common: the dream that we will somehow find a limitless energy source that we can *exploit to our advantage with no costs*. Plumwood says of such hubristic overestimations: "Our well-confirmed tendencies to overestimate and overvalue our own technological control and to vastly underestimate their

potential for negative impacts on us and on the more-than-human world are fed by the same dissociations. We encounter these blindspots of rationalist hubris repeatedly in the introduction of new technologies of control."[19] Such technological control, of course, is not only the hubris but the very answer in Traviss's series.

While commendably questioning our typical boundaries in ways befitting Heise's theory of deterritorialization and even expanding the model to an interplanetary scale, Traviss nevertheless proposes the rather standard technological answer to ecological crises even while rejecting the notion of balance more generally. Significantly enough, the actual "balancing" of the Earth is not explored in any depth in Traviss's series. The eqbas arrive on Earth in the final novel, *Judge*, and they're beginning the process. But the mess of it is left to our imagination even as the rest of the problems are mostly resolved: Aras is able to have his *c'naatat* removed and finally become a normal wess'har father, and Ade and Shan head back from Earth to live on Wess'ej to live as a rather standard couple happily "ever after" (literally, it seems). And so it ends: with a return to domestic "normalcy," albeit with some immortality thrown into the mix, all of which is possible thanks to the clever use of responsible technology. In sum, Traviss astutely elaborates the problems of balance throughout her series, but rather suddenly drops the complexity by the end when many of the major problems are solved as technology overcomes even the seemingly invincible *c'naatat*. It is, perhaps not surprisingly, the "bright boy" scientist, the only significant eqbas male in the novel besides Aras, who figures out how to remove it safely from its hosts. While Traviss hence deterritorializes and unbalances the body (by making it endlessly permeable and subject to rapid alterations), the local ecologies (into global systems), and even planets (as part of interplanetary exchanges), she concludes the series with the idea that having sufficient scientific and technological wizardry (Plumwood's "bright boys and better

toys") will save us from any biological and ecological challenge we face. In short, Traviss nicely complicates nature but fails to do so with technology.

Where does the fact that the wess'har and eqbas versions of "balance" appear to be complex cultural concepts open for debate leave the wess'har worlds—and those of us on our twenty-first-century Earth marked by rapid ecological degradation? For one thing, it means the necessity of working without a simplified dichotomy between the balance of nature and the disruption of human technology. It also means a very careful assessment of technological power in the context of its ecological and energy costs, its waste products, and its inevitably non-neutral applications. As Plumwood notes, these factors should not be considered in isolation from one another nor should scientific knowledge stand as if separate from its technological means and productions. Additionally, the dream of balanced nature as a realm isolated from the human should be acknowledged as illusory; the more radical the earthly alterations we cause with our practices, the more balance and harmony we tend to attribute to the natural world. Relying on the simplistic view of balanced nature all too often allows a blindness to the paradoxes that we thereby create. The work of challenging some of our most fundamental assumptions about the environment—and of analyzing Traviss's science fiction—needs a variety of insights, including Plumwood's contextualization of our irrational dreams of "technofix solutions" within larger cultural beliefs, Heise's re-thinking of our cultural boundaries and desire for simple delineations within the enormity of global markets and climate change; and Phillips's invigoration of ecocriticism with the well-grounded recognition of unbalanced nature. Unbalance is where we begin; who knows where it will take us.

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[1] References to Karen Traviss's six novels in the wess'har series will be hereafter listed parenthetically in the body of the essay. The novels, in sequence are: *City of Pearl* (New York: EOS, 2004); *Crossing the Line* (New York: EOS, 2004); *The World Before* (New York: EOS, 2005); *Matriarch* (New York: EOS, 2006); *Ally* (New York: EOS, 2007): and *Judge* (New York: EOS, 2008). This first quotation is from *Matriarch*, pg. 1.

[2] Dana Phillips, *The Truth of Ecology: Nature, Culture, and Literature in America* (Oxford UP: Oxford, 2003), 42.
[3] Phillips, 71.
[4] Ursula Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford: Oxford UP, 2008), 64.
[5] Heise, 65.
[6] John Kricher, *The Balance of Nature: Ecology's Enduring Myth* (Princeton: Princeton UP, 2009), 16.
[7] Gary E. Belovsky, et. al. "Ten Suggestions to Strengthen the Science of Ecology," *Bioscience* 54.4 (2004): 345-351, 348. Additional texts emphasizing "non-balanced," or nonequilibrium views of the natural world are many; I mention here some other representative examples: Lynn Margulis's *Symbiotic Planet—A New Look at Evolution* (New York: Basic Books, 1998); and Klaus Rhode, *Nonequilibrium Ecology* (Cambridge, NY: Cambridge UP, 2005). Of note in the social sciences and humanities are, for example, Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Metropolitan, 1998; Manuel De Landa, *A Thousand Years of Nonlinear History* (New York: Swerve, 2000); Steve Hinchliffe, *Geographies of Nature: societies, environments, ecologies* (Los Angeles: Sage, 2007); Alessa Johns, ed. *Dreadful Visitations: Confronting Natural Catastrophe in the Age of the Enlightenment* (New York: Routledge, 1999); and Tom Wessels, *The Myth of Progress: Toward a Sustainable Future* (Burlington, Vermont: U of Vermont P, 2006
[8] Susan Oyama, "Terms in Tension: What Do You Do When All the Good Words Are Taken?" In *Cycles of Contingency: Developmental Systems and Evolution*, eds. Susan Oyama, Paul E. Griffiths, and Russell D. Gray (Cambridge, MA: MIT P, 2001): 177-193, 185.
[9] See Kricher, 18.
[10] For a particularly compelling discussion of this danger, see Vandana Shiva's *Stolen Harvest: The Hijacking of the Global Food Supply* (Cambridge, MA: South End P, 2000).
[11] Heise, 55.
[12] Heise, 114.
[13] Heise, 114.
[14] Heise, 114.
[15] For in-depth exploration of the porosity of bodies, see Stacy Alaimo and Susan Hekman, eds. *Material Feminisms* (Bloomington: Indiana UP, 2008).
[16] Patrick Murphy, in fact, describes Traviss's wess'har series in terms of the need to acknowledge the anthropogenic changes to earth and the simultaneous changes to ourselves as a species. Patrick Murphy, "Engineering Planets, Engineering Ourselves: The Ethics of Terraforming and Areoforming in an Age of Climate Change," *Journal of Ecocriticism* 1.1 (2009), 54-59.
[17] Val Plumwood, *Environmental Culture: The ecological crisis of reason* (London: Routledge, 2002), 38.
[18] Plumwood, 8.
[19] Plumwood, 239.