

# “Of the Virus Party”: Ecofeminist Perspectives on Dissent in AIDS Science.

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## Abstract

My analysis of the controversies in AIDS science demonstrates that due to the influence of the allopathic scientific collective, the course of mainstream research about the disease has been overdetermined.<sup>1</sup> During the disease’s early outbreaks, allopathic medicine dominated medical discourse. As a result, AIDS science focused on infectious rather than environmental and ecological causes. Later, this focus caused controversies voiced by dissenters from a more holistic perspective. I argue that persisting uncertainties in the etiology of AIDS challenge conventional understandings of this disease. In an ecofeminist perspective, these challenges can be seen as signs of an important shift in the philosophy of health. Thomas Kuhn would describe this shift as harbinger of a “scientific revolution,” resulting from a new “scientific paradigm” struggling to get center stage.<sup>2</sup> If, as ecofeminists claim, the Earth is an animated being and not a Cartesian *res extensa*, humans are particles of the larger superorganism environmentalists often call Gaia. In this perspective, AIDS is an illness of the biosphere that affects its human particles. This planetary illness denotes toxicity in Gaia’s body, including its air, soil, and waters. If so, AIDS reads as an environmental disease, not an infectious one. This hypothesis is based on a holistic philosophy of health, which is the major current challenge to allopathic philosophy. In his article, I argue that AIDS can be situated at the interstice between cause and effect in the paradigm change, where the collision of two modes of thinking produces new perspectives.<sup>3</sup>

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<sup>1</sup> In his pioneer work in science studies, Jewish scholar-physician Ludwik Fleck, from Poland, identified the presence of thought collectives in scientific and medical research. The concept is explained in his book *Genesis and Development of a Scientific Fact*, whose German original was published by a Swiss press in 1935. Its English translation appeared in 1979. A thought collective is a group of scientists who operate on the basis of certain assumptions that are taken for granted rather than verified or questioned. These assumptions are of course based on the characteristics of the cultural space in which they operate.

<sup>2</sup> I refer to Kuhn’s study of scientific progress in *The Structure of Scientific Revolutions*, first published in 1962. There, Kuhn argues that, as belief-systems become prevalent, scientific paradigms are constituted and govern the structure of scientific research. When overwhelming evidence from empirical observation suggests that the reigning paradigm no longer holds, a scientific revolution happens and a new paradigm is established. The Copernican Revolution from a geocentric to a heliocentric universe is the typical example of the dynamics in which Kuhn is interested.

<sup>3</sup> My thanks to the activists of HEAL San Diego for alerting me to the controversies in 1996, and to all the members of the Southern California safer-sex education community.

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*We should rather admit that power produces knowledge . . . that there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations. (Foucault, 27).*

## **Introduction**

Allopathic and holistic philosophies of health have coexisted in cultural space at many levels. Let's imagine a scene where grandma recommends, "don't study so hard or you will damage your health!" Here, grandma is following a holistic train of thought. But the student in question swallows his/her nth cup of coffee for s/he's been sleep-deprived for a week and his/her next exam is tomorrow. The student is waging war against his/her body and challenging nature in an allopathic way.

Since the inception of what Walter Mignolo calls the second phase of modernity in mainstream Western culture, an allopathic philosophy of health has prevailed, with its modern urge to dominate and conquer nature (19). A Cartesian paradigm has divided the body (*res extensa*) from the mind (*res cogitans*). But, as Val Plumwood and other ecofeminist theorists have recently suggested, treating one's body like a *res extensa* to be subdued to its *res cogitans* is a threat to its ecosystem's delicate homeostasis (6). Empirical observation and experimentation prevailed in the early modern era and with the Enlightenment the allopathic thought collective took center stage. It constructed disease as a foreign enemy; medicine as the war to be fought against it. Indeed, even today, conventional "allo-pathic" medicine fights pathology with the disease's enemy, it attacks the symptoms that express the body's problem. This dominance, I claim, has caused a mainstream understanding of AIDS that is both unwarranted by empirical observation and capable of causing great harm to the general population, to say nothing of those at risk. My ecofeminist analysis of current controversies in AIDS science intends to challenge

the AIDS orthodoxy and establish the relatedness of AIDS dissent and ecological concerns on a planetary scale.

I understand ecofeminism as a rich and diverse feminist discursive mode that analyzes global and local ecological concerns from a gendered perspective. It avails itself of the gender differences and differentiations (both cultural and biological) that have evolved from the theoretical multiplicity of second-wave feminism and its political and academic effects. Ecofeminists differ greatly in disciplinary formation, geographical base, culture, race, and sexual orientation. For example, Val Plumwood is a critical theorist based in Australia; Vandana Shiva a biologist based in India; Greta Gaard is a queer ecofeminist, and Tamara Shantu Riley a black US-based one; Carolyn Merchant and Karen Warren are more conventional voices with a European and US perspective, respectively. The axiomatic non-statement that transpires from their work is that the Earth should not be considered an assemblage of resources, a Cartesian *res extensa*. The new way to conceptualize the planet that emerges from their positions is clearly influenced by the Gaia Hypothesis, according to which the planet that hosts the biosphere that makes human life possible is a superorganism whose integrated biosphere and atmosphere form a biota with a life of its own. Humans, animals, and plants are interdependent particles within this whole. Evidence of the influence of this axiom in ecofeminist thought can be found in its general tendency to point to the artificiality of the distinction subject-object (Plumwood, 1994); in its concern with sustainability rather than with the mere preservation of nature as separate from civilization--which is more typical of deep ecology (Warren 1996; Merchant 1994); in its concern with the preservation of subaltern, indigenous, and pre-modern knowledges, especially those whose content helps to live as frugal guests on our hostess planet (Shiva 1989); in its claim that nature is often queer rather than universally heterosexist (Gaard 1997); and in its reflection on slavery as a time when some humans were aware of the negative consequences of treating beings like mere resources (Shantu-Riley 1993).

The first scientific formulation of the Gaia Hypothesis is attributed to biologist James Lovelock.<sup>4</sup> He was part of the NASA team that in the 1960's sent a probe on Mars to find water,

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<sup>4</sup> Lovelock published two books on Gaia, [Gaia: A New Look at Life on Earth](#) (1979) and [The Ages of Gaia](#) (1988). The second book deals with the question that, if Gaia was a self-perpetuating life system, pollution could not hurt

and photographed the Earth from that far away. In comparing the pictures of Earth with those of Mars and Venus, Lovelock observed that Earth was alive while its neighbors were dead. The concept of the biosphere as an organism with a biology of her own was thus formulated. Lovelock chose the name Gaia from Greek mythology, where Gaia figures as the Earth goddess. The hypothesis that the Earth is a superorganism proved impervious to controlled laboratory experiments, and was, as a result, reconfigured as an axiom--a tenet at the source of the new system of knowledge beacons by Gaian belief-systems and philosophies. Microbiologist Lynn Margulis corroborated Lovelock's vision by showing that, at the microscopic level, life is a symbiosis of interdependent elements (1997, 1998). Bacteria and cells are elements in the life of a complex organism just like animals and plants are elements in the life of the biota. So, with respect to Gaia, a person can be compared to a human body's cell. From a cultural perspective, the personification of the Earth implied in its name helped connect its multiplicitous life with a sense of the sacred. As such, Gaia became a currency in the new spirituality movement that has influenced many ecofeminist philosophers.

If an individual is a cell in a superorganism, his/her disease cannot be a foreign agent, for all agents are part of the superorganism of which the individual is an element. Therefore, in a Gaian system of knowledge, disease in the superorganism's elements is a force that manifests a crisis in the superorganism itself. Disease is a message that can help the superorganism deal with the crisis and reconfigure itself. In looking at AIDS again--as a crisis in Gaia's life that signals the need for a change--my article will assess the discursive strategies that mainstream and dissent in AIDS science employ, and the scientific paradigms on which they are based; it will expose the paradox on which mainstream AIDS science is based and retrace the steps that lead to that formulation.

As we have seen, the allopathic thought collective assumes that medical science is at war to defend individuals from the attacks of disease agents. Those with financial power and access to health benefits are privileged to use "magic bullets," or *pharmacons*: the medical drugs made of small doses of poison that combat the microbes that might threaten their health (Epstein

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her. This embarrassed environmentalists who wanted to take Lovelock's hypothesis seriously and use it to generate ecological awareness.

1996). This confrontational approach results in a system that equates health with power. Its only promise is a defense of the health of a small, privileged minority at the expense of everybody else. Gaia gets amputated of its gangrenous areas, so that the rest of the body can live again. But how much can be amputated before removing the cause of gangrene becomes necessary? The holistic thought collective is more feminist in an ecological, systemic way. It assumes that ecosystems, including human bodies, tend to reach a state of equilibrium in which their parts operate interdependently to optimize health, in a process of homeostasis that is continuous yet goes in stages. In this logic, the health of individuals is proportional to the health of the ecosystems in which they are inscribed, so the cure begins with an examination of those ecosystems.

Allopathic thinking about health can be traced back to the classical area. It was revived in the early modern era, as empiricism and observation prevailed over the superstition and dogma of the Middle-Ages. It became established with the Enlightenment, when Western thought constructed modern medicine as the science that would conquer diseases just like conquistadors conquered foreign territories and their populations. Like a good defense army, the method has many virtues. Over time it has resulted in an almost complete eradication of leprosy, the bubonic plague, cholera, smallpox, tuberculosis and other bacterial diseases, and, finally, polio.<sup>5</sup> However, historically, the concept of medicine as war has stood in the way of a proper understanding of nutritional diseases, such as scurvy and pellagra.<sup>6</sup> But the allopathic thought collective considers the body an independent entity that must be militarily defended, and this results in an inherent contagious bias that tends to construct health threats as attacks by external microorganisms. Today, AIDS is officially considered a contagious disease, yet the most dramatically affected populations live in the poorest and most environmentally degraded areas of sub-Saharan Africa.<sup>7</sup> This suggests that a more serious evaluation of its possible environmental

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<sup>5</sup> In his memoir about AIDS science and its controversies, Peter Duesberg, the most scientifically qualified among the dissenters, traces a history of the successes of allopathic medicine which provides details on how allopathic approaches defeated the listed diseases (1995).

<sup>6</sup> Carpenter (1986) and Cuppage (1994) trace a history of scurvy and how its understanding changed, from infectious to nutritionally-related. Carpenter (1981) traces a similar history of pellagra.

<sup>7</sup> In "The Hidden Cause of AIDS," Helen Epstein suggests that many impoverished sub-Saharan African communities who are receiving aid by NGO focusing on AIDS, are well aware of the connection between their degraded environment and their poor health. However, a tacit acceptance of the AIDS orthodoxy is their only

causes might be necessary. AIDS could very well be another disease initially understood as contagious, which turns out to have nutritional and/or environmental causes. The allopathic paradigm is the basis for the infectious hypothesis. Yet, as it wears down due to cultural and systemic changes, the initial hypothesis appears less credible. Based on a new hypothesis, long-since observed developments begin to make sense. I propose to situate AIDS at the interstice between cause and effect in the paradigm change; the discursive site where the two modes of thinking collide.

## **1. The Logic**

Allopathic medicine and holistic health, the two major thought styles in current health discourse, define health differently and have different notions of what threatens it. They also differ in assessing evidence, diagnosing, and overcoming a health crisis. Both would accept peace as a metaphor for health, but their concepts of peace differ greatly. As in Western rationalism peace is the absence of war, so in an allopathic thinking health is the absence of disease. In a holistic thought style, on the other hand, peace is a durable homeostasis that makes future wars unnecessary.<sup>8</sup> Health is the inner harmony and centeredness of an organism; its integration with its environment; the ecological balance of its inner and outer landscape. If the health of a “cell” is proportionate to the health of the organism, contributing to the health of Gaia’s all-encompassing organism is in each person’s best interest. What threatens health in allopathic thinking is the invasion of microorganisms, including bacteria, viruses, and retroviruses. In holistic thinking, environmental pollution, stress, emotional disorders, poor diet, physical discomfort, lack of rest, contamination of food and water, poverty, hunger, fear, and poisoning cause health problems. Clearly, for the two thought styles to work together, an examination of how environmental threats operate at the microscopic level is necessary.

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chance to get foreign aid. Indeed, if NGO’s challenged the infectious hypothesis, they would lose their moneys and so would the communities they serve. Robin Scovill’s video documentary Questioning AIDS in South Africa was filmed as the first AIDS conference that admitted dissenters was being held in Durban, South Africa. It explains the situation in similar terms.

<sup>8</sup> An important voice in elaborating this concept is educational philosopher Maria Montessori. In her Education and Peace (1936), she stated that “ending wars is the work of politics, creating peace is the work of education” (6).

In an allopathic perspective, evidence of disease is found in the analytical tests performed in scientific laboratories and in the statistical results of clinical trials. In a holistic perspective, it is gathered by establishing trust and communication with patients; narrative, conversation, and anecdote are used as diagnostic tools. For the two styles to work together, establishing the interrelatedness of test results, clinical evidence, testimonial narratives, and affect is necessary. Finally, in an allopathic perspective, the cure to a disease is a *pharmacon*, a poisonous medicine, whose dosage is high enough to kill the disease agent but low enough to allow the patient to survive the cure. In a holistic perspective, healing is a process that involves the identification of health threats in one's physical and emotional environment, and the changes in one's lifestyle necessary to eliminate them, including those in personal and professional relationships, diet, and stress level. These changes gradually allow that inner harmony and centeredness to restore itself, perhaps at a new or different level of homeostasis.

These philosophies existed well before AIDS. However, mainly due to the public's disappointment with allopathic medicine, in the past 20 years the holistic-health movement has grown and gained support.<sup>9</sup> While in the early 1980's, the dominance of the allopathic thought style was unchallenged, today the holistic thought style has become coherent and articulate, thus presenting a substantial challenge to its opponent's domination. To better understand this shift, I propose going back to about 20 years ago, when the public had not heard about AIDS yet. Which disease scared people most then? Which would one pray not to get? For people in developed societies the answer is most likely cancer. But why was cancer so scary? There was no cure because there was no understanding, and so cancer threatened people's faith in science's ability to conquer disease; a belief-system on which Westerners had become heavily dependent in the modern era.

Indeed, one might claim that it was partly to assuage this fear that, in 1971, president Nixon declared a "war on cancer." This lengthy and costly war contributed to raising the budget of medical research, which went from 100 million dollars in 1955 to 10 billion in 1996 (Duesberg 1996, 67). Yet at the onset of AIDS, and when the public became aware of it in the early and mid 1980's, the problem of cancer had not yet been resolved. The cause had not been

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<sup>9</sup> This gradual paradigm change is reflected in the focus of the new branch of the NIH devoted to environmental health (NIEHS, or National Institute for the Environmental Health Sciences).

found and there was no cure, even though thousands of scientific papers had appeared in specialized medical journals, and hundreds of biomedical scientists and researchers had made good careers for themselves (Proctor 1-16). Even today, the allopathic system offers tempering measures only with respect to cancer. One is early detection, the burden of which is on the patient. In a typically allopathic fashion, surgery and chemotherapy treat symptoms but do not remove the cause.

It was and is therefore legitimate to ask why this war was lost. As early as 1992, a group of scientists at the National Institute of Health flagged the problem. “We express grave concern over the failure of the ‘war on cancer,’ since . . . 1971,” they said, going on to provide examples such as the fact that there were “no significant improvements in the cure of cancer,” and to commenting that NCI [the National Cancer Institute] had “misled the public,” while pharmaceutical companies were making “extravagant and unfounded claims for dramatic advances” (S.S. Epstein 1992, quoted in Duesberg 127-8). This sense of failure might have prompted the subsequent diversification within NIH, which currently has branches for ecological and holistic approaches to health (Harden, ND, 36-37). My suggestion is that the reason why Nixon’s war on cancer failed must be sought in the fact that, until recently, the NIH has been dominated by biomedical researchers who can only think of disease as an attack on the body by a microorganism. The allopathic thought collective created a master narrative that constructed medicine as a war against foreign enemies, and alternative thinking was impossible.

Unfortunately, the same understanding of disease dominated public consciousness. Let me rehearse here how an average reader thinks about disease. Known microorganisms include bacteria, one-cell organisms that can live on their own; viruses--or codes for an organism--that enter a cell and destroy it; and retroviruses, which also enter cells, but it is not clear that they destroy them. This understanding of disease can be compared to the understanding of the September 11 attacks in the corporate media. The United States is the body, the Twin Towers one of its vital organs. The planes that the terrorists use as weapons are the attacking microorganisms. One must respond by waging war against them, or, it is assumed, they will further multiply and destroy. Disease becomes a synonym of infection, as microorganisms are imagined to spread from person to person through body fluids, by skin contact, or airborne. In



this scenario, the only possible question is how to react to the invasion and stop it. Just like a high-tech army attacks terrorist cells and rogue nations, so medical science designs “magic bullets” that neutralize microbes, like penicillin and antibiotics. The cure restores health after the disease has struck. But the health, or peace, achieved with this system is usually precarious, for the cure is in itself a poison, and the microbes might strike again. The ecosystem has not reached a new homeostasis.

A more radical allopathic way to fighting disease is immunization. A vaccine is a dead disease agent with which the population can be inoculated. This causes the production of antibodies in the vaccinated persons. These antibodies will defend the organism from eventual attacks. This system also works. A good example is polio. In 1948 the polio virus was isolated. A first vaccine was prepared in 1955, the Salk Vaccine. It turned out that this vaccine had some live virus in it and caused death and/or paralysis in numerous inoculated persons. But in 1957, the Sabin Vaccine was prepared and, not accidentally I think, it was tested in foreign countries. Eventually, the US population was inoculated and polio was defeated, thus confirming allopathic medicine’s ability to “conquer” disease once again.

But unfortunately, things do not always work that way. Diseases can also be caused by malnutrition, as when certain nutrients are missing in the diet of a given segment of the population; by stress, as when people suffer from lack of sleep or privacy; from overwork; tension; fear; violence and so on. A disease can also be caused by poisoning, as when one’s water, food, or air supply is contaminated. Diseases are also caused by heredity, as when one inherits the wrong gene from one’s ancestors. Last but not least, disease can be caused by the cure for another disease, as when one takes too much of a toxic medicine and gets ill due to its side effects. These diseases are called iatrogenic.

Medical science is sometimes wrong, and the history of modern medicine presents two exemplary cases in which the allopathic bias considerably hindered the efforts to overcome a health crisis. Both scurvy and pellagra are caused by poor diet, and were for a long time believed to be infectious, with all the afflictions that this caused to those who had them or were afraid of getting them. As we know today, with enough vitamin C in one’s diet, no one gets scurvy. The same is true for pellagra and niacin, or vitamin B. But it hasn’t always been that

way. Scurvy is a disease of the 16<sup>th</sup> and 17<sup>th</sup> centuries, the era of the great explorations and circumnavigations. The most severely affected segment of the population were sailors, for they were at sea for long months, and with no refrigeration onboard, they had no access to fresh fruits and vegetables where vitamin C is found (Carpenter 1986). Due to their lifestyle, however, sailors were believed to be “promiscuous,” and had a reputation for having a belle in every port. The Italian language still carries the concept, a *promessa da marinaio*, a sailor’s promise, is a euphemism for a false promise. Scurvy manifested itself with swollen gums, leg pains, and eventually death. People obviously stayed away from sailors out of fear of “getting it.” Ships would often abandon their most seriously ill sailors on a desert island as a precaution. Ironically, some marooned sailors were reported to have recovered their health and found their way back home only to learn that the rest of the crew had all perished. Obviously, the fresh fruits found on the islands had saved them, but the infectious bias inherent in the allopathic perspective prevented medical science from understanding what was happening (Carpenter 1986, Cuppage 1994, Harvie 2002).

Similar mistakes were made on the way to defeating pellagra. This disease was prevalent in the 19<sup>th</sup> century and affected peasants and sharecroppers in Northern Italy and in the Southern region of the US. Their staple meal was corn, a cereal devoid of niacin. The disease manifested itself through rough skin (*pellagra* in Italian), dementia, and eventually death. Pellagrins were believed to be infectious and were marginalized accordingly. But no quarantine could prevent a person from getting pellagra unless they had niacin in their food intake (Carpenter 1981, Roe).

In these instances we observe that a disease comes to the attention of medical researchers when there is an outbreak, and that at the beginning of this outbreak, it is not clear whether the cause of the disease is infectious or not. In general, one can say that an epidemic is probably infectious if it spreads to people in different social groups, thus affecting all age groups and both genders. On the other hand, if, over time, an epidemic stays within a given segment of the population, then the chances are it is not infectious.

If a new epidemic disease outbreak is suspected of being infectious, it makes sense to start a microbe hunt and thus put the allopathic thought collective to work. On the other hand, if the outbreak does not look infectious, the microbe hunt could have serious negative implications.

In that case, the holistic thought collective must be called into action to identify shared elements in the lives of the affected population, pertaining to diet, lifestyle, behavior, substance use, and environmental conditions. Naturally, the medical establishment is anxious to rule out infectious hypotheses first, for if the epidemic is infectious then the medical workers are exposed first. But an outbreak's indicators may be ambiguous. In that case, infectious hypotheses must be ruled out before un-infectious hypotheses can be seriously investigated. Therefore, all putative microorganisms present at the scene of the crime must be tested for causality. In allopathic medical science this is done through the Koch postulates, which were established in 1878-84 in the process of conducting research on the bacteria that cause tuberculosis (Harden 1992, 250-54). The postulates established three logical and sequential principles. First, it must be determined that the microbe believed to be at cause is present in all affected individuals. Then the microbe must be isolated from a patient in laboratory proceedings that vary according to its nature. Third, the purified microbe must cause disease when inoculated into healthy animals (Harden 253).

When the main microbes present at the scene of the crime fail, one can begin to hypothesize that the epidemic is not infectious. In a healthy research environment, this would be an easy, natural switch to make. As the infectious hypotheses are being ruled out, the observations that will lead to the formulation of a non-infectious hypothesis come into play. But when a thought collective has acquired a dangerous sense of omnipotence about itself, the shift can be complicated. The dominance of allopathic approaches to health goes hand in hand with specialization. Specialists specialize in microbes, while holistic approaches require the kind of scientists who are trained to look at ecosystems as a whole. Infectious and non-infectious hypotheses require different specialists, the former being suitable for virologists, bacteriologists, and biomedical researchers, the latter for nutritionists, naturopaths, environmental scientists, and ecologists. Furthermore, governments that have an investment in protecting corporations always prefer to fund "war" type of research. Indeed, proving infectious hypotheses will only require a "magic bullet" solution to the problem, not annoying EPA regulations that would mandate lower levels of arsenic in drinking water; of pesticides, antibiotics, steroids, and GMO's in the food supply; of toxic waste in the soil; and of carbon dioxide in the air. With this picture in mind, I propose to go back to the actual war on cancer and see who lost it and why.

## 2. Characters in the Drama

As we've seen, Nixon's war on cancer was declared in 1971. At that time, the war on polio had been won and infectious diseases no longer seemed a threat in the developed world. Cancer was the big boogey man. "Let's wage war on it," the president said.

War is a bit like drama, and it is useful to introduce the characters in play. To simplify, I will stick with the main ones, two of which are institutions.<sup>10</sup> The National Institutes of Health, or NIH, is based in Bethesda, Maryland; the Centers for Disease Control, or CDC, is based in Atlanta, Georgia. The first is a medical-research institute proper, where one finds laboratories, cells, Petri dishes, test tubes, guinea pigs and the like. The latter is a public-health institute where one finds statistical data, periodic reports, the monitoring of outbreaks and of the clinical trails designed to test new treatments. Both are governmentally funded, lavishly. Accidentally, I once visited the National Endowment for the Humanities, or NEH, and the National Institutes of Health (NIH) in the same day. The first occupies part of the mezzanine floor in a museum building in downtown Washington D.C. Employees work in cubicles separated from their neighbors by a partition. Some of them run nationwide programs essential to the progress of American research, but the government will not provide them with an office of their own. As I later arrived in nearby Bethesda, at the NIH, I saw an entire city of more than forty buildings, all really large, fully equipped, and completely devoted to medical research. What a difference! I had been begging the impoverished NEH for research funds in the history of medicine, and felt a pang in my heart as I realized how much money the other side had.

In 1971, both the NIH and the CDC were squarely in the allopathic collective. They had a vested interest in perpetuating the focus on infectious epidemics and they interpreted the war

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<sup>10</sup> Many "minor" characters in this drama have made important contributions I cannot describe here. In the mainstream camp, Nobel-Prize winners David Baltimore and Howard Temin, and CDC director Anthony Fauci are most prominent. In the dissenting camp, Nobel-Prize winner Kary Mullis, and scientists Eleni Papadopulos-Eleopulos, Serge Lang, David Rasnick, and Stephan Lanka, as well as cultural analyst Robert Root-Bernstein, activist Christine Maggiore, and journalist Jon Rappaport.

on cancer in an allopathic way. For about two decades, NIH virologists kept looking for ways in which viruses could be claimed to cause cancer. Since the Koch postulates did not apply, they resorted to the concept of a slow virus, which implies that a virus has both an immediate and an afterthought effect. A new, long-term power was now attributed to viruses that had been shown to cause a given disease in their immediate effect. Dominated by the allopathic thought collective, the research environment was unhealthy. Changing specialty could be a suicidal move. When NIH virologists understood that their viruses were their only viable professional investments, many of them became “of the virus party.” Three important viruses had been the Epstein-Barr, the Papilloma, and the Hepatitis-B viruses. Based on the Koch postulates, the first had been proven to cause mononucleosis, the second genital warts, and the third Hepatitis-B. Their alleged slow effect was invariably cancer, in the forms of lymphoma, cervical cancer, and liver cancer respectively (Duesberg 1996, 89-129). These claims were not backed by scientific data, since in many cases fewer than 30 percent of all cancer patients had ever had the alleged causal viruses at all. They baffled the public who intuitively knew cancer was not infectious.

No wonder the NIH itself was worried about the confusing effect! Slow-effect claims were not based on reliable scientific data and were not useful to the public. They were quite useful to the virologists whose careers were attached to them instead. Slow-effect claims enabled virologists to get more grant money to develop tests and vaccines, which they eventually patented, thus generating income also from their patent royalties. These tests were then integrated into medical protocols, so that they became part of the mandatory procedures of diagnosis, with the effect of driving up the cost of health care. These disservices fattened the pockets of researchers, and misled the public that still believed the allopathic thought style to be the only scientific way to think about health (Duesberg 1996, 83-87; Proctor 1995, 35-53).

In the meanwhile, the CDC kept looking for suspicious outbreaks. And it did find some, for example, legionnaire disease that caused much alarm and not too much damage. However, many of the outbreaks of this era in the West were primarily iatrogenic (Duesberg 1996, 18-23, 54-59). Another area of action was flu vaccinations. In 1918-19 the Spanish flu arrived on a world population debilitated by a four-year war. It killed twenty million (Duesberg 1996, 139). A vaccine would have helped, but sparing the population those war deprivations would have

helped even more. After World War Two, when flu vaccines became available, the CDC orchestrated flu-vaccination campaigns aimed at increasing productivity by minimizing sick leave (Duesberg 1996, 140). This even as an excessive use of vaccine weakens the immune system, while generally speaking, a few days of sick leave are good for a person's health. Also, the CDC was actively creating scares, making people feel threatened, as in the most recent case of the Anthrax scare. In a holistic perspective, a high state of alarm is seen as cause for high levels of anxiety in the population, which constitutes a health threat in itself. The CDC could have more productively collaborated with the newly founded Environmental Protection Agency, the EPA, to thoroughly investigate new environmental threats to public health, such as landfills, toxic waste, arsenic in water, pesticides, and so on.

The other two main characters in the play are individuals, the virologists Robert Gallo and Peter Duesberg. They are in the same age group and both specialize in retro-virology, but here the similarities end, as their personalities indicate. Gallo is a second-generation Italian American who was educated in the US and made his career at NIH. In his memoir he claims that he became a virologist because his little sister died of leukemia, which inspired him to resolve medical problems (Gallo 1991, 16-19). Gallo is a gregarious, extroverted person. He is a godfather figure, full of benevolence for his collaborators whom he kept safely under his wing. Gallo also has a linear concept of science, according to which knowledge is cumulative and based on sheer amount of data (Gallo 1991,22, 27-43).

Duesberg was born, raised, and educated in Germany and is a professor at UC Berkeley. He does not make any sentimental claims about his calling. He is a loner capable of taking unpopular positions and building alliances beyond institutional borders. He believes that knowledge is the ability to provide simple, consistent, logical interpretations of vast amounts of data, including data pre-existing the interpreter and generated independently of him or her (Duesberg 1996, 61). Science is the path to knowledge, which is often tortuous.

### **3. The Story**

In the rest of this article, I will show how the infectious hypothesis about AIDS became an orthodoxy because, in the powerful scientific circles of the NIH, a great deal of being “of the virus party” was at play. I will use two memoirs, by Duesberg and Gallo, and the famous HTLV papers published by Gallo in May 1983 and May 1984, during the Reagan reelection campaign.

Inventing the AIDS Virus, by Peter Duesberg (1996), is not presented as a memoir per se. It is a brief history of biomedical research in the US with respect to cancer and AIDS, from the perspective of a very critical member of the research community. Duesberg mentions himself rarely, and does so by using the third person (69, 86, 103, 196-99, and passim). Nonetheless, his book speaks of its author indirectly as one prepared to make powerful enemies if necessary. Virus Hunting: AIDS, Cancer, and the Human Retroviruses: A Story of Scientific Discovery, by Robert Gallo (1991), is a more typical memoir. It begins with the author’s origins. Gallo presents himself as a proud Italian American, and claims that his ancestors’ immigration was motivated by romance as opposed to poverty or an arranged marriage (13). Gallo’s grandfather was a northerner, from affluent Piedmont, while his grandmother was an impoverished Calabrese (14). Gallo then proceeds to narrate his childhood trauma, and casts the death of his only sister as his motivation for cancer research (16-19). The story continues as the would-be scientist develops, describing the excitement of scientific discovery, with its moments of success, failure, and success again. The book is a tongue-in-cheek apology for the accusations of scientific misconduct leveled against Gallo, and the embarrassment he caused to the scientific community and NIH (Gallo 1991, 205-216 and passim). The main accusation was claiming to have isolated HIV himself, when in reality he had borrowed it from the lab of his competitor, Dr. Montagnier. Gallo addresses this accusation by claiming that, with his clout, he helped Montaigner publish his paper on HIV (then called HTLV) in a timely and momentous way (189-97). Gallo portrays himself as too much of a gregarious and generous person for his own good. He comes across as one who needs to be popular.

Duesberg comes across as a person disenchanted with his profession, an immigrant who once had faith in the American dream, and is still appalled by the cynicism and greed behind the

façade. A fierce loner, he is a disappointed person accustomed to being unpopular and controversial. But he constructs himself as a scientist capable of interpreting vast amounts of data clearly, simply, and consistently (61). In his rhetoric, he is a fierce logician and a cautionary skeptic; a conservative, traditionalist person wary of modern excesses. He characterizes Gallo as a guy who knows that the American dream is all about money and thrives on it anyway; a ruthless guy, an insider to the allopathic thought collective who knows the system and pulls the ropes well (199-208 and *passim*).

From 1971 to 1981, during the war on cancer, these two virologists occupied very different positions. Duesberg was at UC Berkeley where he kept a low profile with hints of the California eccentric. His career developed far away from the federal government and its lavish perks. An expatriate, he did not commingle well, thus relishing a taste for the controversial. In Bethesda, Gallo directed the NIH Laboratory of Tumor Cell Biology. A pro, he was trendy and knew how to get momentum.

Both focused on retroviruses and cancer, but Duesberg came to believe that retroviruses are benign while Gallo believes they cause both cancer and AIDS. Retroviruses are a type of microorganism distinct from both bacteria and viruses. Bacteria are mono-cellular organisms, while viruses are much smaller. A virus is a code for a microorganism that needs a cell to become alive and then destroys it. The behavior of retroviruses has not been fully understood yet. With viruses, the passage of genetic information goes from a virus's DNA to a cell's DNA or RNA. With retroviruses, RNA can get back to DNA. The enzyme Reverse Transcriptase is essential to this process. Allopathic approaches present retroviruses as viruses that destroy cells, but do so in ways opposite to viruses. In a holistic perspective, retroviruses are believed to be innocuous for Reverse Transcriptase allows them to enter the cell without destroying it (Duesberg 116-127; Gallo 1991, 93-95; Epstein 1996, 69-71, 105-107, 183). While Duesberg's papers sounded like cautionary tales against the general enthusiasm about the virus-cancer hypothesis (1987, 1989a, 1989b), Gallo kept working on viruses that putatively caused cancer, without ever really proving they did. "Viruses can't cause cancer," his foil kept cautioning, "for cancer is not infectious."



#### **4. Enter AIDS**

A new character in the drama is AIDS. What is AIDS? At least in 1984, Gallo and Duesberg would have agreed that it is a severe deficiency, a collapse of the immune system that enables the onset of a number of previously-known diseases, and is irreversible, hence leading to death. Today, dissenting scientists are beginning to formulate more holistic hypotheses, such as that AIDS is a disease of toxicity and oxidation rather than immunodeficiency proper (Papadopoulos-Eleopoulos 1992). In *Virus Hunting*, Gallo scoffs at Duesberg's alleged belief that "almost everything can cause AIDS" (149). Later, he defends his own hypothesis by claiming that "some viruses persist *despite* the immune response to them", and one of them is HIV, which "escapes by mutation" (295, 293). But what if AIDS were a disease of Gaia that affects humans as cells as elements in this superorganism? Levels of pollution never reached before indicate that the presence of humans and the pace with which we deplete environmental resources is now a serious challenge to Gaia's homeostasis. Could the phenomenon of AIDS not be related to the high global toxicity that threatens the biota's health? If this level of toxicity is beyond tolerance for human life--as in the dire predictions of many deep ecologists—then, ironically, Gallo would have put the correct hypothesis in Duesberg's mouth.

On what causes the toxicity manifest in AIDS the allopathic and the holistic thought collectives definitely diverge. For Gallo, HTLV-III, which he later renamed HIV, is a retrovirus that enters lymphocytes, the white blood cells that function as soldiers of immunity. Using Reverse Transcriptase, this retrovirus replicates itself in there, thus destroying cells. But, Gallo admits, it does so in slow motion, namely not while it is alive and present; much later, even 10 or 20 years later, for it's a slow virus that likes to take long naps in the cells (237-259). For Duesberg, a cluster of factors cause debilitation in an AIDS patient's immune system. Factors vary from group to group, and some are still undetermined. No infectious agent is at play, much less retroviruses, which, Duesberg claims, are completely benign (116-127). In his view, for the San Francisco gay men who frequented the bathhouses and were the victims of the first outbreaks, likely factors were 1), excessive stress from having a day job and a nightlife at the bathhouses; 2), excessive use of antibiotics taken as a preventative for flu and other infections

from sexual contacts at the bathhouses themselves; 3), frequent use of nitrite inhalants called poppers, which help to relax the sphincter but are highly toxic; 4), poor nutrition from eating fast food in a hurry; 5), excessive presence of extraneous microbes given from high number of sexual partners with whom bodily fluids were exchanged (270-75, 282-83, 412-13, 419-21, 441). For the populations of Africa said to be the main victims of AIDS today, likely factors are 1), unsanitary water; 2), malnutrition; 3), microbes; 4), hunger; 5), pollution; 6), fear (289-297). This is good news, since all these factors can be eliminated. Widespread awareness of Gaia and our existence within this superorganism can generate the ecologically-conscious behavior necessary to protect our planet's health and our own. Isn't that a more hopeful prospect than trying to wage war on every putatively dangerous microorganisms and those who allegedly carry and exchange them? Understandably, the gay communities affected by the early outbreaks felt accused by Duesberg's allegations. Still there is hope in knowing that eliminating certain factors can reverse one's death sentence. Duesberg also reassures us that there is no such thing as a slow virus. A slow virus is simply not an infectious agent. Typically, in his caustic rhetoric, Duesberg concludes that there's only "slow virologists," his fixated competitors who won't give up on the infectious hypothesis (75).

These virologists, Duesberg observes, make claims that defy common sense and take advantage of people's credulity and faith in the objectivity of science. For example, a woman who sleeps with her boyfriend at twenty and gets warts, and eventually gets cervical cancer when she's menopausal, is supposed to believe that the virus she got with the warts is the actual cause of disease in her cervix. How can anyone logically say that in the thirty years in between nothing else has happened that could have caused the cancer? Or that nothing can be done to prevent the allegedly sleeping virus from acting later on? In a holistic perspective, claiming that slow viruses cause cancer is like claiming that one's birth is the prime cause of one's death; not untrue, but a rather absurd sophism. It's in between birth and death that something intervenes to kill one, and that's what one wants to steer clear of. If the biota is fatally ill with pollution its demise will kill all of its complex organisms. Bacteria will survive, Margulis assures (1997). But maybe Gaia can be healed by a more sustainable ecological politics that will save her life and our own.

The eight Gallo papers published in *Science* and *The Lancet* from May 1983 to May 1984 are what come closest to scientifically supporting Gallo's infectious hypothesis.<sup>11</sup> I will examine their rhetorical strategies and the political context in which they appeared. On April 13, 1984, Secretary of Health Margaret Hackler held a press conference in the context of the Reagan reelection campaign. As a way to affirm the administration's effectiveness, the conference proclaimed the triumph of American science over AIDS (Epstein 1996, 72-80). Gallo eagerly served as the discoverer. The four papers were published on May 4, 1984 and media proclamation followed about one month later. This improper scientific practice was designed to undermine verification of Gallo's claims by his peers in the scientific community. After the press conference, all moneys and research energies were diverted to applied research, which made it impossible to duplicate Gallo's experiments. The papers present a moderate to strong correlation between the presence of HIV and AIDS, but do not prove causality in any way (papers # 4, 5, 6, 7). HIV does not meet the Koch postulates, nor are other causality principles invoked. Nonetheless, ironically, the sequence of papers denotes a pattern of development that points to the scientist's concern with passing the Koch's test in some way.

The papers also use an elusive rhetoric. The word "cause" does not appear, but "correlation," "partial correlation," and "primary cause" appear ubiquitously in its stance. The word "demonstrates" is not used, but "suggests" appears abundantly, with other noncommittal expressions (papers 1-8, *passim*). This could be the typical style of postmodern scientific rhetoric, except that I don't find it in the lucid, transparent arguments of the dissenters. Caution, but also concern about lawsuits, are, I suspect, the cause. The not-so-subtle press fired up the rhetoric, thus causing panic to rise. Furthermore, Gallo picked HIV, which stands for Human Immunodeficiency Virus, as HTVL-III's new label, thus establishing a verbal correlation (to AIDS) that deceptively suggested all doubts had been resolved.

While the experiments reported in the papers did not prove that HIV passed the test of causality designed by Koch's postulates, the principles therein established do guide the papers' organization. However, for some reason, the logic is reversed. The two May 1983 papers focus on isolation, which is Koch's second postulate (papers # 1, 2). The four May 4<sup>th</sup>, 1984 papers

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<sup>11</sup> For easy reference, these multi-author papers have been numbered and placed at the bottom of the works cited list.

report experiments on the virus' presence in patients (papers # 3, 4, 5, 6). Gallo could never find the active virus in people with AIDS. In his memoir, he claims that the virus acted too quickly, making it impossible for samples to arrive in his lab (139-162). As is well known, Gallo decided that it was OK to satisfy the first postulate by using antibodies instead, even though up to that time--and for all other infections--the formation of antibodies is a sign of recovery. Even so, the order in which Gallo's papers appeared suggests that his lab worked on isolating the virus way before he was sure it was present in all patients. But why isolate a virus that has already proven unworthy of further attention? Clearly, some form of being "of the virus party" was at play. Gallo's allopathic research strategy was an obstacle to the pursuit of other avenues, for it fell short of ruling out a virus that was not present in all patients.

## **Conclusion**

The health wars of the mid 1980's focused on establishing the credibility of an infectious hypothesis about AIDS, but much more was at stake. As became more apparent later, a paradigm shift was in process according to which the allopathic thought collective was losing credibility and a new, holistic thought style was emerging. Holistic thinking about health implies a sense of connectedness between organisms and their interdependent elements. As ecofeminism can explain, this sense of connectedness challenges the Cartesian separation between *res cogitans* and *res extensa*; between subject and object; mind and body. Gaian philosophies have influenced the new spirituality movement with the idea that our hostess, the planet Earth, is a superorganism with a life of its own. The biota can be represented as an integrated whole of biosphere and atmosphere, within which we are mere cells. In this framework, disease is a force that creates change, not a dangerous foreign enemy. The AIDS crisis can be seen as a crisis in the life of Gaia, whose health is in danger due to human pollution and the toxicity in its body it creates. The excessive focus on the infectious hypothesis about AIDS was a symptom of the old thought style's resistance to change, whose damage to AIDS patients and the general population is yet to be assessed. Dissenters propose that, like cancer, AIDS is a disease of toxicity whose causes are environmentally related, reflecting modern thought and its reduction of non-human

beings to mere resources. Ecofeminist thought provides the framework to place this notion in the larger context of new spiritualities and their emphasis on Gaia's sacredness. If the health of each cell is proportional to the health of the organism it is part of, then everyone has an interest in protecting Gaia's homeostasis. In disseminating their knowledge despite resistance to change, AIDS-science dissenters have made powerful enemies yet they have activated the mechanism of scientific change. Dissemination of the new paradigm across the cultural landscape is now necessary; ecofeminism has the theory and influence to facilitate the shift underway.

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