Continuum Volume 6 / No.3
Summer / Autumn2001

Mere Smoke Of Opinion;
AIDS and the making of the public mind

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As a media scholar, I am increasingly keen to explore the ways in which the mass media come between us and reality. In particular, I am interested in how they begin to construct interpretations of reality that we then act on, and, as it were, make real. There are many ways in which we could explore this. But I want to offer here some thoughts on the way in which we have come to think about AIDS (Acquired Immunodeficiency Syndrome). I am interested in the difficult question of whether we have constructed - or had constructed for us - interpretations of this problem that mire us in ways of seeing it, that do more to confuse than clarify, and thus are ultimately dysfunctional. It is a subject that is controversial, shrouded in passions and emotions that are deeply felt, and it is a subject that is relatively new to me. I would ask you then to regard this article as the initial explorations of a neophyte.

Having said that, let me adopt a phrase from the United States and cut to the chase, and offer a tentative but large conclusion which I believe even a lay eye can deduce from the literature: the only truth about AIDS is that there is no truth. After a decade or more of billions of dollars, pounds and marks, there remain profound questions and an increasingly loud whisper from the margins of the scientific literature that either we did not get it completely right in the early stages of the disease or, even, that we got it completely wrong. In short we have to open ourselves to the possibility that the germ theory of AIDS is, as they say in Mississippi, a dog that won't hunt.
Towards the end of 1979, Joel Weisman, a Los Angeles physician with a high proportion of gay men as patients, noticed an increase in cases of a mononucleosis-like syndrome, marked by hectic fever, weight loss, swollen lymph glands, diarrhoea, oral and anal thrush. The patients were all young, gay men.

By 1981, five patients were the focus of particular attention by health authorities in Los Angeles. Tests had produced something that was as disturbing as it was unusual. All five patients had shown a reduction in the population of lymphocytes, due to the almost complete disappearance of the helper T-subgroup cells; and all had PCP (Pneumocystis carinii pneumonia).

PCP is ubiquitous among the human population, only causing serious illness when fostered by a defect in the immune system, either in newborns or in adults receiving immunosuppressive drugs. In other words, by all conventional theory, these young men should not have been suffering from PCP. The CDC (American Centres for Disease Control) made its first official announcement about the problem on 5 June 1981, in its weekly bulletin with the despairing title of *Morbidity and Mortality Weekly Report*.

The histories of this time tell us something else about these patients, but only as incidental to the more serious issue of the presence of PCP. The five subjects all used poppers on a regular basis (amyl or butyl nitrite inhalants, so named for the noise they make when the ampoule is broken, and used among the gay community to amplify orgasm and to relax anal muscles). One was also an intravenous drug user. The CDC report suggested "the possibility of a cellular-immune dysfunction related to common exposure that predisposes individuals to opportunistic infections such as pneumocystosis and candidiasis". June 1981: the time of AIDS had begun.
There was an inevitable and frantic effort to find out what was going on, what the aetiology of the problem was, and then to determine a way of curing it. There is a lot of history here that I will have to ignore for the sake of brevity, and, in a sense, because it is not relevant to my purpose.
What is relevant is that on 24 April 1984 Margaret Heckler, US Secretary of Health and Human Services, stood up before a huge audience of journalists to announce that Dr. Robert Gallo and his colleagues at the National Cancer Institute had isolated a new virus, proved that it was the cause of AIDS, and were putting the finishing touches to a test that would be made available in November. They would also have a vaccine ready within two years.

The slight problem, later embarrassing to Gallo, who followed Heckler to the podium that day, was that it was not they who had isolated the virus. They hadn't demonstrated that HTLV-3 (Human T-cell Leukaemia Virus – Gallo's original name for what later became known as the Human Immunodeficiency Virus, HIV) "caused" AIDS, and it was news to them that they were about to launch a test and were well on their way to producing a vaccine.

But then, this was Ronald Reagan's America. He was up for re-election and was under considerable pressure to do something about this emerging epidemic. The flavour of the moment is captured by Heckler's comments to the throng of journalists: "Today we add another miracle to the long honour roll of American medicine and science. Today's discovery represents the triumph of science over a dreaded disease. Those who have disparaged this scientific search - those who have said we weren't doing enough - have not understood how sound, solid, significant medical research proceeds".

What the journalists were hearing, but were in no way able to question, and which they would relate to their readers, viewers and listeners over the coming days, months and years, was the orthodoxy of AIDS. AIDS does not occur in the absence of HIV infection, and HIV infection is a necessary and sufficient condition for causing AIDS, because HIV infection destroys a specific type of immune system cell known as the T-helper or the T-4 cell (T, because processed by the thymus). Because T-helper cells play an important role in promoting a wide range of immunological activities, destroying these cells cripples a broad spectrum of immune functions. The immune impairment leads to AIDS within an average of ten to 12 years in 50 to 100 per cent (%) of those infected. The virus is thus deemed to be a necessary and sufficient cause of the destruction of the immune system and, thus, of AIDS.

The effect of the press conference was immediate and extraordinarily powerful in determining the parameters of all future debate about AIDS. The words "virus", "cause", "AIDS" became inseparably linked, utterly unquestioned by all but the most marginal media. To give you a sense of the force of the orthodoxy, I'd like to refer to a fascinating piece of work by one of my doctoral students, Denny Wilkins. He had also become interested in the issue of media coverage of AIDS. (I like to think I played some role in that).

Denny decided to interrogate the MAJPAP (major papers) file in the Nexis database of 37 newspapers, which includes the British broadsheets, the *Guardian*, the *Times*, the *Sunday Times*, the *Independent*, the *Financial Times*, and the *Daily Telegraph*, as well as most major US papers. (For some reason the mass circulation British tabloids, the *Sun* and the *Star* are not included.) He searched for the number of stories in which the phrase "AIDS virus" was employed - a phrase which he correctly took as representing the notion of causality within the AIDS thesis. In 1984 there were just 31 mentions of the phrase, but by 1991 it was appearing in more than 3000 stories a year in these 37 papers. By 1993 there had in fact been 20,024 uses of the term. Of countervailing theories there is barely a bat's squeak.

Denny then had a look at how Gallo had fared. He found that alongside the hundreds of references were attached phrases such as "noted", "superstar", "famed", "vindication", "significant strides", "the one scientific hero", "brilliant, dynamic", "pioneering researcher", "who discovered [or co-discovered] the AIDS virus", "Gallo's virus", and so on.

What we see here is a clear example of the shaping of public discourse, the construction of a way of seeing AIDS that was not open to questioning, either by the media, or by the "ordinary" citizen. Science and Mrs Heckler had uttered, and we would believe because there were no other ways of constructing a counter-orthodoxy, of seeing in a different manner.

The most obvious consequence of the events that followed the Heckler-Gallo announcement was that dollars began to flow, lots of dollars, sterling, yen, and marks. Since the mid-1980s, well over $20 billion has been spent by the federal government in the US on AIDS research and treatment. In fact, AIDS research has become the privileged area of medical scientific research.

The CDC considers complications associated with AIDS to be the ninth leading cause of death in the United States - behind heart disease (approximately 725,000 per annum), cancer (500,000), strokes (145,000), accidents (94,000), respiratory disease (89,000), pneumonia and influenza (79,000), diabetes (49,000), and suicide (31,000), AIDS (30000). Yet the spending on AIDS by the US federal government surpasses that for any other cause of death. The allocation for fiscal 1994 was a 30 per cent increase to $2.5 billion, $400 million more than on cancer research, even though cancer has a mortality rate 16 times greater than AIDS. Put another way, in 1990, for each AIDS death, the US government spent $53,745; for each cancer death, $3,241; for each death from heart disease, $922.

It is perfectly possible to have internally consistent, even clever, debates that begin with a shared premise, and to continue to do so if that premise is never questioned, never problematised. If, however, the initial premise is flawed, misplaced, erroneous or downright crazy, all the subsequent sophisticated discourse in the world will not negate the flaw, the misplacement, the error or the craziness. So the case for the extent of the focus on AIDS, particularly in terms of the monies being spent, depends totally on the credibility of the initial premise. If that is incorrect, then everything else has been at best misguided, at worst a distracting waste of time.

And yet, from the very beginning of the crisis, in fact, even before most people knew there was a crisis, there has been a counter-discourse that comes in various forms but which basically argues that the HIV hypothesis that has prevailed for more than a decade is severely flawed, perhaps even downright wrong. Let me try and capture something of the arguments.
There are three very basic reasons put forward by some scientists for doubting the official theory that HIV causes AIDS.

1) After spending billions of dollars, HIV researchers are still unable to explain how HIV, a conventional retrovirus with a very simple genetic organization, damages the immune system.

2) In the absence of any model of how HIV "causes" AIDS, the evidence that is introduced to support the thesis is epidemiological, and therefore fundamentally correlational. The epidemiological evidence is both the strength and weakness of the thesis. On the one hand, there is a marked presence of HIV in those with the condition that has been defined as AIDS. On the other hand, we can map that epidemiology, and when we do, we discover that it was, and remains, overwhelmingly within highly specific risk groups.
Notwithstanding this, the relationship remains correlational, and therefore necessarily suggestive of a possible process rather than proof of the existence of a causal mechanism. The correlation between infectivity and AIDS, while high, is also far from perfect. There are numerous cases of people with AIDS who have all the symptoms, but no HIV; and of those with HIV, and no symptoms. These data

leave the HIV hypothesis failing the first of Koch's postulates, which have traditionally provided the basis for virological definition, and which require the presence of a virus in every instance of a pathology. According to this critique the HIV thesis also violates Koch's second and third postulates, because the virus cannot be isolated in from 20 to 50 per cent (%) of AIDS cases, and because pure HIV, when introduced, has not induced AIDS in other species.

3) Predictions made about the likely course of the "epidemic" have failed spectacularly. The media were particularly important in stating the likely extent to which the problem would spread in the general population. In the middle 1980s, the talk show host, Oprah Winfrey, told her audience that 20 per cent (%) of all heterosexuals would be "dead of AIDS" by 1990. Gene Antonio in his book *The Aids Cover Up*, which sold 300,000 copies, claimed that by 1990 there would be 64 million infected with HIV in the United States. The television programme and video tape, *AIDS: the World is Dying For the Truth*, in 1988, began with the words: " In the course of human history never before has a force either natural or man made had a more devastating impact on the human race than a small virus [HIV]". The script then quotes World Health Organisation figures of 100 million dead by the end of the century, and states that the AIDS epidemic "poses a threat to mankind unparalleled in recorded history." Figures are quoted that in May 1988 there were 1.5 million HIV-positive cases in the United States, that by 1995 there would be 11.25 million suffering from "full blown" AIDS, and 52.5 million infected but asymptomatic, and by 2008, 1.8 billion infected. (One scientist giving "evidence" before Congress said she projected five billion infections, but that it could go as high as ten billion. The fact that this was twice the population of the planet did not seem to phase her.) William Connor, of the HIVE Foundation, referred to a threat that "exists on a species level - a species conflict is occurring". Put another way, it's us or the bug. To some observers, such as Kary Mullis, the 1993 Nobel Prize winner in chemistry for his invention of the polymerase chain reaction technique for detecting DNA, which is used to search for fragments of HIV in AIDS patients, the predictions failed spectacularly. AIDS has not exploded into the general heterosexual population and remains almost entirely confined to the original risk groups, gay men and persistent drug users.

Mullis, along with co-authors Charles Thomas and Philip Johnson, in an article published in June 1994, argues that the explanations for how the virus destroys the immune system are moving away from the monocausalism of the HIV thesis to a recognition that the aetiology may be multifactorial, including mycoplasmas, other viruses, drugs and stress. They added: " But researchers have not been able to confirm experimentally any of the increasingly exotic causal mechanisms that are being proposed, and they do not agree which of the competing explanations is more plausible...The theory is getting ever more complicated, without getting any nearer to a solution. This is a classic sign of a deteriorating scientific paradigm. But as HIV scientists grow ever more confused about how the virus is supposed to be causing AIDS, their refusal to consider the possibility that it [HIV] may not be the cause is as rigid as ever. On the rare occasions when they answer questions on the subject they explain that 'unassailable epidemiological evidence' has established HIV as the cause of AIDS. In short they rely on correlation."

But that correlation is in effect a construction of language since, in the CDC's definition, HIV plus indicator disease (there are now 30) equals AIDS. In other words, the correlation is an artefact of the theory itself. I might add here that this line of argument received powerful support from what might be regarded as a surprising source, Professor Luc Montagnier, of the Pasteur Institute in Paris, and the person who did, in 1983, if anyone did, isolate the virus. He has now concluded that HIV alone cannot explain AIDS, and that the orthodoxy supporting that theory "has created a self-preserving scientific-industrial complex as perverse as the old military-industrial complex".

The earliest and most persistently radical critic of AIDS has been Peter Duesberg, Professor of Molecular and Cell Biology at the University of California at Berkeley. It was Duesberg who launched the first serious, sustained scientific critique of the HIV thesis in a lengthy article in *Cancer Research*, in March 1987. His persistence in criticising the thesis, for which he has paid a high personal price, is reflected in the fact that in December 1994 the journal *Science* ran a 'special news report' called *The Duesberg Phenomenon*. This was a reasonably comprehensive assessment of his arguments, which has prompted an extensive subsequent correspondence.

Duesberg's argument, if I can try and state it briefly, is this: retroviruses, of which HIV is one, are simple structures and do not kill cells. There is no scientific evidence, despite years of research, that retroviruses cause any disease in humans, let alone a syndrome that has killed thousands. He adds that fewer than one in ten thousand to 100 thousand T-cells are infected at any one time. Even if every infected cell were killed, the number of T-cells lost would be relatively trivial. He has concluded that "HIV is a harmless virus. AIDS may be a non-infectious condition 'acquired' by recreational drugs and other non-contagious risk factors", including the toxic effects of anti-HIV treatments, most notably AZT.

It is this latter point which has proven to be the most sensitive, since it in effect argues that in most cases "AIDS" is a condition which is self-inflicted, and then exacerbated by the misplaced efforts of medical science to treat a problem which it either does not, or will not, understand. This is not a popular view in some circles.

However, the review of Duesberg's work in *Science*, and the subsequent correspondence, is fascinating both because, while there are serious challenges to Duesberg's arguments, here at the end of a decade of the dominant thesis of HIV-induced AIDS, there is no conclusive case to be made against Duesberg, and also because of the amount of support he gets from other scientists who also see something of a decaying paradigm.

Decaying or not, the paradigm remains a powerful component of the collective imagination and an overwhelming determinant of the ways in research funds are spent and public policy made. The strength of the paradigm, I would want to suggest, depends not on any definitive scientific merits of the case, but rather upon a collusion of institutional and cultural forces, for which the media became

the, partly, unwitting conduit.

The overwhelming character of the media coverage was essentially that HIV infection was in fact a death warrant. But even in the very early stages of the crisis other voices could have been heard, but were in effect totally marginalised when they were not being ignored. From the very beginning the argument had been made that perhaps the virus did not stand alone, if it stood at all, as the source of AIDS.

In the early 1980s, there were published studies of gay men with AIDS, who were known to be the principal risk population, indicating they had something in common other than sexual orientation: they were extensive drug users.

Between September 1981 and October 1982, Harry Haverkos of the CDC, studied drug use of a sample of gay men. His report *Disease Manifestation among Homosexual Men with Acquired Immunodeficiency Syndrome: a Possible Role in Kaposi's Sarcoma* concluded that drugs were a factor. The CDC refused to release the report.

In December 1981, David Durack, in a lead editorial in the *New England Journal of Medicine*, asked the interesting question, then and now, of why AIDS is apparently new when viruses and homosexual behaviour are as old as history: "Some new factor may have distorted the host-parasite relation. So-called 'recreational' drugs are one possibility. They are widely used in the large cities where most of these cases have occurred, and the only patients in the series reported in this issue who were not homosexual were drug users ..... Perhaps one or more of these recreational drugs is an immunosuppressive agent. The leading candidates are the nitrites, which are now commonly inhaled to intensify orgasm...Let us postulate that the combined effects of persistent viral infection plus an adjuvant drug cause immunosuppression in some genetically predisposed men". Remember that this was a lead editorial in one of the world's leading medical scientific Journals in 1981.

The media, in so far as they were aware of these arguments, apparently found it nigh on impossible to deal with them. Instead, and partly at government behest, they adopted a somewhat paradoxical position. On the one hand they were playing off homophobia, and moralising, and suggesting that this was a gay plague. On the other, there were pursuing the line that dominated the education campaigns, that we are all at risk. Posters on billboards in Britain urged people not to "die of ignorance". Every household in Britain was leafleted with the message "anyone can get it, man or woman". Posters declaimed: "Aids is not prejudiced: It can kill anyone", "The longer you believe Aids only infect others - The faster it will spread", "Aids - Don't Die of Ignorance".
The popular press, as ever committed to demonstrating the integrity of the fourth estate, took a somewhat different tack in these crucial years following Heckler's announcement: " Revenge menace from young male prostitutes", "Infected men deliberately continuing to take on lovers without mentioning they have Aids", "The deadly revenge of Aids victim who went on a sex spree", "Prostitutes spread it like wild fire". And so on.

One analysis in 1987 described the coverage as "sensationalist, reactionary, depressing and criminally negligent". A more recent analysis by Deborah Lupton, in a book published last year concluded: "Aids reporting in western nations has invoked imagery associated with homophobia, fear, violence, contamination, invasions, vilification, racism, sexism, deviance, heroicism and xenophobia." From a somewhat less politically defined perspective what we can see in the coverage of AIDS is the highly problematic nature of news, its constructed but limited character. In short, the news about AIDS was flagrantly wrong in fact and interpretation, but hugely successful in constructing a prevailing understanding, locking into modern consciousness the belief that here was one more bug to threaten us all.

We have some distance now from those days. We can see more clearly the character of the moment, its fears and loathings, its jarred psychology, its neuroses. What we can also see in the public discourse, and in its refraction in the chatter of private lives, is the idea of innocence and vulnerability, a victimology amplified by a larger collective ignorance. There is a profound sense of the innocent, the non-infected, open once more to malignant forces over which they had little or no control within their own lives, once again victims of plague. In a sense we can see examples of this today.

In January 1995, one of the books on the *New York Times* non-fiction bestseller list was Richard Preston's *The Hot Zone*, as its cover suggests, "a terrifying true story". The story was about the Ebola virus, a particularly nasty organism with a kill ratio of about nine in ten. If you get it, you have a 90 per cent chance of dying a particularly gruesome death. Of concern to the author was that the virus, which originates in equatorial Africa, turned up in 1989 in some monkeys in a research laboratory in Reston, Virginia, within coughing distance of the White House. The narrative was structured around a military operation to prevent the virus leaving the laboratory and entering the civilian population.

It is a riveting story, but as I read it, the thought that kept occurring was how overwrought the writing was, no grotesque metaphor too overblown to be avoided, a mood creating writing, which oozes the idea of the depths of the threat from this creature that has crashed out of its jungle home. In the final pages the book recounts a visit Preston made to the now deserted building which had housed the monkeys in which the virus "cooked". His final words are: "Ebola had risen in these rooms, flashed its colors, fed, and subsided into the forest. It will be back". I couldn't help but conjure up an image of the virus checking in a Kennedy International for a return flight to Zaire, down but not out, waiting for the return match.

At almost exactly the moment that *The Hot Zone* was being published, Britain had its own brush with the bug from hell. Do you recall the name Streptococcus A bacterium, which can cause the disease known as necrotising fasciitis? If they don't ring a bell, then perhaps you will recall the headline in the *Daily Star*, "Killer Bug Ate My Face", or in the Sun, "Flesh Bug Ate My Brother in 18 Hours", or in the

Daily Mirror, "Flesh Eating Bug Killed My Mother in 20 Minutes". *The Star* was particularly subtle in its subsidiary headline, "It starts with a sore throat but you can die within 24 hours".

There was nothing new in this bacterium. While gruesome in its effect, it killed tiny numbers of people each year. Between January and May that year, only 11 people had died of necrotising fasciitis in England and Wales. The chances of being infected were infinitesimal, particularly when compared to other bacterial infections such as TB and pneumonia. But to the media, this mattered less than it satisfied a certain kind of news value that is ignorant but loves to wallow in gore, and that readily has the ear of a public which is fascinated by the bizarre, the gruesome, the violent, the inhuman, the fearful.

Here was a classic example of bad journalism causing a public panic, driven by the debased standards of the profession and a profound scientific illiteracy. From a journalistic standard the "bug" had star quality that was difficult to ignore and that would guarantee that it had its fifteen minutes of fame. The Director of the Public Health Laboratory was forced to declare that "there is no killer bug sweeping the country", a statement that could only have been made if people thought there was a new virulent epidemic that put all at risk.

The point of these analogies is to suggest that to an inordinate extent what drives the coverage of a problem such as AIDS are debased news values, a debasement in the expectations and desires of the audience, and an extraordinary level of scientific illiteracy on the part of the profession of journalism. The complex becomes the simple, the imagined the real.

It would, however, be wrong to see the problem of the coverage as only a function of flaws within the profession. What are buried inside the coverage of AIDS are two key fragments of our consciousness. First, there is the idea of plague I have already spoken of, but there is also the idea of cure, the fear of forces beyond our control alongside the rational optimism that sees in the triumph of science our ability to cure even the most brutal of illnesses.

Indeed, so profound is our belief in the cures of science, the new secular theology of the 20th century, with its priesthood of scientists, that we construct any problem, grievance, pain, or fear in conceptual terms that not only allow us to seek the cure, but demand that we do so.
And nesting at the heart of this web of moods and desires was that increasingly powerful part of the global economy, and certainly of the cultures of the AIDS societies, the "medical industrial complex", a term coined not by any left radical but by a former editor of the *New England Journal of Medicine*. The complex has within its gift, as it constantly reminds us, the power to offer hope. But before there can be hope, there must be hopelessness, and the consequence of the coverage by the media of the AIDS crisis was precisely to create that feeling.

Mediated language is always inscribed with history, with basic, often hidden, assumptions that lurk unquestioned but constrain our ways of seeing just as surely as a potter's hand shapes clay. One of the central functions of journalism is to provide a passage to the surface for manifestations of those assumptions. But since journalism in relation to science is a dependent culture, it inevitably provides a conduit for the assumptions of what has been referred to us the medical-industrial complex. Those assumptions constitute a mythos about medical science, central to which is the idea of "the cure". "AIDS" has been conceptualised within that mythos.

In October 1970, Dr. Edward H. Kass, Professor of Medicine at Harvard Medical School, delivered the presidential address to the Infectious Disease Society of America. He spoke of how they all recognized the vital importance of continuing federal support for their work. He then lobbed a conceptual grenade into their midst: "There is nothing basically wrong with the charming scenario of the white coated medical scientist distributing good works like free beer at a political picnic..." There was nothing wrong with this scenario except that it was wrong in its most basic assumptions.
Kass told them that it was not medical research that had stamped out tuberculosis, diphtheria, pneumonia and puerperal sepsis. The main credit went to public health programmes, sanitation and general improvements in the standard of living brought about by industrialisation. All the data showed that mortality rates from infectious disease had been in steady decline since the middle of the 19th century, that is, before medicine had become scientific and interventionist.

Out of the 19th century, as infectious diseases receded, came the scientific notion that disease was caused by specific organisms, microbes, which would therefore necessitate specific treatment. The germ theory of disease was born. Scientists such as Pasteur took on mythic status. The fact that it was changing conditions of life which were having the really major impact on disease slipped into the background as, Kass told his audience, "science received the credit", thus constructing a false understanding of the past and establishing false hopes for the future.

When Pasteur became "Pasteur", mythologised and lionised, Kass went on, by the end of the 19th century the "idea became planted in the minds of physicians, scientists and the public alike that the science of medicine, epitomized by the ... new field of bacteriology, was doing what the science of chemistry and physics had done before: improving the lives of real people. The great benefits that came from improved sanitation and nutrition were assumed to be the fruits of the programme promised by science."

As Kass was pointing out, here was being etched in rock the very basic assumption that we all share to a greater or lesser extent, and which inevitably informs mediated discourse, that the modern physician will make all parts of our lives free from the suffering that was the lot of our ancestors. And as Edward Golub pointed out in his marvellous book *The Limits of Medicine*, with regard to AIDS, the "cadre of scientists who became media figures had a message that everyone wanted to hear: Given the money, science will deliver the cure..."

What I am suggesting is that there is a very significantly developed tendency of the modern mind to

think in terms of the specificity of illness and to reconstitute the essence of a problem to match that expectation. What I am also suggesting, and where I part company from other critical interpretations of media coverage of AIDS, is that we have to allow for the possibility that the issue is not whether the media coverage was internally "good" or "bad", but that the real problematic of AIDS was not, and could not be, addressed.

In fact, what links the vast bulk of both scientific and social scientific discourse about AIDS is that the basic thesis, the germ theory of AIDS, is assumed to be totally unproblematic. It is so because our ways of seeing illness, and health, and medical science make it difficult for it to be any other way, journalists included.

There are other obvious and important reasons why the germ theory of AIDS came to be lodged with such force within scientific and lay discourse. The first and most obvious is that huge amounts of money are tied up within a political economy of AIDS. Companies such as Burroughs-Wellcome (later Glaxo-Wellcome) literally needed to sustain an orthodoxy that, for example, allowed them to peddle AZT. In the day that it became clear that Burroughs was going to receive permission from the FDA (American Food and Drug Administration) to market AZT (under the brand name Retrovir) its stock value increased 13 per cent (%). The pharmaceutical industry, it needs hardly be said, is a major source of funding for scientific research, conferences and symposia.

Another reason why the germ theory of AIDS has proven to be so resilient and ideologically unchallengeable is that science always works by constructing paradigms that it then jealously guards.

Look for example at the opprobrium heaped on Duesberg, and, in Britain, on the editor who decided to give his views space in one of the major broadsheets, Andrew Neil, then of the *Sunday Times*. Now, I can understand objections to their positions, to those who would say that they were wrong, that there was compelling evidence that the virus was the problem, that their interpretation of the countervailing evidence was erroneous. What are more difficult to deal with are the tone and the sheer venom of the assault.

In particular, in relation to Duesberg, it is difficult to accept the manner in which his voice was systematically excluded from those publications where he might properly explain his views. The role of John Maddox, then editor of Nature, is especially troublesome here. What we see within the orthodoxy of AIDS is something more akin to an act of faith, a theology in an age when intolerant fundamentalism is rampant, where to question is to be heretical, and where to be heretical is be banished. The great sin that Duesberg committed, and that Neil published, was to challenge the priesthood of that secular religion, to imply that in science did not always lie the panaceas to all ills, that the roots of AIDS might be human and general, and that thus so should the solutions lie within ourselves rather than in the magic bullet fix of science.

The level of hostility, particularly from within the American research academy, did not surprise me. The academic research sector is an incredibly bitchy place, jealousies are rife, psychologies deeply insecure and fragile, careerism rampant. In a review of Crick and Watson's account of their work on DNA, Marie Jahoda writes: "there is passionate commitment to driving forward their breath taking discoveries; but there is (also) ambition, jealousy, lack of foresight, moral ambiguity and arrogance in these scientists."

During his trial Galileo wrote to the Grand Duchess Christina in a way that is curiously resonant today: "Some years ago I discovered in the heavens many things that had not been seen before our own age. The novelty of these things, as well as some consequences which followed from them in contradiction to the physical notions commonly held among academic philosophers, stirred up against me no small number of professors - as if I had placed these things in the sky with my own hands in order to upset nature and overturn the sciences.....Showing a greater fondness for their own opinions than for truth, they sought to deny and disprove the new things which, if they had cared to look for themselves, their own senses would have demonstrated to them."

Defending turf is nothing new. If we return to history we see numerous moments that are remarkably similar to the contentiousness that now surrounds AIDS, and in particular the denunciation of anyone who might even question the prevailing orthodoxy. What one discovers is that rejection of the unorthodox not only has been known to happen, but is almost a paradigmatic way for science to function. Let me cite a few examples.

When, in the middle of the 19th century, Pasteur was asked to resolve a problem in the fermentation process in a Lille sugar-beet distillery, he proposed a biological explanation. But Pasteur was a chemist, and his explanation was deemed unthinkable and ridiculous by other chemists from within the orthodoxy of the time. Only chemicals, not organisms, could cause chemical reactions, and, therefore, Pasteur couldn't possibly be correct.

Through most of the 19th century cholera was supposed to have been caused by miasmas. When, in 1854, John Snow suggested that polluted drinking water was the source, he was rapidly slapped down by the leading authorities of the day, such as by the German, Max von Peltenkofer. What Peltenkofer and his disciples had, which Snow didn't, was control of the two major journals in which hygiene research was published and thus set the terms of the scientific debate.

Edward Jenner's original report to the Royal Society on his development of a smallpox vaccine was rejected on the grounds that to publish it would injure his reputation.

In the 19th century one of the appalling aspects of childbirth was the level of mortality of mothers from puerperal or childbed fever. Quite independently, two scientists suggested an explanation that did not sit at all well with their colleagues. In 1843, a young Bostonian doctor, Oliver Wendell Holmes, read a paper before the Boston Society for Medical Improvement. In this he argued that doctors and

midwives attending women in labour were themselves the carriers, and the source, not of new life, but of death. The doctors of Boston objected, but Holmes was not impressed, and declared that "when facts are numerous, and unquestionable, and unequivocal in their significance, theory must follow them as best it may, keeping time with their step; and not go before them, marching to the sound of its own drum and trumpets."

Four years later Ignaz Semmelweis, in Vienna, made the same claim. The medical communities in Boston and Vienna treated these claims with enormous hostility, but where Holmes survived, Semmelweis was hounded out of the medical profession and died in a mental asylum.

In the 1920s, Pellagra was ravaging black Americans in the South. It was assumed the problem was an infectious disease, and a bacterium was even isolated. However, Dr. Joseph Goldberger, who noticed that the problem was highly defined in terms of its human geography, discovered that the cause was a deficiency in vitamin B. It took him 20 years to convince the medical scientific community that he was right.

The original villain in an outbreak of birth deformities was assumed to be a virus until the effects of Thalidomide were pinpointed.

There are, we all know, many such examples from history. My point is that the habit of protecting the paradigm is - for noble and nefarious reasons - intrinsic to any knowledge profession, then and now, but that the brilliance of the knowledge, rather like car headlights, can blind as efficiently as it can illuminate.

There are finally two other themes that need to be explored. The mediated articulation of the health risks of HIV infection came to depend, not upon relative perceived risks of certain behavioural pathologies, but, upon the political necessity to argue that all sexual activity is destructive, so that no one particular activity might be "accused" of being particularly dangerous, or at risk, lest such arguments sound moralising.

It was vitally important to the emergent gay leadership, in the early 1980s, that the "epidemic" not be overly associated with the gay community. The fact that a virus was being blamed suited them fine, since viruses are nothing if not democratic. The journalist Randy Shifts observed, just before he died of AIDS: "The (gay) Aids groups were successful in their propaganda effort, saying every heterosexual was about to get Aids. But they weren't..." Here was ideological chaff to confuse the radar of social discourse about a serious issue. And it worked. The countervailing theses that touched on life-style were off the agenda.

My final thought that I have begun to explore is, in part, personal. One of the tragedies of AIDS, whatever the pathologies involved, is that it is, disproportionately a young man's fate. To question how they died is almost to dishonour them, a kind of post-mortem defilement. That is not my intention.

A few miles from where I work is Moston Cemetery. My father is buried there. I was four years old, he was 31 when he died, burnt to death in a crashed plane of the Royal Air Force. He didn't want to be in the RAF, but it was 1952, he was working class, the prospects outside weren't great. He chose to stay in the service, he died, and I never knew him. I have no memory, no picture gallery of the mind to occasionally roam through. He was too young to die and I was too young to have been deprived of his presence. Never a day has passed, nary a moment when I don' t think of him. I miss him desperately, and I'm old enough now to understand, and more importantly to acknowledge that his loss impacted, scarred, my whole life.

It was unfair, just as the life that has been lost, the sense of pain felt by the loss of young men to AIDS, seems also unfair. Such loss is unfair, and we lash out against it because it offends against a core thesis of our world, that death is not for the young. We lash out, and we seek the balm of explanation and solution, even if we have to imagine them.

But the role of the scholar, like that of the journalist, is not to apply balm, or to go with the grain of received wisdom, but to seek plausible explanations, to dare to try to glimpse truth, no matter how uncomfortable that might be for others.

This article is based on Michael Tracey's inaugural lecture to the University of Salford, England, held 1995. The author can be contacted at <tracey@spot.colorado.edu>

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