

Marxism and the AIDS dissidents: Part 2—Scientific objectivity

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This is the second part of a reply by Chris Talbot to a number of letters written supporting the theories of AIDS dissidents. The first part, along with the original correspondence, was published yesterday and the conclusion will appear tomorrow, Friday, February 2.

To provide a deeper understanding of the issues surrounding AIDS, and how the dissident groupings came into being, it is indeed necessary for Marxists to investigate the history of the question; as Ms. Stanton indicates. Here though, I must strongly oppose what is suggested in her letter: that it is sufficient merely to show the existence of government and corporate interests in a branch of science to claim that scientific results can just be made up (“they looked so hard for this virus and they found it.”). This is put more explicitly in Mr. Faas’s letter—that the Left “seeks to retreat into the so-called objective world and safe world of SCIENCE as an alternative” (emphasis in original).

Denying that objective truth exists and positing that science is merely a social construct has now become quite fashionable, often in supposedly left-wing circles. Such an approach fails to distinguish science from ideology or even outright mysticism. Historically, it is this denial of objectivity, and not the defence of science by Marxists and progressive thinkers in general, which is a retreat. As a social phenomenon, it has invariably expressed itself in a defence of reaction and the suppression of a search for the truth. One can cite the wave of mystical anti-science that even swept through intellectual circles in Germany before the coming to power of the Nazis. Or the persecution of scientists and the attack on whole branches of science, such as genetics, that took place under Stalin in Soviet Russia. Certainly in our epoch, the growth of postmodernism has accompanied a retreat not only from socialist thought, but also any striving for social improvement whatsoever.

If we accept that science has a basis in objective reality, then it is necessary to make a clear separation between the validity or otherwise of a particular branch of science—molecular virology in this case—and the historical context within which it develops. For example, nobody today would doubt the validity of Newton’s laws of mechanics in calculating the orbits of satellites, moons and planets. But like all scientific theories it only approximates to the truth. Einstein’s theory of relativity is required when considering objects whose speeds approach the speed of light, or when gravitational fields become very strong. Yet few people would support, or even understand, the strange religious beliefs that motivated Newton’s inquiries and occupied much of his time.

Several of the letters advance a belief that it is sufficient to show the greed and drive for profit behind the work of particular groups of scientists in order to invalidate the field of science in which they are working. We may indeed find cases of fraud, cases of shoddy work, and many instances where the results of science produce things that are put to reprehensible uses—like toxic chemicals, dangerous untested drugs or even nuclear weapons. This does not mean, however, that chemistry, biochemistry or atomic physics are in some way giving us a false picture of reality.

I would also strongly reject the notion that science and technology in

themselves are the cause of the problems of our epoch. Their source is rather to be found in the capitalist profit system. The anti-scientific conceptions of progress, advanced for example by the Greens, are an attempt to retreat into an imaginary “safe” world that existed in the past. Globally organised modern technology and medicine—from silicon chip manufacture to genetic engineering—can secure a prosperous future for humanity if it is socially owned, and if its use and development is controlled democratically. This is certainly a basic presupposition of Marxism.

Before going into the history of the AIDS disease, allow me also to review the relevant basic science. HIV is a particular type of virus, called a retrovirus. Most infections are caused either by viruses or bacteria—for example viruses cause measles, chicken pox and mumps. Whereas bacteria are usually single cells, which grow and divide like cells do in all living material, viruses can be up to 500 times smaller and have to enter living cells in order to survive. Cells contain their genetic material in DNA molecules. The information contained in DNA is downloaded into RNA, which in turn is used to produce the different types of proteins enabling the cell to live and reproduce. In contrast, a virus is usually made up of DNA surrounded by a protective protein shell. It invades a cell and takes control of it, producing thousands of new viruses.

Retroviruses are different from most viruses in that their genetic material is RNA, rather than DNA. They also contain a special enzyme (a protein that acts as a catalyst in a biochemical reaction) called reverse transcriptase, which reverses the usual cellular process of converting DNA to RNA, and instead forms DNA copies of the viral RNA. In certain conditions, this “rogue” DNA is then integrated into the cell’s DNA, where it can survive and reproduce along with the cell itself. When the HIV virus first enters the body it is detected by the immune system; it attaches itself to the immune system’s so-called CD4 T cells and the initial infection is brought under control. However the immune system cannot detect those cells containing the viral DNA, and the disease continues in this latent form.

It is this replication process that explains the long period between the initial infection and the onset of full-blown AIDS. For this reason, HIV is called a lentivirus or “slow” virus. When the viral DNA does make new viruses, their proteins are detected by the T cells of the body’s immune system, and so the virus can be attacked and controlled. However, chance variations, or mutations, in the replication process of the viral RNA then play a key role. RNA is far more prone to making “incorrect” copies of itself than DNA. The virus can keep one step ahead of the immune system by means of such mutations, until eventually the CD4 T cells cannot keep up and begin to drastically decline.

This is, of course, a much-simplified summary of a complex process, aspects of which are still not understood. A clear and full account can be found in the book by Professor Luc Montagnier, who discovered HIV.[13] Dissident scientists, especially Duesberg, have used the lack of a complete biochemical explanation of how HIV causes AIDS to mount their attack. However, as I explained in my reply to Mr. Martinot, there are many viral

diseases where a full biochemical explanation is lacking. For example chickenpox and shingles are both caused by the same herpes virus—varicella zoster virus (VZV). Yet after the initial VZV infection, which causes chickenpox, the VZV virus stays latent in the nerve cells of the body. Those of us carrying VZV are then immune to chickenpox. Occasionally this latent VZV is reactivated and creates new viruses that travel down the nerve cells, causing shingles. What triggers off this process is not fully understood. Yet nobody would doubt that VZV is the causal agent. (This information and a useful popular introduction to the development of virology are contained in the book *The Invisible Enemy, A Natural History of Viruses*.)[14]

As I also pointed out in my reply to Mr. Martinot, the usual criterion that must be satisfied to establish the microbial cause of a disease is contained in the Koch test: firstly a strong statistical association between the pathogen and the disease, secondly isolation of the causal agent and thirdly that transmission of the pathogen to an uninfected person is shown to produce the disease. There is a large body of evidence for all three of these conditions. Virtually all AIDS patients, defining AIDS by a very low CD4 T cell count and the absence of other diseases which suppress the immune system, are HIV positive.[15] HIV can be isolated by growing it in a culture in a “long and cumbersome procedure”.[16] Cases of health care workers exposed to HIV have been studied and some have become HIV positive. In one particular case, Malon Johnson, a pathologist from Vanderbilt University, Tennessee, cut his thumb with a scalpel he was using on an AIDS patient in 1992. He was reported HIV positive, and is now taking antiretroviral drug therapy, and has written a book about his struggle against HIV.[17] Despite this overwhelming evidence for HIV being the cause of AIDS, like all scientific evidence it can be subject to detailed scrutiny and objections raised.

The history of AIDS

After this rather lengthy preamble, let us turn to the history and social context of AIDS—both as a health catastrophe and in terms of the science and medicine developed to deal with it. Although the writings of the dissidents concentrate largely on the specific questions of science—attacking the theory that the HIV virus causes AIDS—it is in this broader context as a movement (and they are essentially a political movement, however loosely defined) that there are serious concerns surrounding their cause.

As in the case of their support for Mbeki in South Africa, what at best could be called naïveté opens up the dissidents to being used by reactionary social forces. I will return to the question of scientific validity at the end of my reply.

Professor Duesberg has remained the central figure of the dissident camp for over 10 years. Despite Ms. Stanton's abusive reference to followers of the orthodox scientific line, the dissidents show an astonishing level of credulity in accepting a “party line” concerning the development of AIDS science, largely put together by Duesberg and his journalist supporters.

It is true, as Ms. Stanton says, that there are a number of scientists in the dissident camp. As well as the group immediately associated with Duesberg, there are those such as the German virologist Stefan Lanka and the Perth group in Australia, around Eleni Papadopoulos-Eleopoulos who question the existence of the HIV retrovirus altogether. (I will return to this dispute among the dissidents.) According to Ms. Stanton, Bryan Ellison is in this alternative dissident camp and has accused Duesberg of a “sell-out”. Ellison was Duesberg's research student and fell out with him in the mid 1990s in a legal battle over the publication of their jointly written book. He appears to have written nothing, nor played any role since. An attempt by one dissident web site to obtain an interview with him failed.[18] In any case, most of the other dissident scientists have articles on Duesberg's web site. Even if they have disagreements over scientific questions, they all appear to accept his arguments over the origin

of orthodox AIDS science, arguments Ms. Stanton certainly repeats.

Before looking at Duesberg's explanation of events, let us consider the historical background.

AIDS was recognised in the early 1980s, when homosexual men in the United States were found to be suffering from very rare diseases associated with deficient immune systems. Several had died and it became clear that this was a new and fatal syndrome. In 1984 there had been 6,122 cases of AIDS and 2,800 reported deaths. The US Center for Disease Control (CDC) estimated that 200,000 to 300,000 people in the US had been infected with the virus, which had just been declared the cause of the disease. As a recent book on public health explains: “There was clearly foot dragging in Washington on every public health measure related to HIV: funding for basic research, public education, anti-discrimination legislation to protect infected individuals, and public health coverage.”[19]

Not only did the Reagan administration make no response, but they were also swept along by the campaign of the fundamentalist Christian right who regarded AIDS as a “divine punishment” for homosexual behaviour. Reagan himself was so ignorant on the question that he thought AIDS was similar to measles.[20] Given the fact that the disease was being spread through sexual contact, right-wing politicians blocked any attempt at public education about the nature of AIDS: It was 1986 before the surgeon general was allowed to put out a statement warning that it was sexually transmitted. This was in the teeth of opposition from the Republican right and was not allowed to mention anal sex, the most likely transmission route between homosexuals. Alarmist stories circulated about its highly infective nature and even doctors and dentists refused to deal with AIDS patients.

It was in 1984 that the American scientist Robert Gallo claimed to have found the virus that causes AIDS. Virtually every dissident book and article follows Duesberg in making Gallo the main villain of AIDS science. Gallo declared that he had isolated the HIV retrovirus after he had received a sample of the virus obtained by Professor Luc Montagnier's team in France. It turned out that Gallo's own laboratory cultures had been mixed up with Montagnier's. The investigative reporter John Crewdson of the *Chicago Tribune*, who exposed what happened, said it was either “accident or theft”. Gallo was subsequently investigated by the National Institute of Health (NIH) and accused of scientific misconduct, although the charges against him were later dropped after an appeal.[21]

As Joan Shenton explains in her book *Positively False*, the fact that Gallo was able to obtain the patent for the AIDS blood test one and a half years after Montagnier had first submitted his application, which had been ignored by the US authorities, meant that millions of dollars would go to Gallo and his associates who set up a private company, Cambridge Bioscience.[22] (Montagnier and the French Pasteur Institute sued the US government over the issue in 1985. Two years later it was settled out of court, but only after a top-level intervention from President Reagan and French Prime Minister Jacques Chirac.)

Without in any way exonerating Gallo, what is the key issue here? It is not permissible to use the sins of Gallo (or even the contents of his papers, as Ms. Sparrow suggests) to rubbish the whole theory that HIV causes AIDS. In scientific terms, the theory was developed first by Montagnier and was also being investigated by another team in the US.[23] Any refutation of the theory cannot therefore concentrate solely on the defects of Gallo's work.

In political terms, the main issue is the role of the US government. It was the US administration that attempted to squeeze out Montagnier and sideline the key French contribution to AIDS research. It was Margaret Heckler, President Reagan's secretary of health, who made the press statement promoting Gallo as the champion of US science, before other scientists could carry out any serious investigation of his results. It was Heckler who said, “Those who have said we weren't doing enough have

not understood how sound, solid significant medical research proceeds”[24] and it was Heckler who claimed that a vaccine would be available for testing within two years.

After “foot dragging” for four years, the US government made a knee-jerk response calculated to appease the growing wave of concern. It was an attempt to outsmart the French (Montagnier and his group were characteristically very cautious about their results). The US government used the press announcement to bypass normal scientific peer review procedures, and encouraged the media hype of individual scientists who, together with US corporations, then stood to make a fortune.

It is certainly true that Gallo and others had moved across from cancer research, and that there were questionable developments of government policy towards science in this area. In the 1970s, President Nixon’s “War on Cancer” had seen sensationalist reporting of the latest alleged cancer cures, focussing considerable attention on patented laboratory processes developed by various scientists.

Duesberg himself came to prominence in this period. I see no reason to follow Ms. Stanton in questioning Duesberg’s scientific ability—he is credited with carrying out groundbreaking work into the genetic basis for cancer—and won a number of awards, including becoming a member of the prestigious National Academy of Sciences. But it is not unreasonable to suggest that the superficial optimism regarding a cure for cancer put forward in that period, together with the glorification of personal fortune seeking, contributed to his apparent alienation from molecular virology as a whole.

Duesberg’s version

Here we come to the first assertion made by Duesberg: since huge amounts of government money were being thrown into AIDS research, that—as Ms. Stanton puts it—taxpayers’ money had been wasted on the War on Cancer, so the triumph of AIDS research was advanced in its place. I do not know whether Duesberg shares Ms. Stanton’s arguments in suggesting the Pentagon was interested, but it must be made clear that there is nothing progressive in this argument. It is an appeal to the far right who are convinced that the government is overspending on science and, given their homophobic prejudices, particularly on AIDS. Bryan Ellison, who certainly held right-wing opinions in 1990, submitted an article co-written with Duesberg, which expanded their theories for the first time, to the magazine *Policy Review*, published by the rightwing think tank, the Heritage Foundation. The article suggested that instead of the \$3 billion a year, which it claimed the government was spending on AIDS, the government should begin funding “studies on the causes of the separate AIDS diseases and their appropriate therapies” and the rest of the \$3 billion “might be saved and returned to the taxpayers.”[25]

The sum of \$3 billion is clearly a gross exaggeration. As a recent article on Duesberg’s web site admits, the annual total spent on AIDS research by the US, France, Britain, Germany and Italy was only \$1.8 billion in the mid 1990s.[26]

What should the socialist attitude be on this issue? Notwithstanding the huge proportion of government revenues that goes to the military—and the drugs corporations’ profiteering at public expense, a question that I will consider later—public spending on research into disease, into the development of medicine and healthcare measures must be defended; as should publicly funded universal health services, such as those in Western Europe. All of these were important gains made by the working class movement in the course of the twentieth century. Whatever criticisms we may have of publicly funded healthcare, it is surely inadmissible to allow the Republican right to use them as a justification for cutting public funding even further. Yet that is what the dissidents are doing.

In this regard, Ms. Sparrow’s claim that the AIDS dissidents receive no funding is certainly open to question. I have not read any refutation of the report in the South African *Mail and Guardian*—which I used in my reply to Mr. Martinot—stating that dissidents (presumably Duesberg’s group) are

funded by the millionaire San Francisco financier Bob Leppo and that a right-wing lobby group has taken up their cause. The latter distributed free copies of Duesberg’s book *Inventing the Aids Virus*, and *Dancing Naked in the Mind Field* written by Duesberg supporter and Nobel Laureate Kary Mullis’s, together with other dissident material, accompanying a call to members of US Congress to audit government research spending.[27]

To continue with the next proposition in Duesberg’s argument: Because virologists had not made the breakthrough in cancer research that was hoped for, and because some scientists saw the possibilities of using their knowledge of viruses in AIDS research to make lots of money, Duesberg rubbishes the whole field of virology. Ms. Stanton appears to agree with this. Here, for example, is what Duesberg wrote about virology in his book co-authored with Ellison:

“The CDC [Center for Disease Control] has exploited public trust by transforming flus and other minor epidemics into monstrous crises, and by manufacturing contagious plagues out of non-infectious medical conditions. Whereas the vi



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