# House of Numbers, An AIDS Documentary

October 28, 2009 By Joseph Sonnabend, MD

House of Numbers is the title of a documentary film which according to its promotional material will “rock the foundations on which all conventional wisdom on HIV/AIDS is based”

I have seen the film. It is completely unable to achieve this grandiose objective. It is in fact an AIDS denialist film, despite the contention to the contrary by Brent Leung who made it.

The denialists are a disparate group who remarkably continue to believe that HIV cannot be the causative agent of AIDS either because it is harmless or because it does not exist. There are even those who believe that AIDS itself does not exist as a distinct disease entity. Of course there is no shortage of people with strange views that fly in the face of solid evidence. We can mostly just ignore them. But sometimes these views can be dangerous, and then we really do have to confront and challenge fallacious assertions that can lead to harm.

The Spectator is a weekly UK publication that had arranged a showing of the House of Numbers to be followed by a panel discussion of the film with audience participation. I had agreed to be one of the four panel members together with the filmmaker. Several people asked me not to participate in this event, probably with the thought that it was wrong to associate in any capacity with individuals who hold such outrageous views. There was also much activity on UK blogs, generally denouncing the Spectator event. It seems that a lot of people just did not want it to happen.

Two of the panel members withdrew so the event has now been cancelled. This is a pity. The film is as I said, dangerous. It is dangerous specifically because it presents antiviral treatments as only toxic with no mention of their benefits. Therefore it is justified to be very concerned that some people who need treatment may be dissuaded from receiving it after seeing the film.

I do accept that it is right to not prohibit individuals from expressing their views, no matter how distasteful. But when these views carry danger it is particularly important that they be challenged with valid information. It is absolutely wrong to ignore the film and allow it a free hand in spreading misinformation. As I have experienced when I was a member of President Mbeki's panel in S. Africa, it is impossible to argue with those who hold such denialist views. They are impervious to reason. It is therefore pointless to engage them in discussion. However, when their position is presented to the public, then it is right to try to expose the fallacy of their views to those who might be influenced by them and thus may come to harm as noted above regarding HIV infected people in need of treatment.

I should explain why this is definitely a denialist film despite the protestations of its director that it is not.

In providing a more or less equal, uncritical and essentially neutral platform to those holding denialist views together with those who do not, the filmmaker, presenting himself as an unbiased observer merely asking questions, puts forward the impression that the issue of HIV's role in causation remains unsettled. Although the film does not explicitly reject HIV as playing a causative role in AIDS, it most certainly leaves one with the impression that this, and even the existence of the virus, is merely conjecture. This is a misleading presentation of the well established causative link between HIV and AIDS as something that is just a theory, on a par with the theories of Dr Duesberg or of those who claim that HIV does not exist.

This is absurd and as I explained, also dangerous.

Conventional wisdom is absolutely sound regarding the existence of HIV and of its causal link with AIDS. However not all conventional wisdom is so secure (in my opinion). Mr Leung does point to some real controversies in HIV medicine. But these are conflated with issues that are firmly settled.

I have had a pretty conventional training as a microbiologist and as an infectious diseases physician.

From this perspective and accepting that AIDS is an infectious disease with HIV as its causative agent, there are several controversial issues, where scientists and physicians do not speak with one voice.

We have to remember that this disease only came to our attention about thirty years ago. There are bound to be controversies and disagreements as our knowledge of the disease and of its causative agent increases. Researchers are not exempt from a perfectly human proclivity to make generalizations based on far from complete information. In science this is a desirable activity as sometimes these generalizations prove to be fruitful hypotheses that lead to new discoveries. On the other hand they can just lead to a dead end and may even retard progress. Understandably, as long as information remains sketchy, such generalizations will be associated with legitimate controversy. I'll just describe a few of the problems that I see as legitimate.

The film presents several researchers who have opposing views on the role of co-factors. Some researchers interviewed are adamant in their insistence that for AIDS to develop, co-factors are required in addition to HIV. Others are equally confident that they are not needed.

This may sometimes be a spurious conflict arising from differences in how the term, "co-factor" is understood.

AIDS has accrued its own peculiar terminology not usually seen in other infectious diseases. Co-factor is one example, or an infectious agent referred to as the "sole" cause of a disease.

In all infectious diseases there is an important distinction to be made between infection and disease. Epidemiologists are concerned with theories of disease causation and recognize this distinction very clearly. The attack rate is the parameter used to define the proportion of people exposed to an infectious agent who become ill. The attack rate varies from infection to infection. Rabies may be the only infectious disease with an attack rate of 100%.

We rarely know exactly what will determine the difference between an asymptomatic infection and one that produces overt disease. But we do know the general categories of influences. These concern both the organism and the host. The virulence of the infecting organism, the size of the infecting dose or the way it is introduced into the body can all influence the outcome.

Examples of host factors that can play a role in determining whether or not an asymptomatic infection will progress to a disease are the nature of the immune response, genetic characteristics, concurrent infections that affect susceptibility or exert a synergistic effect.

It is the complex interplay of host and microbial factors that determine whether for example, one individual infected with hepatitis B virus will remain completely without symptoms and only know infection had occurred when antibodies to the virus are later detected, while in another individual infection results in fulminant clinical hepatitis.

HIV disease which includes AIDS is an infectious disease, resembling other infectious diseases. In all of them, there are determinants of infection, factors influencing the attack rate which is almost always under 100%, and usually a variable course in disease progression.

The term co-factor when used by some could mean all these usually unknown host factors that influence the attack rate. To others it may mean something specific - even if as yet unidentified, that is necessary for disease to develop in HIV infected individuals. Used in the latter sense, it would represent a position close to that of the denialists, because it suggests that HIV is harmless in the absence of these other specific factors. But when used in the former sense it would represent a more traditional understanding of infectious diseases.

A closer questioning of those asked about the role of co-factors may reveal that there is in fact no disagreement on this issue.

AIDS research is subject to all the pressures and influences that can affect any enterprise conducted by people whose incentives will be varied and complex. Of course there will be instances of conflicts of interest and examples where legitimate criticism can be levelled at some researchers and commentators. For example, case estimates have sometimes been presented as real numbers. It is of course necessary to make such estimates when widespread testing is not feasible, but numbers should be clearly presented as estimates when that is what they are.

There are also technical issues where opinions differ. Such perfectly understandable instances are exploited in this film to question the reliability of some solid achievements in HIV medicine. We are without doubt able to detect antibodies against HIV. This ability is brought into question as the film would have us believe, because scientists may differ about which of the many tests available, alone or in combination, are the best ones to use in a particular setting.

But because some researchers and commentators may be open to criticism on some points, it most definitely does not follow that they are mistaken on the general issue of causation.

Finally, I should explain why this film is also offensive to some of us. There are many individuals who owe their lives to antiviral medications. I have treated hundreds- into the thousands, of people with this disease since it was noticed in 1981. I could have introduced many people whose lives have been saved to Mr. Leung, so that their (or others) testimony might have been included in the film.

My own experience as a physician is just at odds with the picture presented concerning antiviral treatments.

It is hard to adequately convey the feelings of a physician who was able to finally help his patients in the mid 1990s, having lost hundreds to this disease before that time. By the time these drugs became available about 400 of my patients had succumbed to AIDS, a dreadful rate of mortality. The effect of these drugs was life saving to those with advanced disease whose survival had been limited before. The portrayal of these drugs as in effect only toxic is so unfair. I can say with some dismay that had my patients who needed treatment been dissuaded from receiving it by this film, many would surely have died. So this aspect of the film is deeply offensive.

When I asked the film-maker why he had not interviewed any HIV infected person who had benefited from treatment, his response was: Are there people who can tolerate these drugs? So much for the intrepid reporter merely seeking the truth.

The fact that the drugs have toxicities and may not always be used wisely does not detract from their great benefits when used appropriately. This is not different to the treatments of many other diseases. Also, these anti HIV drugs are able to substantially reduce the transmission of HIV from mother to infant. This great achievement is not mentioned in the film.

It is notable that the denialist/dissident groups include no physician who is experienced in the treatment of AIDS. One German physician is interviewed in the film who states that his patients with AIDS are well without treatment. I believe he does not specialize in treating this disease and may only have very few patients with it, but was not asked about the extent of his experience. I too was interviewed for the film. I can't remember if I was asked about my clinical experience. If I had been, my responses were not used.

It is absolutely correct that Mr Leung should be free to express his particular views on this disease.  However we do have a responsibility to counter the dangerous misinformation in the film - specifically, that antiviral medicines are only toxic, with no mention of their benefits.

I'm sorry the Spectator event had to be cancelled and so an opportunity to challenge the misinformation in the film was lost.  There is nothing more powerful than the personal testimony of individuals whose lives have been made possible by anti HIV medications, as well as that of the doctor who prescribed them.  Had this event taken place, at least two HIV positive individuals on antiretroviral therapy would have been in the audience and would have spoken about the immense benefits they received from their treatment.

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