Perth Group COMMENTARY
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Re-reading Luc Montagnier's work on HIV/AIDS we found a number of contradictory statements. In his historic 20th May 1983 *Science* paper[1] Montagnier described a culture of umbilical cord lymphocytes to which was added supernatant from a coculture containing cells from a patient (BRU) and a healthy blood donor. In this culture they found reverse transcriptive activity and type-C particles. Montagnier wrote: "That this new isolate was a retrovirus was further indicated by its density in sucrose gradient, which was 1.16 [g/ml]". They claimed the 1.16 g/ml band was "purified" virus, but published no electron micrographic proof.[2] "The supernatant of a 10,000g centrifugation of the cell extract" and the "purified" virus were reacted with BRU's serum. Of the many reactive proteins in the extract, three, p80, p45 and p25 were reactive in the "purified" virus. Montagnier claimed that one, p25 was viral and, because p25 did not react with "type-specific antisera to HTLV-I", concluded they had discovered a new retrovirus, HIV-1. Although Montagnier's claim has been questioned by many, including Robert Gallo[3], Jaap Goudsmit[4] and Anders Vahlne[5], the scientific community accepted it.

In July 1997, during a videotaped interview with the French journalist Djamel Tahi[6], Montagnier stated "analysis of the proteins of the virus demands mass production and purification. It is necessary to do that". Then surprisingly he said that in 1983 he did not purify the virus: "I repeat we did not purify. And, unbelievably, in what they called "purified, labeled virus" they were unable to find any particles with "the morphology typical of retroviruses". In a similar interview in December 2005, Charles Dauget, the Pasteur Institute electron microscopist, confirmed that in the "purified" virus, they found only cellular debris. (Tahi, personal communication).

Nineteen years later, Montagnier wrote "A History of HIV Discovery".[7] In this paper he does not mention purification or umbilical cord lymphocytes but states: "On 3 January 1983, Francoise Brun-Vezinet obtained a lymph node biopsy from…a young gay man (BRU)…I minced the lymph node, disassociated the fragments into single cells, and cultured the T lymphocytes…Fifteen days later, Francoise Sinoussi…found the first traces of RT in the supernatant of the lymphocyte culture, indicating the presence of a retrovirus…So, we tested whether the viral proteins in the supernatant could be recognised by Gallo's antibodies against HTLV. Surprisingly, our labeled viral supernatant could not be immune precipitated with the HTLV antibodies, but could be precipitated with the patient's own serum (4). A protein with a molecular mass of about 25 kD precipitated by the patient's serum seemed to be the counterpart of the p24 protein of HTLV-1". These immunoprecipitation experiments were not reported in the 1983 paper (4)!

Montagnier must clarify exactly how he proved the existence of the HIV p24 protein and thus HIV.

1. Barré-Sinoussi F, Chermann JC, Rey F, Nugeyre MT, Chamaret S, Gruest J, et al. Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS). *Science* 1983;220:868-71.
2. Sinoussi F, Mendiola L, Chermann JC. Purification and partial differentiation of the particles of murine sarcoma virus (M. MSV) according to their sedimentation rates in sucrose density gradients. *Spectra* 1973;4:237-243.
3. Popovic M, Sarin PS, Robert-Gurroff M, Kalyanaraman VS, Mann D, Minowada J, et al. Isolation and transmission of human retrovirus (human t-cell leukemia virus). *Science* 1983;219:856-9.

4. Goudsmit J. *Viral Sex-The Nature of AIDS*. New York: Oxford University Press, 1997.
5. Vahlne A. A historical reflection on the discovery of human retroviruses. *Retrovirology* 2009;6:40. http://www.retrovirology.com/content/6/1/40
6. Tahi D. Did Luc Montagnier discover HIV? Text of video interview with Professor Luc Montagnier at the Pasteur Institute July 18th 1997. *Continuum* 1998;5:30-34. at http://leederville.net/links/PGCommentary.pdf
7. Montagnier L. HISTORICAL ESSAY: A History of HIV Discovery. *Science* 2002;298:1727-8.