This remarkable discrepancy has now been included in the grounds of appeal.

When Burke's new lawyers asked to interview Dr Eric Moore, the Home Office forensic expert, the request was granted but at the last minute the venue was switched to a Liverpool police station. There, Dr Moore was surrounded by a posse of officers, including a detective superintendent and Mr W. M. Chance, the DPP's representative; all present, no doubt, to assist in the cause of scientific objectivity. Dr Julius Grant, a leading forensic scientist, reiterated in two radio interviews last week his own anxiety about the quality of the evidence against Burke. He emphasised the restricted space in which Burke had struggled to stop the bloody brawl, and asserted that the hair found on Burke's shoe could equally well have come from the head of the co-accused, as from the dead man.

The appeal judges will answer next week the question put by Mr Justice Smith to the jury: 'Does the forensic scientist's evidence gainsay all that factual evidence of the eyewitnesses, and is it in itself such that we could properly, surely, say to ourselves Burke was involved?'

The lying syndrome

Duncan Campbell writes: The ethics of scientific research prescribe not just honesty in reporting, but also require scientists to furnish all the details of their experiments that a colleague might need in repeating the work. Until now, however, no one seems to have noticed that volumes of Soviet scientific literature dealing with experiments on radioactivity in the environment have reported entirely implausible and often false experimental circumstances. There is a simple explanation: the 'experimental circumstances' for most of the work was the contaminated site of a nuclear disaster which killed or injured thousands of people in the winter of 1957/58. Soon afterwards, large numbers of Soviet scientists secretly moved into the area. For the accident, which was the world's worst nuclear disaster, was also a unique scientific event, and provided unrepeatable opportunities to measure the effects of radioactivity on the biology and ecology of animals, fish, birds, plants and trees[1]

The basis for the new account of the Urals nuclear disaster is research conducted over the last three years by Zhores Medvedev, the dissident Soviet biologist now working in London. Medvedev first wrote about the disaster three years ago – then largely on the basis of hearsay from his own time as a leading Soviet scientist. He now reserves particularly icy criticism for those scientific commentators and other so-called 'experts' who put down his whole story of the Urals nuclear disaster on the basis of personal prejudices or 'informed sources' of similar bias.

There was, for example, the *Guardian*, whose correspondent imputed that Medvedev had more interest in politicking than telling the truth; 'he is a highly political man whose motive for revealing the disaster now may well be to draw attention to British plans to build a large nuclear waste treatment plant at Windscale', their correspondent wrote. The paper didn't contact Medvedev to see if this was indeed his motive (in fact he had never heard of Windscale until after his initial article was published).

Then there was Sir John Hill, the chairman of the United Kingdom Atomic Energy Authority, who readily dismissed the story of the disaster as 'science fiction'. Hill refused to believe that the Russians would bury high level radioactive waste, or that any kind of buried waste would give rise to a type of explosion 'like a volcano' which Medvedev had described.

In the last three years, the story has been wholly confirmed, although many aspects remain still mysterious – such as the exact cause of the explosion. But CIA reports released under the Freedom of Information Act, new eyewitness reports, and a host of other circumstantial evidence all describe the events too well as to leave any doubt that, during the winter of 1957-58, a major explosion at the Kyshtym atomic centre south of Sverdlovsk in the industrial central region of the Urals distributed radioactive waste across an area of many hundreds of square kilometres. The atomic centre at Kyshtym, was the main centre for Soviet nuclear weapons production from 1947 on. In the early years at least, a large quantity of waste left over from plutonium production may have been accumulated while scientists had very little idea what to do with it.

It is astonishing that, until Medvedev began a long and painstaking search through Soviet literature on radioactivity, no one noticed the systematic falsification of the details of their experiments. In one series of reports dealing with a contaminated lake, it is said that an isolated lake was 'experimentally' contaminated and the sizeable seasonal variations in contamination were introduced 'artificially'. In fact, not only was the contamination caused by an accident, but the lake was far from isolated, being part of a river system (and hence the seasonal variations in radioactivity). The lakes in the region of Kyshtym eventually drain into the great river basin of the Ob. To give any public clue that radioactive material was being carried through and deposited along the banks of the Ob and other rivers would, of course, be unthinkable.

It might be argued that many of the Russian scientific reports, although available, were nevertheless accessible only to a very few. But there were other papers presented to international scientific conferences, such as the 1971 Geneva International Conference on the Peaceful Uses of Atomic Energy, where two reports on the effects of high doses of radioactivity on trees were presented. Although the Soviet authors described conditions of intense radioactive fallout on a forest as *experimental*, no one queried this or other marked inconsistencies. That session of the conference, Medvedev pointedly reveals, was chaired by a British scientist, one Sir John Hill.

[1]*Nuclear Disaster in the Urals*, Zhores Medvedev, Angus & Robertson.