fibrosis—that is, the likelihood of a positive parenchymal score is higher in those with pleural fibrosis.

The use of high resolution computer tomography (HRCT) will definitely contribute to clarification of these problems. It is of interest that HRCT generally detects more extensive pleural fibrosis than seen on the standard chest x-ray film; it also detects interstitial pulmonary fibrosis in some cases in which no definite parenchymal abnormalities can be identified on the standard chest radiograph.

Asbestos: a chronology of its origins and health effects

Sir,—I read Murray’s recent article (1990;47:361–5) concerning the health effects of asbestos with interest. I agree that rational public health policy in this area must be based on the best available scientific evidence. None the less, I strongly disagree with Murray’s assessment of the use of asbestos in developing countries and his interpretation of the historical evidence concerning scientific knowledge of the carcinogenic potential of asbestos fibres.

Murray states that during the second world war period of asbestos use in shipbuilding “there was no knowledge of lung cancer or mesothelioma and work practices were poor as they were in many industries. It is improper for the apostles of hindsight to suggest that sufficient evidence existed about asbestos as to have been able to anticipate its effects.” As a consultant on the landmark asbestos property damage case Corporation of Mercer University v National Gypsum Co, I had an opportunity to review internal asbestos industry documents concerning industry research on the health effects of asbestos. As outlined in Brodeur’s book Outrageous misconduct: The asbestos industry on trial, it is clear that the asbestos industry actively suppressed the release of industry-sponsored research showing that inhalation of asbestos fibres constituted a serious health risk. In the light of information obtained through legal discovery proceedings in hundreds of asbestos lawsuits it is undeniable that leaders of the asbestos industry conspired to misinform both the public and the scientific community about the dangers of asbestos. Unfortunately, thousands of innocent people paid with their lives for this misguided policy.

I must also disagree with Murray’s enthusiasm for the use of asbestos pipes in developing countries. Third World countries often become “dumping grounds” for toxic materials produced in industrialised nations. With markets for asbestos closed in many western countries, the asbestos industry must cultivate markets elsewhere. What better place than in nations that often lack adequate environmental and occupational regulations? Asbestos water pipes are often manufactured on site. Without proper regulation of such activities, we may, in several decades, witness the same dramatic increase in asbestos-related deaths in the Third World as in the United States.

Such short sighted policies are akin to the production of tobacco and development of cigarette industries in Third World countries. Such countries now account for about 60% of world tobacco production with vigorous cigarette industries now established in China, Brazil, and Malawi. Agencies such as the World Bank have actively encouraged and supported the creation of cigarette industries in the third world (often with low interest loans) since it is an extremely profitable commodity and provides quick cash for economic development. Just as with asbestos, without considering the long term effects of such policies, the ultimate cost in terms of human mortality and morbidity cannot be appreciated.

MICHAEL HUNCHAREK
Boston University
School of Medicine, Boston, Mass 02118, USA

Authors’ reply:

I have read Huncharek’s comments on my paper with tolerance and understanding. He is entitled to his views as I am to mine, but, like many people, he is also an apostle of hindsight. I made the point that, during the war, when the ultimate priority was winning it, there was no knowledge of lung cancer or mesothelioma attributable to asbestos. If he has evidence that such knowledge existed, let him publish it.

I carry no torches for the asbestos industry. When I visited the United States asbestos industry in 1954 I was not pleased with what I saw and it was not as good as in the United Kingdom. I was told that there was no epidemiological evidence of lung cancer because necropsies were uncommon and in some states, illegal. Much has been made of the suppression of the Saranac Lake data, but it was not as reprehensible as is made out by Castleman and others. In any case, what was the United States government doing? They attended the ILO meetings of experts during the 1930s where asbestos was discussed, even though they were not members of the ILO at that time.

I do not know how many developing countries Huncharek has visited and if he has seen, as I have, the manufacture of asbestos cement materials, including pipes. I have recently seen two model asbestos cement factories, one in Thailand and the other in Nigeria. In the latter case, no diseases attributable to asbestos have arisen in twenty years. Maybe the ones who would have contracted the diseases died of gut infections when they were children!

I was fascinated by the description of the manufacture of asbestos cement pipes on site. Sheets and pipes need sophisticated modern equipment, some undoubtedly more modern than others; you can’t make them in “bush” factories. Bricks you can, but not pipes.

As well as his hindsight, he also indulges in prophecy. Not being the seventh son of a seventh son I cannot compete, but I can well understand the hysteria in the United States about the removal of asbestos will result in more