

Air pollutants and lung cancer

SIR — Simon P. Wolff's endorsement¹ of Paoletti *et al.*'s research programme is seconded, but the remainder of his letter may confuse your readers, either because of neglect of the importance of latency in the development of lung cancer or because of inappropriate generalization.

On the basis of what is known of the major contributions of radiation, chemical exposure and tobacco smoking, cases of lung cancer occurring today reflect the respiratory exposures of 20 to 30 years ago². This latency is commonly observed for many types of cancer. The mix of air pollutants 20–30 years ago in Britain was largely derived from household heating, industrial emissions and power generation. Urban rates were and are higher than rural ones, but in Britain, the measured levels of pollution did not correlate well with local cancer rates, although such rates were correlated well with population density. In the United States, lung cancer rates were higher in medium-sized towns than in large cities, and for recent immigrants to towns and cities than for lifetime residents. Such findings led to the general conclusion that the urban excess of lung cancer was not likely to be due to air pollution³.

In California, where I was in charge of research on the health effects of air pollution for the State Health Department, we demonstrated quite effectively that motor vehicle pollutants were a health risk, and took the lead in abating such effects⁴, but we did not find evidence for such pollutants being a cancer risk, with or without taking latency into account.

I know of no epidemiologists who lay the entire blame for lung cancer at the door of smoking, although most agree that it is the most important single cause. I feel that the evidence is somewhat weaker than does Doll, but subscribe to his current assessment of the urban excess of lung cancer: "In many towns coal smoke has now been replaced by the exhaust fumes of cars, which may be much more irritating, but are less likely to cause cancer, if we can judge by the quantity of polycyclic hydrocarbons they emit"⁵. Polish studies still show coal-based pollution associated with lung cancer⁶.

I agree with Wolff that more research is justified, but, in view of the latency problem, cross-sectional studies asking how many vehicles pass a place of residence would not be useful, because the types and magnitude of vehicular emissions must surely have changed over the decades. As for smoking, a lifetime smoking history would, it follows, be preferable to asking "How many

cigarettes do you smoke each day?".

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Electoral ploy?

SIR — Alison Abbott reports (*Nature* **358**, 9; 1992) that the new Italian Minister for University and Scientific Research, Sandro Fontana, will soon be confronted with a proposal from CNR president Luigi Rossi-Bernardi to change the present rules governing the financing of research. The present system is indeed to be rejected for the very reasons indicated by Rossi-Bernardi: it does not know how to say no, thus giving small grants to most applicants but large grants to none.

Nevertheless, the article in *Nature* could leave the false impression that Rossi-Bernardi has so far somehow been prevented from adopting a new science funding strategy. In fact, he has been CNR president for the past seven years. Soon after his nomination, he identified "the key issue as that of quality: the proper allocation of resources, posts and promotions on the basis of scientific merit rather than custom or seniority" (see *Nature* **311**, 501; 1984).

The funding system could have been easily changed, if the CNR authorities wished to do so, by introducing some simple rules such as those adopted by other Italian funding agencies: site visits, an international board of reviewers and appointment of members of the scientific councils and of directors of 'subprojects' of national target projects among scientists with unquestioned scientific credentials, rather than on the basis of political or academic partnership (as often happened). Rossi-Bernardi could have sought qualified international advice for the creation and funding of CNR institutes and could in particular have allowed mobility of researchers to achieve better work. In fact, there was no compelling reason for not doing so, as many, if not all, of these goals could be achieved without asking permission of anybody. Furthermore, there is no doubt that Rossi-Bernardi would have enjoyed the full support of the previous

minister of University and Scientific Research, Antonio Ruberti. His recent declaration, at the end of his present appointment as president of the CNR, sounds more like a request for reappointment than a statement of intent to fulfil these goals.

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Indian bureaucracy

SIR — In "Tough times ahead" (*Nature* **356**, 97; 1992), K. S. Jayaraman refers to the Indian government's plan to close the National Buildings Organisation (NBO), a leading research and development organization engaged since 1954 in the promotion of low-cost housing technology. It has the status of a government department under the Ministry of Urban Development, and serves as the UN Regional Centre for Housing for the ESCAP (Economic and Social Commission for Asia and the Pacific) region. The plan to close this important organization is also a saga of humiliation and subjugation of Indian scientists and engineers by the all-powerful Indian Administrative Service (IAS).

The innovative cost-saving construction techniques and building materials propagated by NBO and its 15 Regional Housing Development Centres have found large-scale application in housing projects undertaken by various construction departments and agencies and have been widely praised. The July/August 1991 issue of *Building Research and Information* says they are "worthy of replication in Asia, Africa and Latin America, regions with similar problems of poverty, large population and acute housing shortage".

Despite its record over the past 38 years, NBO has recently become a victim of neglect and apathy on the part of the IAS. It has been without a director since the previous director retired four years ago. For several years, vacant posts have not been filled. The acting director of NBO for the past two years is a senior IAS officer, whose role seems to be to abolish the NBO. Ironically, the government is at the same time promoting the interests of the new Building Materials and Technology Promotion Council (BMTPC), set up in July 1990 under the aegis of the Ministry of Urban Development, and whose budget has been enormously increased, in spite of the government's curbs on expenditure. Why not disband that instead?

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