

Sick building syndrome: a case for urgent treatment

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It took some 20 years to prove that smoking was dangerous to health – that is, to prove it conclusively enough to make government health warnings mandatory and to curb at least some of the excesses of cigarette advertising. This came long after thinking men and women *knew*, in their heads if not in their hearts, that inhaling smoke could not be doing the lungs much good.

Those same men and women now *know* that working in totally artificial environments is, at best, uncomfortable and, at worst, unhealthy; but where is the proof, that proof that will begin to get things changed?

A major conference held at the Institution of Civil Engineers on Tuesday heard at least some of that evidence. It also heard a well-argued case for spending more time and funds

on researching the problems of what has become known as the 'sick building' syndrome.

Vast resources are spent on looking closely at what we eat, says Surrey University microbiologist Peter Austwick. 'Why can we not have even a fraction of those resources to investigate what we breathe?'

Austwick wants the additional research to look into diseases which appear to be related to working conditions in offices. For example, a condition known as 'humidifier fever' affects people working in conditions where high humidity is required and artificially provided. Its symptoms are headaches and fever every Monday, which get worse at night, but clear the following morning. It is, according to Austwick, remarkably similar to another occupational disease, 'farmers'

lung', which is also a Monday affliction – a result of loss of body immunity over the weekend.

Austwick agreed with most of the other expert speakers at the conference that air-conditioning is the worst culprit. Up to 70 per cent of the occupants of air-conditioned buildings could be suffering in one way or another, he maintains. Sheena Wilson, of Building Use Studies, confirms this. Worst of all, she found, were systems designed for temperate climates, such as exist in northern Europe and North America, where the same system both heats and cools.

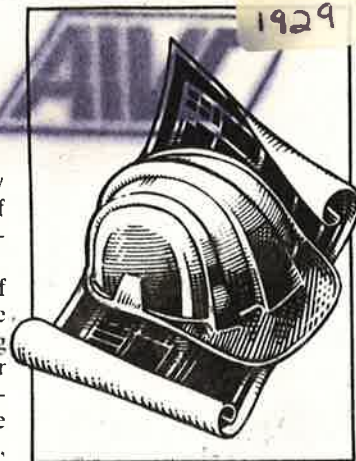
The same problems do not seem to afflict very hot countries, where the air-conditioning is used exclusively for cooling. Moreover, the worst symptoms were found to be associated with spring and autumn, when systems have to adjust to changing their function sometimes from day to day. This finding led Sheena Wilson to surmise that this could provide ideal conditions for bacteria to breed.

Peter Austwick has found not only bacteria, but a variety of microscopic matter, both organic and inorganic, in air-conditioning systems which, he says, are invariably poorly maintained in terms of hygiene.

Both Austwick and Wilson refer to statistics compiled by two doctors, Pickering and Burge, concerning the frequent occurrence of nasal symptoms, headaches, and lethargy in air-conditioned offices, as opposed to naturally-ventilated ones. In the case of nasal symptoms, it was 22 per cent compared with 5 per cent; for headaches 37 per cent (15 per cent) and for lethargy, an alarming 45-52 per cent (15 per cent).

Sheena Wilson took care to exclude the possibility of any of these symptoms being attributed to smoking or liquid lunches. However, in addition to the purely physical factors, she is also interested in psychological aspects of modern buildings. She found that curtain walling, large open-plan spaces, tinted glass and pre-set environments gave occupants the feeling of not being in control of their surroundings. This can cause disorientation.

There are certainly psychological factors behind her findings



MIRA BAR-HILLEL

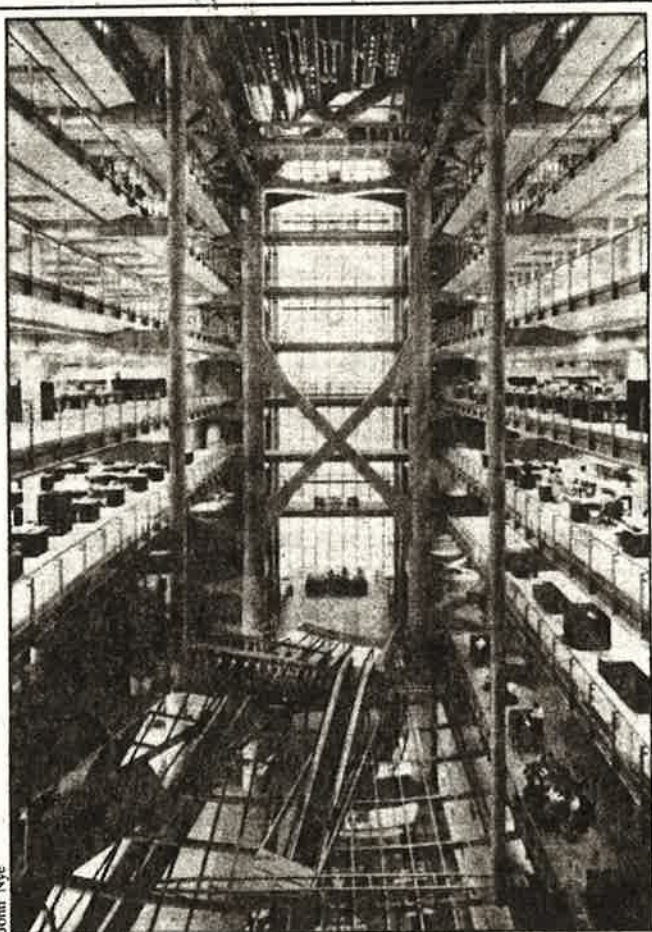
that office workers in menial, repetitive, jobs suffered more than those in challenging ones. But the main conclusion relates to design. 'We don't know enough about how air behaves,' she says. More research is clearly needed.

Dr Sherwood Burge, consultant physician at Solihull Hospital, has been studying the sick buildings syndrome for five years, and recently received a two-year grant from the British Lung Foundation to continue his work for another two years. He helped compile the statistics already mentioned, and they led him to conclude that the buildings, rather than the people or their jobs, are to blame. However, he cautions, people do differ in their reactions and should not be treated like battery chickens. He is especially keen on allowing more local control of the environment in large office buildings.

Professor Peter Burberry, of the University of Manchester Institute of Science and Technology, is convinced that some people will be severely affected (Legionnaires' Disease is known to breed in air-conditioning cooling towers and can kill the infirm) but of immediate concern is the reduction in wellbeing and productivity that can harm many more.

Professor Alec Hardy of Newcastle University's school of architecture adds the alarming thought that we may be making matters worse by trying to save energy and by creating increasingly airtight buildings, and thinks better ventilation could be an answer.

Also at the conference was Sir Hugh Rossi, who chairs the Commons Environment Select Committee. A thorough investigation of sick buildings by his committee could be just what the doctor ordered.



John Nye

Two potential candidates for sick building investigations are the recently completed Hongkong and Shanghai Bank (above) and Lloyds' of London. The Asian bank building has the advantage of clever use of natural lighting, and the local climate will probably also mean that artificial heating is seldom required. Lloyds', on the other hand, have already had poor reviews from users of their new building. The special glass, which should work miracles on sunny days, adds to the depression on grey ones, and some Lloyd's staff are already complaining of headaches and annoyance at being unable to see the world outside