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NEIGHBOURHOOD NOISE

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When considering the problem of noise the most obvious targets for improvement are undoubtedly traffic, aircraft and industry, probably in that order of importance. A great deal of research is going on in these fields to reduce noise, as far as possible at source, and it is justifiable to assume that in the near future there will be marked improvements in the noise from both aircraft and motor vehicles. However, even if the research were so successful that the noise from aircraft, traffic and industry were virtually eliminated, unfortunately a most unlikely assumption, the problem of noise would still remain. Man is himself a producer of noise and neighbourhood noise consists of an amalgam of sounds of which the three main sources are only a part, and whose relative importance will vary from place to place.

In the survey carried out for the Wilson Committee report (Noise, Final Report H.M.S.O. Cmd. 2056, 1963) it was found that while 36% of people were disturbed by road traffic noise when at home, the next most important categories were adult voices (10%) and aircraft and children (9% each). In suburban areas away from main traffic routes, the main local noise sources are usually connected with entertainment in some form, domestic equipment or advertising.

Entertainment Noise

The most frequent source of complaint is entertainment noise, and in cases where this is on a regular basis, such as a discotheque or a public house with an entertainment licence, this can have a serious effect on local amenity. As in all other noise problems, prevention is both better and much easier than cure, and in this case would take the form of withholding planning permission or the granting of entertainment licences, unless it seems certain that no nearby residents will be adversely affected. If this is not done and a noise nuisance does occur a possible, and frequently successful remedy, is simply to have a friendly discussion with the owners of the premises. If this fails, legal remedies can be used, usually through the 1960 Noise Abatement Act. If the local authority is satisfied that a statutory nuisance exists, it must serve an abatement notice on the persons causing the nuisance or on the owners or occupiers of the premises from which the nuisance is alleged to arise. Alternatively, by jointly

applying to the local magistrate any three occupiers of land can request the abatement notice to be served. In most cases this is sufficient to persuade those causing the noise to reduce it, but if not, they risk incurring a fine as well as a daily penalty if the nuisance persists.

Another form of entertainment noise which may be more difficult to control is that due to parties in private houses. In this case legal procedures are too cumbersome and take too long to be effective. The only remedy here is a talk to those causing the nuisance, although if necessary the local police would be likely to send a constable to the offending premises. His powers would be more apparent than real but are nevertheless often effective.

A very different type of entertainment noise is that caused by children either in the street or at a playground. Clearly children must be allowed to make a noise and the only form of control which can be used is in deciding where they should be able to do so. Playgrounds have been the cause of complaints in the past, but once established there is little one can do. Noise should, however, be one of the many aspects considered when siting a playground. Unfortunately distance as such cannot often be used to reduce noise, because a playground is usually required to be close to dwellings, but it can sometimes be placed on the less noise sensitive side of buildings, or screened by sheds or the backs of garages. Surprisingly perhaps, it has been found that children's playgrounds close to old people's dwellings are often enjoyed by the residents, who appear less noise conscious than middle aged or younger people.

In the case of youth centres which are almost bound to be noisy if they are successful, their effect on the environment can be reduced both by siting and by the design of the layout. The main sources of noise are the hall used for dances and the playing of pop records and the entrance area where people tend to congregate, talk loudly and start up vehicles. To minimise noise nuisance the hall should be well insulated with ventilation being taken from a side remote from dwellings. The insulation need not necessarily be by means of heavy walls, but can preferably be by siting quiet activity rooms on the noise sensitive side, so as to act as a buffer. Similarly, the entrance should if possible be shielded and be situated so as not to face any nearby houses.

Advertising

A frequent source of complaint in the past has been the advertising of ice cream by the use of chimes. Under the provision of the Noise Abatement Act loudspeakers fixed to vehicles may be used between noon and 7 p.m. to advertise that perishable food is on sale. Verbal messages are not allowed and in practice it is only the chimes used to advertise the presence of ice cream vans which are normally heard in residential roads. The ice cream vendors claim that this form of advertising is essential for trade but they also realise that the excessive use of chimes even within the limits laid down under the Noise Abatement Act could cause a nuisance. They therefore introduced a code limiting the sites at which the chimes may be sounded, and also restricting their duration to not more than four seconds at a time, followed by a minimum interval of three minutes. Unfortunately vendors do not always conform to the code or even to the Act and ice cream chimes are often still a source of nuisance.

Sound insulation

Considering neighbourhood noise at a very local level, there is noise from one's immediate neighbour, either in an adjoining house or, worse still, an adjoining flat. To a large extent good neighbourliness should prevent undue nuisance, but it still seems legitimate for a person who is fond of music to listen to it in his own home, or for a housewife to use a powered sewing machine. Unfortunately, both these sounds are also likely to be heard by the neighbours, and if the sewing machine is in an upstairs flat the people below will need to be very tolerant to accept it happily. Under the Building Regulations now in force throughout England and Wales (except Inner London) certain minimum construction standards for sound insulation are required. These constructions are such as would be expected to reduce air borne noise between dwellings by about 50 decibels, and a typical 9" brick wall will achieve this. In many cases this is adequate, but if one person happens to be fond of loud music of a particular type and his neighbour is noise sensitive or dislikes that brand of music, a problem results. Sometimes it has been suggested that the answer is to improve the sound insulation between the dwellings by, for example, the use of acoustic tiles; unfortunately this is completely useless. Acoustic tiles, while good absorbers of sound created in the same room, provide practically no insulation for sound passing through. To provide additional insulation, either one would have to substantially increase the mass of the dividing wall or provide a cavity and an independent second wall. Both these solutions are completely impracticable in a semi-detached house or flat; Doubling a 9" brick wall to 18" would only give a maximum gain of about 5 decibels, and even this is most unlikely to be achieved because of flanking transmission. This is regrettably a case where no real solution exists other than coming to an amicable agreement with one's neighbour, or moving elsewhere.

In the case of impact sound transmission, such as that from a sewing machine mentioned earlier, or a typewriter or even a piano, some improvement can be obtained by breaking the transmission path by means of a resilient mounting. This can take the form of a felt pad under the typewriter, or of a foam-backed p.v.c. type of floor covering, or of a good carpet on a rubber underlay. These steps will reduce the structure borne part of the noise, and the vibration, but will have no effect on the air borne component of the noise.

Obviously, if new dwellings are planned sound insulation should be given very careful consideration not only in the materials used, but more important still, in the layout of rooms within the dwellings. Most modern builders and architects are well aware of this problem, and this aspect of neighbourhood noise should become a decreasingly important one. There is however an important reason why internally created noise should be given even more consideration than at present. This is that as sound insulation against externally created noise improves, one becomes more aware of internal noise, even if it is created in one's own dwelling. One, perhaps rather untypical example, occurred recently. Following numerous complaints we arranged to take automatic overnight recordings of traffic noise in a flat about 15 metres from a newly opened motorway. On collecting the equipment the lady of the house told us that she had switched off the apparatus at midnight, as the ticking of the timing equipment placed in a corridor outside her bedroom had kept her awake. 3.

Domestic equipment

More usual though, is the noise of domestic equipment, such as vacuum cleaners, extractor fans and refrigerators. So far little attention has been paid to noise by manufacturers but particularly in the case of continuously operating equipment this is an unfortunate omission. It is true one can apparently get used to any steady noise, and only notice it when it is suddenly stopped. It is not however certain that this noise does not detract from a person's ability to relax and to fully enjoy the amenities of his home. A method of rating any noise producing equipment, whether industrial or domestic would be a great step forward. If this were based on noise power levels it would give a rating independent of distance or acoustic environment and direct comparisons could be made between two otherwise similar machines.

Basically however, noise is produced by humans or by machines designed and operated by humans. To really solve the problem of noise and of environmental pollution generally, one has to use education and to bring about a better understanding of the value of good neighbourliness.

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