acute effects of inhalation are rarely seen and are less well documented than chronic talc silicosis, but they are obviously alarming when they occur. A timely word to parents from their family doctor advising them to keep talcum powder out of reach of young children could help to avert these tragedies.

Necropsy after Exhumation

With its overtones of resurrection, graveyards, ghosts, ghouls, and vampires, exhumation has always evoked a strong emotional response from the public. In Britain exhumation for forensic reasons is seldom necessary, since it is very unusual for a victim of death from violence to escape a coroner's necropsy before burial. This is by no means true throughout the world. In the U.S.A. there is a resistance to the examination of cadavers. In some States necropsies are not made on victims of murders and other violent deaths, and even if a necropsy is done the body may already have been embalmed. The results of such attitudes are highlighted by the controversy surrounding the death of Mary Jo Kopechne. One of the most cogent reasons for necropsy in every possibly unnatural death is prevention of the kind of uncertainty and rumour which surround this case. Miss Kopechne was buried without necropsy ; the question arises what useful scientific information can now be gained from the examination of her exhumed body.

As a general rule it has been found that the course of dissolution after burial depends on factors such as the type of terminal illness, the time between death and burial, the integrity of the coffin, the nature and temperature of the soil, and the drainage of the cemetery. The interaction of all the factors cannot accurately be judged before exhumation, and even the most experienced forensic pathologist can be sadly inaccurate in predicting the state of a buried body. The degree of variation is such that histological details may occasionally be visible after several months' burial, while in many instances they are lost within a few days. The fate of poisons and drugs depends on their chemical stability, and more needs to be known about the effects of putrefaction on toxicological analysis.

In the case of Miss Kopechne the decision to exhume may be influenced by the knowledge that her body has been embalmed.[1] Most embalmers rely on vascular perfusion of a corpse with formalin, which both inhibits bacterial action and produces relatively stable compounds from proteins and amino-acids in the same way as in tissue fixed for histological examination. To the embalming fluid may be added a variety of other substances with bactericidal, antihumectant, penetrant, and wetting properties. Dyes are usually included to produce a life-like colour in the skin, and oxidizing agents may be added to attempt to eliminate disfigurement from hypostasis and bruising. Injuries and other local areas of skin discoloration on exposed surfaces may be aspirated and injected with hydrogen peroxide. There are fluids available commercially which are said to bleach jaundice, and in the U.S.A. it is possible to buy embalming fluid "tailored" to the cause of death.

Embalming, especially in the U.S.A., is aimed more at a short-term cosmetic result than at long-term preservation, but some delay in putrefaction is bound to be achieved, and the value of exhumation of an embalmed body is correspondingly increased. On the debit side, embalming may alter or obscure minor but possibly highly significant marks of forensic importance, and may make toxicological analysis difficult to interpret. One of the questions to be answered concerning the death of Miss Kopechne is whether it was due to drowning. This is a difficult decision to make at the necropsy of a freshly dead body, and is probably now impossible. The only investigation that might help would be a search for diatoms. It is only the finding of diatoms in tissues other than the lungs that indicates antemortem immersion, but even if any are found it might be impossible to be sure that they were not introduced in the embalming fluid. Furthermore, in drowned bodies most embalmers would aspirate the chest cavities.

Despite its limitations, exhumation may yield unexpectedly good information, but every day of delay makes this less likely. There is no substitute for a skilfully performed forensic necropsy carried out shortly after death on an unembalmed corpse.

[1] *Newsweek*, 15 September 1969.

Smoking at School

Small boys smoke because they think it makes them look tough and grown up. Any campaign to stop children taking up smoking must be based on the impression they have of smokers and non-smokers at school and in the adult world. These are two of the findings of a careful study,[1] published this week, of characteristics of schoolboys aged 11–15 who smoke compared with those that do not ; and, while few of its findings are surprising, it provides a basis for rational propaganda against smoking.

The survey, carried out for the Ministry of Health, found that boys who smoked differed from their schoolmates in four main ways. They mixed with boys who smoked ; their leisure was spent in adult activities such as dancing, drinking, and chasing girls rather than in hobbies such as cycling or woodwork ; their parents had a more permissive attitude to smoking ; and they were not so much put off smoking by the danger of lung cancer. Both the boys who smoked and those who did not agreed that smoking was associated with toughness, maturity, and relative scholastic failure ; and, perhaps surprisingly, this last association was seen as a drawback by almost all the boys.

The report recommends that any anti-smoking propaganda used in schools should avoid suggestions that it is a dirty, unpleasant habit—smokers will reject this argument because it conflicts with their experience. Instead emphasis should be placed on the immediate health hazards—shortness of breath, for example—and on other attitudes which lend support to disapproval of smoking. Children's concern for adults who smoke should be reinforced, and they should be reminded of its cost and the fact that most parents hope their children will not take it up.

One point not made in the report emerges clearly from it. While smoking is associated with a masculine, mature, tough image, boys who are uncertain about their identity in the eyes of their schoolmates will tend to take it up. This is the image promoted by cigarette advertisers, though in real life it is often untrue. If children are to be discouraged from smoking, this is the image that must be changed.

[1] Bynner, J. M., *The Young Smoker*. London, H.M.S.O., 1969. 35s.