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Editorial

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Lye in the eye

I seem to remember that years ago assaults leading to chemical injuries of the eyes in the USA were often described as having been carried out with a substance known as lye. American authors seemed to take it for granted that everyone knew what lye was, though it was certainly not obvious to me and perhaps to others. I had a vague idea that it was the strongly alkaline soup of caustic soda and fat that was eventually to be precipitated out as soap. Reading the article at page 514 of this month's issue on chemical injuries prompted me to look up the definition of lye, and when I discovered that it was simply caustic soda or potash in solution I realised that I had for years been labouring under a delusion on the subject. However, the encyclopaedia's description of soap manufacture does also refer to lye in the sense I alluded to above, so I was not completely wrong.

Searching for inspiration about the subject of chemical injuries one cannot do better than to turn to the classic textbook of the 1950s by Sir Stewart Duke-Elder.¹ Here we find a dramatic account of the clinical features and the pathology of a great variety of chemical and in particular alkali injuries, together with a photograph of a lye burn of the human eye. Better still there is even a definition of lye: 'the solution of the hydroxides (potash or soda lye).' But the interesting thing about Duke-Elder's account, not only of lye but also of the more rapidly blinding ammonia, is that he makes little mention of assault, the whole thrust of the chapter (which incidentally is dedicated to Herman Knapp, the father of American ophthalmology) being directed towards accidents, either domestic or industrial.

In a brilliant account of the incidence of chemical injuries in which he concludes that 'Industry is responsible for the vast majority of chemical hazards' the author does concede that the eyes may be made the object of deliberate chemical attack by 'the distraught or malignant woman who desires to disfigure the face of the object of her jealousy or revenge with acid, by the policeman who attempts to quell mob violence with lacrimatory gas, or by the army which makes war still more horrible than it used to be by attempts to

overwhelm a foe with poison gas or vesicants'. Robbery and random assaults in the street are not mentioned.

Since Duke-Elder's technique consisted of the compilation of information from an enormous number of sources, it is unlikely that he would have missed a significant number of papers on street assault with chemical eye injuries. Thus the suggestion by the authors in this month's paper that such injuries are on the increase is probably correct.

It is uncertain whether in some of the assaults, where sheer mischief seems to be the motive rather than any more directed reason such as robbery or personal animosity, the assailants realise how much damage they may be doing. It is difficult to know whether educating the public about the possibility of permanent blindness following assaults of this nature would put the attackers off or encourage them. As the authors mention, the psychological effects on the victims can be very bad. I had a case some years ago where ammonia was used in a bank robbery, and the victim, who suffered acute lens swelling and other injuries, finally took his own life. Mortality is not a statistic that we ophthalmologists often have to take much account of (unless we are oncology experts), but it seems to be a distinct possibility in some of the more severely affected patients after chemical assaults causing blindness.

An afterthought: the word 'blinding' when used by journalists or novelists to describe an attack is usually understood to mean 'temporarily blinding'. One wonders how many people realise that in some cases, particularly where ammonia is used, the blinding may be far from temporary. In considering the effect this knowledge might have on criminals I forgot to mention that the same misconception might be held by some judges and magistrates. One hopes that members of the legal profession, and the police as well, are as aware of the deadly nature of ammonia and like substances as are ophthalmologists.

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¹ Duke-Elder WS. *Textbook of ophthalmology*. London: Kimpton, 1954: 6: 6581-9.