by the computer at the end of the session. During each inter-trial interval (4–8 s) the previous trial's data are displayed by the computer on its oscilloscope.

Four concentrations of nitrous oxide in oxygen are used, 0, 10, 20 and 30% in a fully balanced order across subjects. The drug concentration is controlled using anaesthetic machine rotameters and is administered to the subject through an aviation-type face mask. At each dose level 10 min is allowed to elapse before recording, in order for equilibration of the gas to occur. The subject can communicate with the experimenter by means of a microphone in the mask.

Preliminary analysis confirms the earlier finding that all the main components of the vertex evoked response are diminished in a regular linear fashion with increasing dose levels of the drug. As expected, reaction time is prolonged by nitrous oxide. However, the component, which in the Bostock & Jarvis (1969) study did increase with lengthening of reaction time, paradoxically still shows this effect when the data are analysed in terms of speed of reaction time ignoring drug condition. This implies that the effects of nitrous oxide on such central functions as alertness and arousal cannot be entirely explained in terms of a simple depressant action.

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Pharmacological gadgets (T)

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A simple accurate injection gun for repetitive dosing (T)

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Meter for measuring activity of small animals in metabolic studies (T)

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The ventromedial nucleus of the hypothalamus and appetite control in the rat (T)

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Whole body autoradiography (T)

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