active and placebo preparations should be indistinguishable (short of chemical analysis) by any patient, nurse, or physician of average intelligence and curiosity. Yet in most reports this potentially crucial aspect of the experiment is dismissed in a few words such as, "identical placebo capsules were used." It is only by chance that we recently learnt of a number of trials in which, although the capsules were indeed identical, the difference in the contents was childishly obvious. This is a particularly hazardous situation where (as is often the case) the active substance has a characteristic flavour or texture and is either well known or is easily available to the inquisitive participant as a basis of comparison.

May we suggest that journals make it a matter of editorial policy that authors wishing to use the term "double-blind" be required to justify their use of the term by specifying the steps taken to ensure that the preparations used were truly indistinguishable? A simple yet effective test is to offer the active and placebo preparations (together with the conventional presentation of the drug as a standard of reference) to a "taste committee" of 20 or 30 colleagues and to challenge them to identify the placebo preparation by any of the five senses. Unless a published report includes evidence that some such procedure has been carried out, the results should be accepted with a measure of healthy scepticism.

T W ANDERSON
M J ASHLEY
E A CLARKE

Department of Preventive Medicine and Biostatistics,
Faculty of Medicine, University of Toronto,
Toronto, Canada

Plasticity in the nervous system

SIR,—Your interesting leading article on this subject (24 January, p 182) raises a number of interesting points while managing at the same time to give the most superficial survey available. To suggest that evidence in support of plasticity in the central nervous system (CNS) has mostly come to light in the last six years is to ignore, for example, the prodigious amount of evidence summarised by Windle.¹ There is no mention of Russian workers² who claim complete functional recovery after CNS lesions. This work obviously must be met with considerable scepticism, but it was of sufficient interest for the USA to send a skilled and experienced official observer to report on it while Britain continued to ignore any work which could conceivably have any clinical implication. The Russian experiments are now being repeated in the USA.

Sprouting in the CNS following a partial lesion was first demonstrated nearly 20 years ago,³ and plastic changes were described as a possible explanation for spinal shock in 1963.⁴ It was suggested (more than six years ago)⁵ that following partial denervation the intact CNS will react in such a way as to neutralise the change in condition and that this will be seen in terms of a reorganisation at the synaptic zone resulting in previously unused or little-used pathways becoming more effective. This suggestion has been confirmed in that cells deprived of their major input respond to new stimuli⁶ and previously "silent" pathways become easily elicited.⁷ Repetitive stimulation may produce a structural change in appropriate synapses.⁸ Glial changes (not mentioned in your article) are intimately linked

with changes of reorganisation or regeneration.⁹ In the USA there are centres (such as Rancho Los Amigos in California, the Texas Institute for Rehabilitation and Research, and Downstate University, New York) which are actively engaged in clinical applications of repetitive stimulation in the problems of rehabilitating patients with chronic neurological deficit.

In Britain there appears to be a considerable rift between full-time research workers and those who attempt the different task of combining clinical work with research into "basic" mechanisms. The latter are usually regarded as amateurs who are more trouble than they are worth. I know, for example, of at least two holders of neuroscience chairs who will do their utmost to prevent any clinical neurologist from attempting continuing research, and one of these, in his zeal, will attempt to prevent publication and the granting of research money. Yet in neurology, when one thinks of major work in, say, the fields of muscle, nerve, and demyelination it is people like Walton, Thomas, Gilliat and Macdonald, etc., who have made the major contributions as active clinical neurologists before attaining their present academic respectability.

In the USA there appears to be a quite different climate and a much closer link between academic and clinical workers. Perhaps this is due to the formation of the National Paraplegia Foundation, which exists to promote and encourage co-operative work in the field of regeneration. It seems to me, Sir, that we should have such an organisation in this country. Clinical neurologists and specialists in rehabilitation, for example, badly need the advice and direction of research workers such as Raisman and Blakemore and I venture to suggest that the opposite may be of some benefit.

L S ILLIS

Wessex Neurological Centre,
Southampton General Hospital,
Southampton

¹ Windle, W F, *Regeneration in the Central Nervous System*. Springfield, Thomas, 1955.

² Natinian, L A, and Andreassian, A S, *Enzyme Therapy in Organic Lesions of the Spinal Cord* (in Russian; English summary). Yerevan, Academy of Science of the Armenian SSR.

³ Liu, C N, and Chambers, W W, *Archives of Neurology and Psychiatry*, 1958, **79**, 46.

⁴ Illis, L S, *Experimental Neurology*, 1963, **8**, 328.

⁵ Illis, L S, *Modern Trends in Neurology Series 4*, ed D Williams. London, Butterworths, 1967.

⁶ Wall, P D, and Egger, M D, *Nature*, 1971, **232**, 542.

⁷ Merrill, E G, and Wall, P D, *Journal of Physiology*, 1972, **226**, 825.

⁸ Illis, L S, *Nature*, 1969, **223**, 76.

⁹ Illis, L S, *Brain*, 1973, **96**, 61.

A place to be born

SIR,—The members of the Study Group on Home Confinement of the National Childbirth Trust (31 January, p 279) have confused the important question of maternal satisfaction by using an erroneous analogy. They present the Swedish and Dutch examples, arguing that since both countries have a low perinatal mortality rate and Sweden has 100% deliveries in hospital while Holland has only 50%, then "it is not the place of confinement but rather the quality of life and care that is the critical point at issue." They seem to forget that the important difference between these countries lies in the time it takes to get a patient to hospital; Sweden has 47 persons per square mile, whereas Holland has 840 persons per square mile. One of the group was present (with MR) at a recent study day when Pro-

fessor Kloosterman of Amsterdam informed them that any patient treated in domiciliary practice in Holland could be transferred to a hospital midwifery unit within 20 minutes of calling the ambulance. We also have a concentrated population in the UK, but because of our congested roads there must be very few places from which the mother could be in hospital within many multiples of that period.

The group are on stronger ground when they point out that it is "the quality of life" that matters in preventing perinatal mortality. It is well known that perinatal mortality is closely related to social class (that is, inheritance, education, and wealth). Both Holland and Sweden on average have a healthier population than that of the UK, with consequently lesser hazards to the mother and baby in labour whether delivered at home or hospital.

However, something can be done now about meeting the main objection of the group to hospital delivery. Why should human and emotional factors have to suffer in a hospital environment? It would be more profitable (and cost practically nothing) if the group put their efforts and energies into practising a policy designed to satisfy the mother in hospital, as midwives, obstetricians, paediatricians, and anaesthetists try to do in both the large obstetric units in Cardiff.

These measures include: (1) Teach all who are in contact with the mother that having a baby must be made a happy occasion and is in no way to be equated with having a surgical operation. (2) Explain as much as possible to the mother about what is going to happen (only 50% of mothers in Cardiff come to mothercraft classes so that the remainder must be approached in the antenatal clinic, or even after admission). (3) Make the father (or any companion) welcome at all times in the delivery suite and the ward. Someone (preferably a personal midwife) should be with the mother in labour at all times. (4) Allow the mother to choose the method of pain relief, or none at all, after explanation and without pressure, provided only that the method is safe for her and her baby. (5) Let the mother look after her baby herself. (6) Periodically assess whether these measures are being carried out.

In this way it is possible to combine "physical safety . . . in terms of mortality and morbidity" with "human and emotional factors." When these changes are instituted and assessed the group may be able to see more clearly whether any case for home delivery still exists.

MICHAEL ROSEN	J ANDREWS
GARETH REES	BRYAN HIBBARD
W P JAMES	JAMES F PEARSON
M E G LAWRENCE	JUDITH B WEAVER
SYBIL F PRICE	GERAINT L WILLIAMS

Departments of Anaesthetics and Obstetrics,
St David's Hospital and
University Hospital of Wales,
Cardiff

Immunisation against whooping cough

SIR,—The recommendation of the Joint Committee on Vaccination and Immunisation to continue the routine use of whooping-cough vaccines (20 September, p 687) was based on three considerations: (1) whooping cough is still a severe disease, particularly in infants; (2) current vaccines offer a high degree of protection against the disease; and (3) the hazard of the disease exceeds the hazards associated with immunisation.