the necessary support for the parents of all handicapped children, but by providing meaningful support for a majority they are able to release hard-pressed social workers and psychiatrists for parents with more intractable problems. At this time many local authorities are planning future services for the young handicapped child. The adjustment achieved by mothers attending opportunity classes and similar ventures¹ suggests that this form of nursery provision is worthy of consideration by all planning authorities.—I am, etc.,

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¹ Parfit, J., *Spotlight No. 3. Services for the Young Handicapped Child*. London, National Childrens Bureau, 1972.

Treatment of Breast Cancer and Melanoma Compared

SIR,—If the regional nodes draining a primary carcinoma of the breast or a primary melanoma of the skin are clinically involved with metastases radical mastectomy is indicated in the former and therapeutic block dissection in the latter, in most instances. But if the nodes are apparently normal there is much argument concerning their management in both breast cancer and melanoma.¹

In a recent paper, Sir Hedley Atkins and others (20 May, p. 423) showed that radical mastectomy was superior to extended tyelectomy when the nodes were clinically involved but the issue remained in some doubt if the nodes were clinically uninvolved. The authors referred to the inaccuracy of clinical assessment of axillary nodes and reported errors of approximately 25% in clinical staging as judged by subsequent pathological staging. Similar errors varying from 13% to 50% have been reported² concerning the accuracy of clinical evaluation of regional lymph nodes in patients with melanoma when correlated with the subsequent histological findings. These results are at variance with our experience in Queensland in assessing the regional lymph nodes in patients with malignant melanoma. We classify the nodes into three groups—clinically clear, clinically involved, and suspicious.

If the regional nodes are not palpable they are assessed as clinically clear. If they are palpable they may be regarded as clinically clear, clinically involved, or suspicious. It must be realized that many normal people have palpable nodes resulting from minor skin injuries or infection. The fact that they are palpable does not necessarily mean that they are clinically involved and the use of these terms interchangeably has caused much confusion in the past. If the regional nodes are soft, mobile, and less than 1 cm in diameter they may be assessed as clinically clear, particularly if the contralateral nodes are similar. The characteristics of lymph nodes clinically involved with metastases either from melanoma or breast cancer are well known and are readily recognized. While it is easy in most cases to decide which nodes are clinically clear and which are clinically involved, there will always be a group where the nodes are regarded with suspicion. The latter nodes are always palpable, are slightly enlarged, and firm, but

the changes are not so definite as to enable a diagnosis of clinically involved nodes.

The importance of classifying the nodes into three groups is shown from the records of the Queensland Melanoma Project. There were 191 patients who underwent lymph-node dissection when the nodes were assessed as clinically involved. In 180 (94%) the presence of metastases was confirmed by microscopic examination. Three hundred elective dissections were done for patients whose nodes were regarded as suspicious. Microscopic metastases were found in 13 (23%), six in 32 males (19%) and seven in 25 females (28%). In our retrospective study³ we previously reported an accuracy of 90% in the evaluation of clinically-involved nodes. It is only fair to state that our assessment included cervical and inguinal nodes as well as axillary nodes.

It seems likely that Hedley Atkins and his co-workers could improve the accuracy of their clinical assessment of axillary nodes by likewise classifying them into three groups rather than two. It could be that radical mastectomy is the operation of choice for patients with breast cancer whose axillary nodes are clinically involved or are regarded with suspicion, and extended tyelectomy the operation of choice when the nodes are clinically within normal limits. Perhaps the treatment of breast cancer and cutaneous melanoma is comparable—remove the nodes when they are clinically involved or suspicious but treat the disease by wide local excision only and careful follow-up examination if the nodes are clinically normal.—I am, etc.,

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- ¹ Davis, N. C., in *Proceedings of the International Cancer Conference, Sydney*. Ultimo, N.S.W., Government Printer, 1972.
- ² Knutson, C. O., Hori, J. M., and Spratt, J. S. jun., *Current Problems in Surgery*, 1971, 3, 55.
- ³ McLeod, R., et al., *Surgery, Gynecology and Obstetrics*, 1968, 126, 99.

Chlorambucil-carrying Antibody

SIR,—We were interested to read the paper by Professor T. Ghose and others (26 August, p. 495). We should like to comment further by mentioning one or two, in our view, salient points.

It is quite obvious that alkylating agents such as chlorambucil which cross-link and alkylate cellular D.N.A.¹ as well as interfere with several cellular enzyme systems, must enter the cell to be effective. The globulin-bound chlorambucil moiety as such attached to the cell surface will not exert any cytotoxic effect upon those cells. We believe that the mode of entry of chlorambucil into the experimentally induced mouse lymphoma EL4 cells probably involves the phenomenon of capping^{2,3} followed by pinocytosis^{3,4} of the chlorambucil antibody complex. Fig. 1 of the paper (p. 495) appears to us to indicate that redistribution of antibody-bound surface antigen is indeed occurring.

We would suspect that the chlorambucil is then split from the conjugate and by alkylating the cellular D.N.A. produces its cytotoxic

effect. It is probable, therefore, that the cytotoxicity of the antibody-chlorambucil conjugate on the malignant melanoma cells of the patient described in the case report was mediated by a similar if not identical mechanism. It would be of interest to determine the effects of the following on the specific cytotoxicity of chlorambucil-bound antitumour sera: (1) temperature (capping is inhibited at 0°C.); (2) cytochalasin B, which inhibits the function of the contractile microfilaments of the cell; and (3) sodium azide, a metabolic inhibitor. All of these interfere with the mechanisms of capping and pinocytosis,² at least in the experimental lymphocyte model.—We are, etc.,

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- ¹ Schwartz, R. S., *Progress in Allergy*, 1965, 9, 246.
- ² Taylor, R. B., Dufus, P. H., Raff, M. C., and de Petris, S., *Nature New Biology*, 1971, 233, 225.
- ³ Kourilsky, F. M., Silvestre, D., Neauport-Sautes, C., Loosfelt, Y., and Dausset, J., *European Journal of Immunology*, 1972, 2, 249.
- ⁴ Takahashi, T., *Transplantation Proceedings*, 1971, 3, 1217.

Dental Caries and Fluoridation

SIR,—I read with interest Dr. C. F. J. Baron's letter (9 September, p. 644) advocating the use of fluoridated milk as an alternative to the fluoridation of drinking water. Certainly increased fluoride consumption can be achieved by milk fluoridation, but it can also be achieved, perhaps more simply, by the use of fluoride tablets, which are available without prescription from any chemist. Each tablet contains 2.2 mg of sodium fluoride, yielding 1 mg fluorine in a lactose or salt base. In order to achieve the maximum caries-preventive effect tablets or milk must be taken daily from birth to the age of 12 to 13 years, a regimen which demands a high degree of motivation and perseverance on the part of parent and child. However, as a community measure there is no doubt that fluoridated drinking water is the most effective means of reducing caries, and has lifelong beneficial effects.¹⁻³—I am, etc.,

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- ¹ Russell, A. L., and Elvove, E., *Public Health Reports (Washington)*, 1951, 66, 1389.
- ² Englander, H. R., and Wallace, D. A., *Public Health Reports (Washington)*, 1962, 77, 887.
- ³ Murray, J. J., *British Dental Journal*, 1971, 131, 391.

Russian Medicine

SIR,—Your 10 June issue carried a Personal View article (p. 650) by Dr. John Stephen on the excellent health delivery system in the Soviet Union. Well, I too visited that huge country and was also impressed—by the extremely low level of their medical care. Certainly the system of delivery they possess is very good—much better, for instance, than in my country (U.S.A.). But what they deliver is pitifully inadequate because the level of their general practitioners is such that 99% of them would never pass our examinations.

Indeed, in their specialized institutions, the so-called sanatoria, I came across