Fetal Lung Culture	% Macrophage Slowing*
Ca.B.P. (made from human cancer of cervix uteri) ..	14.6
Suspension human fetal lung frozen immediately prepared ..	9.2
30 min in culture at 37°C ..	8.6
1 hr " " " " " " ..	9.1
2 hr " " " " " " ..	8.9
3 hr " " " " " " ..	9.2
4 hr " " " " " " ..	10.6
5.5 hr " " " " " " ..	12.5
11 hr " " " " " " ..	14.9
21 hr " " " " " " ..	15.2

*If t_e = migration in presence of antigen t_c = migration without antigen: then $t_e > t_c$, and $t_e - t_c / t_c \times 100$ represents the slowing induced by antigen and is a measure of lymphocyte sensitization.¹ Differences > 2.1 are significant at $P = 0.01$.

stimulatory capacity of the cultured cells limited to fetal lung but occurred also with fetal brain and thymus.

The conclusion drawn from these experiments is that freeing of fetal cells from their organized tissue context quickly leads to the emergence of new surface antigen(s) with stimulatory properties vis-à-vis cancer-patient lymphocytes similar to those of frankly cancerous cells. As with cancer cells, killing does not interfere with this new-found antigenic activity and many of the properties of the new cancer-like antigen are identical with that of Ca.B.P. A full account of these properties will be given elsewhere.

To compare in detail the characters of true Ca.B.P. and that which apparently appears on the surface of normal cells once they have been grown in vitro may throw light on the nature of the cell-to-cell signalling which is so important in preserving order in a tissue. It seems possible that the new surface determinant(s) appear as soon as the cell goes into mitosis in an environment free from normal restraints of cell contiguity. Studies with synchronized cell cultures should be instructive.—We are, etc.,

E. J. FIELD
E. A. CASPARY
D. HUGHES

Medical Research Council Demyelinating Diseases Unit,
Newcastle General Hospital,
Newcastle upon Tyne

- Caspary, E. A., and Field, E. J., *Annals of the New York Academy of Sciences*, 1965, 122, 182.
- Field, E. J., and Caspary, E. A., *Lancet*, 1970, 2, 1337.
- Caspary, E. A., and Field, E. J., *British Medical Journal*, 1971, 2, 613.
- Carnege, P. R., Caspary, E. A., and Field, E. J., *Biochemical Journal*, 1972, 126, 5P.

Immunological Control of Schistosomiasis

SIR,—The leading article (12 August, p. 366) entitled "Immunological Control of Schistosomiasis" underlines the restrictive thinking of some medical people. The article gives a lucid portrayal of a useful piece of work but denies that there is an immediately applicable solution to the problem of schistosomiasis control. A further statement reads "the people are demanding that something should be done to rid them of their haematuria and hepatosplenomegaly." If the potential of the people to rid themselves of this blight were realized the unjustified pessimism of the article would be refuted, particularly with regard to snail control, which is stated to be impractical.

In the People's Republic of China schistosomiasis has ceased to be a serious nuisance. In particular the Yangtze Basin, where prior to 1955 there were an estimated 10 million sufferers,¹ is now effectively snail free. Success

came from the simple expedient of educating everyone in the life style of the snail and nature of the disease. After this the community worked out the best way of eliminating the disease, and with the resources they had available (knowledge, community feeling, good organization, and, in the main, a whole-hearted desire to be rid of the disease), decided this would be by elimination of all snails. They knew that if the snails, the majority of which lived on the water line, were deprived of air and water they died quickly, so the canals, rivers, and ditches were temporarily drained in rotation and their banks dug over to bury the snails. Where this was impossible flame throwers or chemicals were used. When the waterways were replenished snail patrols with trained "snail spotters" were set up to ensure that the snail did not get a hold again. Further, a member of each community was instructed in the art of faecal examination, which is carried out biannually on every person in a previously endemic area, and thus any new cases were found early.

The message is clear. Elimination of this disease and many others is possible if doctors all over the world have the breadth of vision, courage, and determination to take medicine to the people and allow them to effect their own cures rather than awaiting miracles from the boffins.—We are, etc.,

ROBIN STOTT
HUGH BETHELL

Guy's Hospital,
London S.E.1

- Horn, J. S., *Away with all Pests*. London, Hamlyn, 1969.

Toxicity of Thallium

SIR,—Your leading article on thallium poisoning (23 September, p. 717) missed a recent therapeutic development. A group of Dutch workers, after showing that sodium diethyl-thiocarbamate made matters worse because the chelate reached the brain more readily than the ion, have shown that Prussian Blue orally gives promising clinical results. References to the earlier work, and reports on three patients may be found in a paper by H. H. Kamerbeek *et al.*¹ It is suggested that the binding of thallium in the intestine to Prussian Blue (and hence its extraction and elimination from the body) arises from an exchange of potassium ions in the crystal lattice with thallium ions (ionic radii 1.33 and 1.44 Å respectively). I understand that in a patient with diarrhoea, a colourful nursing situation arises.—I am, etc.,

W. D. M. PATON

Department of Pharmacology,
University of Oxford

- Kamerbeek, H. H., Rauws, A. G., Ham, M. ten, and Heijst, A. N. P. van, *Acta Medica Scandinavica*, 1971, 89, 321.

Immunological Responses in Pregnancy

SIR,—The paper by Dr. Ronald Finn and others (15 July, p. 150) suggested that a reduction in T-cell activity during pregnancy may help protect the fetus from rejection by its mother's immunological mechanisms.

We have studied the effects of normal maternal serum on the mixed lymphocyte reaction (M.L.R.) between lymphocytes from unrelated adult donors and have found a substantial suppression of transformation as measured by ³H-thymidine incorporation.

Furthermore, we have found that the M.L.R. between maternal and fetal (cord blood) lymphocytes from the same pregnancy is much less than the M.L.R. between unrelated adult lymphocytes. However, the inclusion of autologous maternal plasma did not reduce the M.L.R. between maternal and fetal lymphocytes.

We believe that this suggests the presence of a humoral factor in maternal plasma which "binds" to either the maternal or the fetal T-cells or both, thereby blocking their activity.—We are, etc.,

PETER CURZEN
ELIZABETH JONES
J. GAUGAS

Obstetric Unit,
Westminster Hospital Medical School,
Queen Mary's Hospital, London S.W.15

SIR,—Dr. Ronald Finn and others (15 July, p. 150) pointed out significantly reduced responses, assessed by means of morphological differentiation, to phytohaemagglutinin and to tuberculin in pregnant women when compared with normals. Similar significantly reduced responses to phytohaemagglutinin, also assessed by means of morphological differentiation, were observed by us in 14 pregnant women when compared with an equal number of controls, with means of 53.4% and 78.8% of "blast-like cells" each and $P < 0.001$ when assessed by means of a F test.¹—We are, etc.,

M. ARALA-CHAWES
M. MEIRINHO

Hospital de Santa Maria, Lisbon, Portugal

- Arala-Chaves, M., and Meirinho, M., *Acta Obstetrica y Ginecologica Hispano-Lusitana* (Barcelona), 1969, 17, 290.

Effects of Dietary Fibre

SIR,—The letter signed by Sir Charles Dodds and others (19 August, p. 472) commenting on the current notion¹ of relationship between the fibre content of food, faecal bulk, intestinal transit time, and various "diseases of civilization" gives an interesting historical angle to this obviously controversial problem. It might be appropriate to point out that the subject was taken up at the beginning of this century by Ilia Metchnikov, famous for his zoological studies and his discovery of phagocytosis. It led to a clash between the Russian scientist, then working at the Pasteur Institute, and the opponents of his theory.

In a series of scientific papers and a volume of essays² published in 1904 Metchnikov came to the conclusion that premature senility and death of contemporary man is due to the structure of his large intestine. The process of high "microbial multiplication" that takes place in it leads to constipation and autointoxication. This is particularly pronounced in "civilized countries" because of their diet rich in processed foods. In another volume and a series of articles^{3,4} Metchnikov carried his thesis still further by arguing that lactic acid fermentation has an "antiputrescent" action and that simpler diet with the addition of sour milk, yoghurt, and similar products of fermentation under the action of *Bacillus bulgaricus* is an answer to the problem. The ideal aim of the human race is "orthobiosis" or the harmonious course of vigorous human life until its natural death at an advanced age.

Through the remaining two decades of his