can be carried in screw-capped bottles wide enough to admit a microscope slide) the method should be within the scope of any competent practitioner.—I am, etc.,

Liverpool.

F. J. ZACHARIAS.

REFERENCE

¹ Field, J. W., *Bull. Inst. med. Res., Federated Malay States*, 1941, No. 2.

Dietetic Treatment of Hepatic Cirrhosis

SIR,—In the leading article under the above heading (June 5, p. 1089) you suggest among other considerations the use and clinical test of antithyroid drugs in the treatment of human hepatic cirrhosis. It is a pleasure for us to let you know briefly about our work in this subject since 1946. We used thiouracil in 11 cases of human cirrhosis based on the works of György and Goldblatt (*Science*, 1945, 102, 450). These authors demonstrated that the addition of thiouracil in the cirrhosis diet for rats plays a powerfully preventive role. In our group of patients the drug was used in amounts of 0.6 g. per day with a total dosage which fluctuated between 3.6 g. and 20.4 g.

In order to estimate the effects of this treatment three groups of cirrhotic patients of the same condition were studied—one group (the control) with hydrocarbonate diet, glucose, serum, and paracetamol; a second with a hyperprotein diet and vitamin B complex; and a third with hyperprotein diet, B complex, and thiouracil. The results of these different systems of therapy are summarized in the following table.

Group	No. of Cases	Better	Results Same	Worse
I	9	1 (11%)	4 (44.5%)	4 (44.5%)
II	17	7 (41%)	4 (24%)	6 (35%)
III	11	7 (63.6%)	1 (9%)	3 (27%)

Those requiring further information may like to refer to our paper in *Jornadas Clinicas de Verana, Chile* (1947, 2, 291).—We are, etc.,

Vina del Mar, Chile.

C. SILVA LAFRENTZ.
D. VERDUGO BINIMELIS.

Liquid Paraffin in Baking

SIR,—In the leading article entitled "Liquid Paraffin Risks" (June 12, p. 1141) mention is made of the potential dangers inherent in the use of medicinal paraffin and other less refined mineral oils in baking. The work of Frazer and his colleagues indicating the possibility of liver and other damage due to mineral-oil absorption when ingested as finely dispersed emulsions of particle size less than 0.5μ is reported, and comment is made on the lack of information regarding mineral oil distribution when dispersed in flour products, such as cakes and pastry, baked with liquid paraffin as a replacement for vegetable fat.

We have recently examined some emulsions containing mineral oil before and after heating, the unheated emulsions containing particles ranging in size from less than 0.5μ to 10μ or greater. On heating, the individual oil particles coalesce, forming larger aggregates, until ultimately the emulsion is completely broken into two layers. It might be anticipated therefore that, after incorporation of liquid paraffin in a cake batter, on baking the emulsified material would break down and no particles would remain in the final product less than 0.5μ in size. This supposition is not, however, in accord with the observations herein reported. Examination, using a Reichert optical system, of sponge-batter smears containing liquid paraffin, baked in a micro-oven (to be described elsewhere) and under continuous observation on a glass screen, indicated that although some aggregation of the initially finely dispersed liquid paraffin did occur there still remained in the final product some particles approximately 0.5μ in size. The smears under examination were taken from a bulk batter composed of cake flour 14 g., sugar 10 g., dried egg 3 g., baking powder 1 g., water 10 ml., and liquid paraffin 15 ml. A red, oil-soluble, water-insoluble dye was used to colour the liquid paraffin in order to differentiate it from the other constituents of the batter. Magnification was 600 diameters and the observation screen had a scale etched thereon so that direct observation of particle size could be made.

In the experiment quoted some 30% of the total number of liquid paraffin particles present in the uncooked batter were about 0.5μ in size, and although this percentage was con-

siderably reduced after baking some very small particles were still clearly discernible. It should be noted that the actual weight percentage of the original mineral oil used that would exist in this fine state of subdivision would be extremely small, and it might be claimed that even on continuous ingestion over long periods absorption of sufficient oil likely to cause liver damage might not occur. Nevertheless the very existence of a number of small particles which come within Frazer's classification as potentially liable to cause liver damage suggests the desirability of ascertaining whether there exists a threshold limit to their number before damage becomes real.

The work of Alvarez¹ indicates, however, that the fine emulsification necessary for liver damage can be effected by the bile acids, oleic acid and glyceryl monostearate, which may be found in the bowel. In this connexion it should not be overlooked that glyceryl monostearate is a common emulsification agent and is, in fact, now used in the preparation of certain foods. It would appear therefore that, even though the number of particles of mineral oil of size less than 0.5μ appears to be considerably reduced on baking, this may be immaterial inasmuch as subsequent ingestion may well restore the level of such particles to the original value. Further physiological investigation on these points is clearly desirable, as the problem would appear to be of even wider significance than the editorial previously referred to implies.—We are, etc.,

The British Baking Industries
Research Association,
Chorleywood, Herts.

J. B. M. COPPOCK.
R. C. A. BRADSHAW.

REFERENCE

¹ Alvarez, W. C., *Gastroenterology*, 1947, 9, 315.

Comprehensive Child Health Service

SIR,—Dr. H. R. Youngman's letter (Aug. 7, p. 313) stirs me to comment on the recent correspondence on this subject. A high percentage, I should say the majority, of complaints for which the child is brought to the doctor these days are described as behaviour problems—e.g., feeding problems, sleeplessness, bed-wetting, etc. These are usually the result of home conditions and parental mismanagement. How can a "clinic" doctor appreciate these conditions unless he has an intimate knowledge of the complete home picture and of all its members? To abolish the general practitioner would be to kill the root and main stem of medicine—its specialist branches would then soon wither and die.

What we want are more general practitioners with better undergraduate training in paediatrics, who have time to know and understand the home life of their patients so that with the aid of improved housing conditions and social services behaviour problems can be more easily corrected or even prevented. Then we shall find the paediatric specialist will be superfluous.—I am, etc.,

London, N.W.7.

C. ELAINE FIELD.

Geriatrics

SIR,—The first supplement to the report of the B.M.A. Committee on the Care and Treatment of the Elderly and Infirm (Aug. 7, p. 71) contains several interesting recommendations for the solution of the chronic-sick problem. However, one important point seems to have been overlooked—this is the need to train more doctors in the special techniques which have been evolved by such hospitals as the West Middlesex, Orsett Lodge, and St. John's, Battersea. It is probably true to say that a hemiplegic patient treated by Dr. Marjory Warren's methods has a better chance of complete recovery than one not so rehabilitated. A patient with incontinence of urine is just another bed-wetter in hospitals where Dr. Thomas Wilson's cystometric technique is unknown. A chronic arthritic treated by Mr. Grant Waugh's procaine-lactic acid injections has prospects of improvement undreamt of by those who have not used this method.

In the same way the rehabilitation of elderly patients can reduce the number of bedfast patients considerably, as mentioned in the report.

Why does the Ministry of Health take no steps to make this special knowledge available throughout the country? The discoverer of a new form of treatment for cancer would probably be given every facility for making his techniques known