show one serious omission in that he has no adequate control group wherewith to compare his results. He has therefore, in my opinion, failed to prove how E.C.T. has altered the rate of recovery and prognosis, since he does not take into account the tendency to spontaneous recovery in depression—a factor unfortunately often suppressed or forgotten by many advocates of this form of therapy.

Dr. Jarvie's report is based on 114 cases of various types of depressive illness, but his conclusions on the effectiveness of therapy are drawn from 97 of these 114 patients, whom he regards as his "treated group." The number of convulsions administered to individuals in this series of 97 patients varied from a minimum of 2 to a maximum of 14 convulsions. The remaining 17 patients do not, however, provide an adequate control series, since Dr. Jarvie, in describing them, states that they "either did not receive E.C.T. or *received such small amounts that it was regarded as not affecting the course of the illness*" (italics are mine). One at least of these 17 received four convulsions before cardiac complications during administration dictated discontinuation of treatment. Four convulsions represent double the minimum number given in his "treated" series, and the elimination of such unsuccessful cases from the treated group obviously tends to weight the evidence in favour of E.C.T. as a form of treatment. Dr. Jarvie also does not give the time relationship between treatment with E.C.T. and recovery. Many patients submitted to E.C.T. do not show any amelioration of symptoms till some weeks or months after cessation of treatment, which gives rise to the suspicion that their recovery is not directly attributable to such treatment.

Some years ago I carried out a survey of 923 patients with a depressive illness admitted to the Royal Edinburgh Hospital for Mental and Nervous Disorders between the years 1930–48.[1] This period covered both the era preceding the introduction of E.C.T. and that following its utilization as a method of therapy. Many of the patients had been admitted on more than one occasion with recurrent depressive episodes, so that the total number of hospitalizations reviewed was 1,611. Eighty per cent. responded to a follow-up questionary by a personal visit or letter. The results of this survey—which were quite contrary to those envisaged by me at the commencement of the study—showed that (*a*) the percentage rate of recovery did not vary greatly whether patients with depression were treated conservatively or by E.C.T. Such slight differences as did exist were not statistically significant; (*b*) the use of E.C.T. did not shorten the duration of the depressive illness; and (*c*) did not prevent its recurrence. (Space does not allow of the quotation of figures, for which the original article can be consulted.)

This investigation emphasized the importance of having good control groups in the assessment of any therapy for depression, since the figures for the pre-E.C.T. era showed that 80% of the patients recovered. Of all the major psychoses, depression is recognized as having the best prognosis. An interesting finding was the considerable number of patients discharged "recovered" or "improved" within two months of admission without being submitted to E.C.T. Had E.C.T. been given as a routine measure within the first few weeks of their hospitalization, the recovery of these patients would no doubt have been attributed to its use. The clinical evaluation of E.C.T. showed that in some there was symptomatic improvement, and that recovery occurred only if treatment coincided with spontaneous recovery.

In conclusion, the findings emphasized the high expectation of recovery in depressive states and in turn underlined the necessity for the application of stringent criteria in the evaluation of any form of therapy which claims to accelerate this process of natural recovery. The need for critical review of all physical methods of treatment in psychiatry has been long overdue, and it is hoped the profession will soon undertake such a study.—I am, etc.,

S. KARAGULLA.

Montreal, Canada.

REFERENCE

[1] *J. ment. Sci.*, 1950, **96**, 1060.

Galactosaemia

SIR,—Dr. B. Laurance is quite right to emphasize the frequency and possible severity of umbilical haemorrhage in babies with galactosaemia (*Journal*, February 20, p. 459), but we have no reason to suppose that bleeding from other sites is common. This possible tendency need not in any case interfere with investigations, for all blood samples that are needed can be obtained from a heel prick. We cannot agree that the diagnosis of galactosaemia can be confirmed by urine examination only. We recently investigated a 10-day-old baby with severe jaundice and a large liver. The urine contained 0.95 g.% of reducing substance, almost all being galactose. The blood sugar, however, was only 85 mg.%. Some galactose is often found in the urine of neonates; the frequency of this is at present being investigated.—We are, etc.,

F. PIERCE HUDSON.
J. T. IRELAND.

Liverpool, 12.

Medico-Legal

CARBON DIOXIDE TEST IN MURDER INVESTIGATION

The use of carbon dioxide to cause abreaction in a murder investigation was described during medical evidence at the Old Bailey last week. The trial was of Raymond Harold Barker, aged 35, an operator, who on March 4 was found guilty but insane on a charge of murdering Mrs. Beatrice Elizabeth James.

On December 15, 1953, Mrs. James was found dead at her house suffering from 60 stab wounds. A bloodstained bent vegetable knife was found in a hall-stand drawer. Barker was arrested two days later.

Giving evidence for the defence, Dr. Arthur Paterson said that Barker was suffering from mania-a-potu, and Dr. A. Rossiter Lewis said he had formed the view that Barker was suffering from manic-depressive insanity.

Replying to defending counsel, Dr. Paterson said he did not think that Barker had any control over the measure of his anger. If he was only angry with the woman he would have stabbed her in the heart or if there had been any carnal lust he would have mutilated her.

The judge said he did not follow entirely, and Dr. Paterson said there were three possibilities for a killing. One was that it was done in a state of automatism, the second that it was a sadistic attack, and the third was that he was sane and wanted to kill her. If Barker was sane at the time and simply wanted to kill the woman, then he would probably have aimed at a vital part such as the heart or the throat. In a case of lust, a man would kill a woman out of jealousy, or in a case of sexual perversion it would not be uncommon for him to rip a woman or mutilate her. The most probable explanation of the attack was that he was in a state of automatism and did not know what he was doing, because he stabbed her 60 times, only three being in vital places. He thought the state of the man's mind was due to acute alcoholism combined with a hereditary history of mental instability.

Dr. Rossiter Lewis said he decided first of all he would try to restore Barker's memory by questions, but was unsuccessful in getting details. On February 21, in the presence of the medical officer at Brixton prison, he gave Barker a mixture of oxygen and carbon dioxide (30%). Its object was to create an abreaction. It was done in two parts, the first lightly and the second more deeply, bordering on actual unconsciousness. On neither test was he able to restore the memory for the actual stabbing or what had been carried out immediately after the stabbing. His conclusion from this was that Barker's mind was so deranged at the actual time that the memory was non-existent in detailed form. "Based upon that, I came to the conclusion that at the time this offence was committed he was suffering from a form of insanity." He took the view that Barker's was a case of manic-depressive insanity which had shown itself as a result of the effect of alcohol on his brain.

Dr. J. C. McI. Matheson, principal medical officer at Brixton Prison, was called by the prosecution to give evidence of rebuttal. He said he had seen no signs of any mental abnormality. In his opinion Barker was sane at the time he killed the woman and knew what he was doing.

Dr. Desmond Curran, psychiatrist, was also called by the prosecution in rebuttal of medical evidence given by the defence.