by contrast they consider that other symptoms are basic to the disease process of depressive illness and are not modified by personality. In the latter group are insomnia, changes in appetite and weight, decrease (or increase) of libido and diurnal mood variation.

Unfortunately for their case, the authors selected the Maudsley Personality Inventory as the measure of personality. This questionnaire is a very poor indicator of personality when completed by a sick person, for its component scales are constructed from a mixture of trait and state items, and the manner in which these items are completed is heavily influenced by illness. The almost universal finding of falling N scores and rising E scores on recovery from depressive illness attests to this, as does the finding in the authors' own paper of a high correlation between the MPI scores and the severity of illness as determined by the Beck Depression Inventory. The finding of lower, but still significant, correlations between the N and E scores and the various sub-groups of the Beck Inventory which deal with psychological symptoms merely reflects a coincidence of items. Conversely, the lack of significant correlations between the MPI and the authors' 'functional shift' symptoms is related to the virtual absence of such items in the MPI.

The authors state: 'These findings as a whole suggest that the Beck Depression Inventory may be measuring personality factors reflecting the underlying illness process rather than estimating the illness itself.' With probably greater justification this statement could be inverted to read that the Maudsley Personality Inventory, far from measuring underlying personality, is a measure of the sickness itself. The production of personality trait measures based upon self-rating and unaffected by illness has so far defeated all who have attempted it, possibly because they have failed to consider the methodological problems involved. Spielberger, in his State-Trait Anxiety Inventory, probably comes nearest to a solution to the problem by the technique of repeated rating of much the same set of items to indicate the individual's view of his present state as opposed to his usual (premorbid) state; however, even this refinement will fail to distinguish basic personality from illness in a large proportion of the chronically sick.

Until better instruments are devised, research of the type undertaken by the authors must rely upon techniques for assessing personality other than those based upon self-rating.

Finally, I wish to point out that the authors have misrepresented my own contribution to this field of inquiry (Snaith *et al*, 1971, *Psychological Medicine*, **1**, pp 239–47). In that paper we studied patients who had recovered from depressive illness, and using a battery of self-rating questionnaires, including the MPI, we found no significant correlations between the scores and any of the features of the illness which we were considering.

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A POSSIBLE NEW TREATMENT OF WEIGHT LOSS IN AFFECTIVE DISORDERS AND ANOREXIA NERVOSA

Dear Sir,

Impressed by the reports of the efficacy of intravenous chloripramine infusions in the treatment of various affective disorders (1, 2, 3,), I began using this method of treatment in 1971 (4). Since then, I have treated some 700 cases in this way, including cases of anorexia nervosa and four cases of 'dumping syndrome' following partial gastrectomy.

Increase in weight as a side effect of tricyclic drugs is well documented, and the beneficial effect in anorexia nervosa of the infusion treatment, both on the illness itself and on the associated loss of weight, was described by Lopez Ibor (5). My experience is in agreement with these observations.

I have tried various combinations of drugs in association with the infusions in an attempt to increase its efficacy, and a noticeable improvement occurred with a combination of glucagon, diazoxide, and adenosine triphosphate (ATP). This improvement was apparent in mood as well as in weight, and glucagon or diazoxide were not used unless the latter effect was required. No controlled study has yet been done of the effect on weight, but the improvement was so apparent that I think it of value to report the method. To increase the blood sugar, glucagon is given intramuscularly in doses of 1 mg daily for 7 days or 10 mg on the 1st and 8th day of treatment, or diazoxide 50 mg orally daily, especially in 'dumping' syndromes. Glucagon, like the catecholamines, stimulates the formation of 3'' 5' cyclic adenosine monophosphate (cyclic AMP) (6). In addition to this, ATP is given daily in divided doses totalling 12 mg orally. It cannot be added to the chloripramine infusion, as it causes an unidentified deposit to appear (7).

This combination of tricyclic antidepressive, glucagon and ATP, has been used in 40 patients with no ill effects. The reason these drugs were chosen was because of the reports that in depressive states they were found to be at subnormal levels (8–12). Glucagon, by its action on the cell-bound enzyme adenylcyclase, has a considerable influence on the homeostasis of ATP (13). Munch (14) has reviewed

the variety of roles which adenylcyclase plays in the body; this enzyme indeed would appear to be a vital link between cyclic AMP and many of the somatic symptoms linked to depressive and other psychiatric states (15).

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INTRACELLULAR LITHIUM AND CLINICAL RESPONSE

Dear Sir,

The letter from Dr Cazzulo *et al* reporting their findings regarding clinical response to lithium carbonate (Li) treatment and the RBC Li—plasma Li ratio (*Journal*, March 1975, **126**, p 298) was read by us with interest. There are two important differences between their studies and our original report that low RBC Li—plasma Li ratio are associated with a good response (Mendels and Frazer, 1973).

Firstly, they appear to have studied the prophylactic efficacy of lithium salts rather than their antidepressant effects, as was the case in our study. Our own observations suggest that these may be two distinct actions of Li, since we have seen a number of patients who do not show an antidepressant response but who do seem to benefit from the prophylactic action when maintained on Li therapy. As we have reviewed in detail elsewhere (Mendels, 1973; 1975), it appears that a larger proportion of patients with a bipolar primary affective disorder show an antidepressant response to Li than of patients with a unipolar primary affective disorder. It has been suggested that bipolar and unipolar patients benefit equally from the prophylactic effects of lithium (Schou, 1973), but this may not be the case. In a recent report Hullin *et al* (1975) suggest that patients with unipolar primary affective disorder actually do better on Li maintenance than bipolar patients.

Secondly, we have noted that the ratio is more variable among out-patients than among in-patients. Our report on the association between high RBC ratio and antidepressant response to Li was based on a group of in-patients. Variability in the ratio was less in these patients than in the out-patient groups studied by Cazzulo *et al* and recently by ourselves.

Cazzulo *et al* also report that the RBC Li—plasma Li ratio does not distinguish between bipolar and unipolar patients. Certainly the ratio overlaps between bipolar and unipolar patients and by itself cannot be used as a diagnostic criterion. However, the data reported by Cazzulo *et al* show that their unipolar patients had a mean ratio of $0{\cdot}44 \pm 0{\cdot}04$ ($\bar{x} \pm$SEM) and the bipolar group a mean ratio of $0{\cdot}60 \pm 0{\cdot}04$ ($p < 0{\cdot}025$, Student's t test). We have found a similar difference between these patient groups in a recently completed study. A group of out-patients were treated with Li during a depressive episode (all diagnosed as primary affective disorders) (Feighner, J. P. *et al*, 1972). They were seen at one- to two-week intervals for a period of two months, when their clinical status was rated and blood samples were obtained on the morning of their clinic visit for plasma and RBC Li level determinations (Frazer *et al*, 1972). At the end of two months the mean RBC Li—plasma Li ratio was computed for each patient. The ratio value for the first week on Li for each patient was omitted from the calculations, as this period was frequently one of changing Li dosage in order to achieve adequate plasma maintenance levels and might not accurately reflect the true ratio. We also omitted from the calculations a few values which were taken on days when patients admitted having taken their morning Li dose before their blood sample was drawn for lithium determination. There were three to six values for each patient. The mean ratio for the bipolar group is $0{\cdot}61 \pm 0{\cdot}04$