

## Correspondence

### NEUROTIC AND ENDOGENOUS DEPRESSION: A PHYLOGENETIC VIEW

DEAR SIR,

Recently strenuous attempts have been made to divide depressive disorders into two types, but these attempts appear to be foundering (e.g. the letter by Dr. Rosenthal, *Journal*, October 1967, p. 1154). Maybe a slightly different viewpoint would help in selecting the appropriate variables for study. This spring I had the interesting task of reviewing for an R.M.P.A. symposium several hypotheses concerning the biological advantage of depressive behaviour (2). One of these hypotheses postulates two quite discrete functions for depression, and these correspond quite closely to the clinical concepts of endogenous and neurotic depression.

According to this hypothesis, depressive behaviour evolved in relation to the hierarchical structure of small social groups, and had the adaptive function of enabling the hierarchy to work smoothly. In a hierarchy there must be as many individuals at the bottom as at the top, and therefore the types of behaviour appropriate to both ends of the hierarchy should be common in the population. What are the appropriate patterns of behaviour? We have many reports from comparative ethologists on those species that have hierarchical social structures, particularly primates, wolves and birds. In the case of the barnyard fowl, according to the classical description of Schjelderup-Ebbe, (3) the face of the superior bird "would radiate with joy of satisfied pecking-lust", while the inferior bird has "a much less enjoyable and more anxious existence"; its state is characterized by apprehension and agitation, in its social encounters it tends to withdraw, it lacks energy, and "it seems as if the spirit of the bird were dulled by a premonition of hopelessness". In descriptions of primate behaviour the two roles are almost exactly similar. The dominant monkey is invariably relaxed and self-assured, while the subordinate manifests varying degrees of withdrawal, anxiety, tension, nervousness and even insomnia. These descriptions suggest that a wide variation along a personality dimension corresponding roughly to Neuroticism is widespread in species having a hierarchical social structure, and that the state of the individuals at the bottom of the hierarchy is not far from the clinical picture of neurotic depression.

What about endogenous depression? Here we require a model for a self-limiting episode of severe depression, not necessarily in an individual of low hierarchical status. Again it is provided by Schjelderup-Ebbe, in his description of the bird who is deposed and falls in the hierarchy: "... its behaviour becomes entirely changed. Deeply depressed in spirit, humble, with drooping wings and head in the dust, it is—at any rate directly upon being vanquished—overcome with paralysis, although one cannot detect any physical injury. The bird's resistance now seems broken, and in some cases the effects of the psychological condition are so strong that the bird sooner or later comes to grief. This is especially true if the bird has been absolute ruler for a long time and the reaction, therefore, has been most complete. In most cases, however, time heals the disappointment, and the bird becomes used to its new position."

The adaptive value of this depressive episode is clear: the defeated bird does not continue to fight back day after day and thus disrupt the life of the group with constant turmoil; the depression extends the defeat in time and permits a new equilibrium to be established in the hierarchy. In the bird, the depression is precipitated by defeat in a fight and is thus not strictly endogenous. However, the behaviour would be just as adaptive if it occurred in appropriate circumstances without a fight; and in species where alliances are the rule it might be much more adaptive for adjustments in the hierarchy to occur without any fighting at all, perhaps even by means of truly 'endogenous' depressions.

The hypothesis thus postulates that neurotic depression evolved as the behaviour appropriate to low ranking members of the hierarchy, while endogenous depression evolved as the behaviour appropriate to members falling in the hierarchy. I will not waste time discussing how likely this hypothesis is on *a priori* grounds, although I must note that it has been criticized by a distinguished zoologist (1). Rather, I will try and suggest what practical use it might be in the attempt to distinguish the two types of depression clinically.

The first suggestion is that the attempt should be made entirely with male patients. The status of a female is more complex than male status. It depends not only on her own personal dominance, but also on the rank of her male. It may well vary with her menstrual cycle and with her childbearing; and since

the female is more tied to the home, it may depend more on territorial factors. For these reasons the two types of depression are likely to be found in purer culture in the male. On similar reasoning, one should avoid metropolitan populations where the lone or vagrant male is common, and select an area where the males are integrated into a reasonably cohesive social structure. Stable military or naval units in peacetime might be suitable.

Concerning the overall form of the illness, the main difference should be in the degree of change which has occurred in the patient's behaviour. No doubt even in the case of neurotic depression there will have been an aggravation before referral, but we would not expect the drastic reversal of attitude which was manifested by Schjelderup-Ebbe's birds. The change should be most noticeable to those just below the individual in the hierarchy. A scale ranging from "not much different from what he's always been" to "he's been a completely different person, you wouldn't have known it's the same man" would be appropriate.

Then, in the case of endogenous depression, there must be a rejection of behaviour patterns which used to be habitual for the patient. Therefore we would expect in the mental state a predominance of guilt about the past, or perhaps an incomprehension of how he could have behaved in his previous dominant manner. In either case he should be out of sympathy with his previous way of life. This should not, however, apply to neurotic depression.

In the premorbid personality, the picture should be normal for endogenous depression, but in the case of neurotic depression we would expect traits of sensitivity to aggressive signals, social anxiety, and a history of subordinate roles in relationships with peers. In neurotic depression, we would expect a family history of chronic mental disorder; in endogenous depression, a family history of phasic disorder.

These suggestions may not be very illuminating, and certainly those relating to the clinical picture are already accepted as promising features for making the distinction. However, perhaps the idea that the two types of depression may have different biological functions may spur on further attempts at dichotomy, if zeal is now flagging through disappointment. And if it is possible to produce in baboons or macaques the sort of state that Schjelderup-Ebbe noted in his defeated birds, we may be able to compare the condition directly with that of the chronically low-ranking and 'henpecked' monkey, and thus provide further promising variables for study in human patients.

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#### REFERENCES

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2. PRICE, J. S. "The genetics of depressive behaviour." In: *Recent Developments in Affective Disorders* (eds. A. J. Coppen and A. Walk). In press.
3. SCHJELDERUP-EBBE, T. (1935). "Social behaviour of birds." In: *Handbook of Social Psychology* (ed. C. Murchison). Clark University Press.

#### NEUROTIC AND ENDOGENOUS DEPRESSION

DEAR SIR,

Dr. Garside in his letter (*Journal*, August 1967, p. 924) shows an understandable enthusiasm to maintain the hypothesis that depressed patients tend to show either the symptoms considered to characterize neurotic or those considered to characterize endogenous depression. He points out that three different groups of workers have found a similar clinical pattern of symptoms in depressed patients, and considers that this therefore excludes the possibility that such findings were due to bias. One's dedication to democratic principles and Carrollean logic (what I tell you three times is true) would tempt one to agree with him almost as much as the fact that this would allow us to abandon the use of the double-blind trial and merely accept the results of a series of uncontrolled trials.

In fact the results of the work that he quotes do not agree with those of his study. At least as Rosenthal and Gudeman (*Journal*, May 1967) interpret their data, the neurotic constellation of symptoms and the endogenous one are represented by two separate factors, indicating that these patterns of symptoms are distributed independently. That is to say, in their study patients showing one group of symptoms are just as likely as not to show the other.

In the other study quoted by Garside, that of Hamilton and White (*Journal*, October 1959), the trend for the scores of patients diagnosed as endogenously or reactively depressed to be bimodally distributed was not statistically significant.

Garside suggests that, as in our study the first and second factors did not reveal a bipolar distribution of symptoms, utilizing the third factor might do so. However, it was pointed out in our study that the first factor accounted for only 15 per cent. of the total variance, and the second for 7 per cent. This would mean that any single remaining factor is going to account for less than 7 per cent. of the total variance, and, as one would expect, the next five factors each account for from 4 to 7 per cent. of the variance. If Garside is right, there is no statistical reason why the