A NOTE ON HAMBURG'S HYPOTHESIS ON THE FUNCTION OF ANGER AND DEPRESSION

"It was also a misuse of the method of ostracism which, in my view, is a valuable political expedient only at such times when there are two sharply contrasting policies in the state, one of which, from necessity, has to be adopted; and in such cases it is obviously desirable that the man who should be required to go into exile should be one or other of the leaders of the two parties."
Ostracism of Damon, in Pericles the Athenian by Rex Warner, London, Collins, 1963, p175.

In putting forward the yielding hypothesis of depression (Price and Sloman, 1988) we did not compare the hypothesis directly with other hypotheses of the adaptive function of depression. One alternative hypothesis is that which sees depression as serving to detach the individual from an unattainable goal. This theory, put forward by Klinger (1975) and by Hamburg et al. (1975), sees depression as a second, "fall-back" strategy, to be adopted when goal pursuit is blocked and an initial strategy of invigoration and aggression (elevation of mood?) has failed. Hamburg et al. put it as follows:

"Let us briefly consider anger and depression from this [phylogenetic] perspective. The angry organism is making an appraisal of his current situation, which indicates that his immediate or long-run survival needs are jeopardised; his basic interests are threatened. Moreover, his appraisal indicates that another organism (or group) is responsible for this threat. Although there are many ways he can go from this appraisal, the general tendency is to prepare for vigorous action to correct the situation, quite likely action directed against the person(s) seen as causing or at least manifesting the jeopardy to his needs. The signals are likely to be transmitted to these individuals as well as to the organism's own decision-making apparatus. The significant others are then likely to respond in a way that will ameliorate the situation. In a medium range of intensity, anger and some associated aggressive actions are likely to bring about a result desirable to the person and acceptable to his significant others. At very high intensity, the risk of serious injury becomes great for the initiator as well as for others. This behavior can readily become maladaptive.
"Depressive responses have similar characteristics. However, they tend to follow a prior angry period; but the angry responses have not elicited a rewarding outcome. Then a feeling of sadness and discouragement sets in. The subject estimates the probability of effective action as low. By the term effective action we refer here to action the subject believes to be in his self-interest or group interest, even though his belief may be vaguely formulated. He may, in effect, have been prepared for this orientation through the long past experience of his species or his population or his family or his own experience or some combination of these. But, however he came to this appraisal, it is now a firm commitment, somehow bound up with his survival. How can the depressive responses be viewed as adaptive? As we saw in the case of anger, they can be adaptive in a medium range of intensity. His feeling of sadness and discouragement may be a useful stimulus to consider ways of changing his situation. If a key human relationship is in jeopardy, ways of improving that relationship, or substituting a better one, may be considered. Moreover, his state of sadness may elicit heightened interest and sympathetic consideration on the part of significant other people. Their actions as well as his own may work toward improvement of the situation. But at very high intensity, the depressive responses increase survival risks for the person: (a) in terms of his own behavior, physiology, and susceptibility to disease; (b) in terms of the response of others, which tend to become unfavorable or at least ineffective in the face of intense depression (Klerman, 1971)." (pp 239-240)

Advantages of the Hamburg hypothesis

1. It fits well with other psychological theories.

Hamburg is saying that when the route to a goal (or enjoyment of a goal) is blocked, the individual reacts first with a phase of invigoration/protest/aggression which may well succeed in removing the block; if the phase of invigoration fails to remove the block, the individual enters a phase of depression in which there is retrenchment, consolidation, repair, restoration of expended energy, and in which the individual not only has time to lick his wounds but also is able to receive the help of others to restore his health. In this phase of recuperation the individual has time to reasses the goal which has been blocked and hopefully choose alternative goals that are realisable. This theory is compatible with the formulation of Dollard et al. (1939) in which aggression is seen as a response to frustration, and with the view of Schmale (1973) in which depression is seen as a time for restoring energy. It is closest to the theory of Klinger (1975) who sees the pursuit of goals and incentives as being an alternation of active pursuit and disengagement, depression being the state of disengagement. It fits with Bowlby's (1973) formulation of the response to separation in which a phase of protest is followed by a phase of despair. It is not incompatible with Selye's biphasic General Adaptation Syndrome, in which a phase of increased resistance is followed by a phase of exhaustion (Selye, 1936).

2. It is compatible with evolutionary theory

If the tendency to depression were a single additive character, then we could say that a polymorphism is maintained in the population by heterozygote advantage. The individual with one gene for depression gets moderately depressed when goals are severely blocked, and he is better adapted to survival that the individual with two depressive genes who gets depressed too easily, or too severely, or for too long; and he is also better adapted than the individual with no genes for depression who wastes his substance pursuing unattainable goals and of whom it might be said that he "does not know when to give up".
The same argument applies if the tendency to depression is a multifactorial genetic character, when the general biological principle would hold that individuals in the middle of a distribution tend to be better adapted than those on either extreme.
According to this argument psychiatrists are not in a good position to speculate on the biological advantage of depression, because our depressed patients are those on the extreme of the distribution whose depression is maladaptive. Almost by definition, if you get to a psychiatrist, your depression has not done its job. Possibly the 95% of psychiatric patients in the UK who are seen by general practitioners and not referred to psychiatrists have adaptive degrees of depression, or possibly only that 50% of depressives who are identified in community surveys and do not even consult their family doctor.

3. It deals with the relation between aggression and depression.

There is a large and confusing literature on the relation between aggression and depression, and even now there is controversy as to whether the outward expression of aggression (hostility) is inhibited in depression, as it is in the psychoanalytic formulation of depression as aggression turned inwards onto the self. However that may be, a psychological formulation of depression should be clear about the relation to aggression, and Hamburg's theory does this by postulating that depression occurs as a "second string" response when the primary aggressive response to a blocked goal is ineffective.

Disadvantages of the Hamburg hypothesis

1. It does not explain important features of depression, such as pervasiveness, incapacity (for perception, execution and decision-making) and unsociability.

2. Episodes of depression are not usually preceded by a phase of invigoration, anger or protest. In the case of both mild and severe depressions, most patients pass gradually from a period of normal functioning into the episode of depression. Hamburg et al. themselves (p 250) describe the way this may occur in human grief, when "some persons slide into a clinical depression, in which there is a pervasive undermining of prior interests and human relationships, with feelings of despondency."

3. The relinquishing of unattainable goals may occur at a late stage in the depression or not at all. What does happen early in the depression is that the pursuit of the goal is blocked by the symptoms of the depression, such as anxiety or apathy. But these very symptoms also block the choice and pursuit of alternative goals.

An alternative hypothesis: depression is a means by which a group detaches itself from the goal of one member and switches its allegiance to the goal of another.

The pervasive incapacity mentioned above makes it unlikely that depression is an evolved mechanism for switching from one goal to another within the individual. But if we raise our frame of reference to the level of the social group, the situation is quite different. Groups often have incompatible goals espoused by different important members or factions; for instance, one member may advocate war with a neighbouring group while another member advocates peace. Let us say the war advocate is in the ascendant and the group carries out a war policy. Let us also assume that the war policy is failing. The member who advocated the war policy loses prestige, feels guilty and in the wrong about his failed policy and the deaths of his fellows in unsuccessful battles, and becomes depressed. As a result of his depression he ceases to press his war policy with his usual vigour. Students of emotion (Scherer et al., 1986) find that when things go wrong and one attributes the cause to oneself, one becomes depressed, whereas when things go wrong and one attributes the cause to someone else, one becomes angry (with whoever is held responsible). Therefore the peace advocate, who feels "in the right", is angry with the war advocate, and the expression of his anger (catathetic signals) is likely to make the war advocate even more depressed. The war advocate is now depressed for three separate but related reasons: he has lost prestige because his policy has been seen publicly to fail; he feels guilty about the failure of his own policy; and he is in receipt of catathesis from the peace party. None of these three conditions applies to the peace advocate, who does not become depressed and continues to espouse his cause with undiminished vigour. It is likely that, in these circumstances, the group will change its goal from war to peace. Moreover, the depressive reaction of the war advocate will help him to adjust to the change in policy, and possibly to a change in leadership, and will reduce the chances that he will change groups and go and fight for the other side.

According to this theory the cause of depression is failure to achieve a goal in the presence of another group member who is espousing an alternative and incompatible goal. The goals may be incompatible because only one person can occupy the goal, such as a territory or leadership position, or they may be incompatible for some technical reason, such as it being difficult to wage war and peace at the same time. In animals the only goals are usually social goals, represented by territory or rank. There is not much else for a baboon to aim for than to rise another step in the hierarchy - most potential sub-goals and incentives are secondary to the achievement of the primary goal of rank. Some species have non-social goals, such as migration or the construction of nests and dens. But there is no adaptive advantage in becoming depressed when one fails to achieve a non-social goal. Let me give an example. The golden-headed jackal lives in a monogamous situation, and builds a den to rear its young (Moehlman, 1986). Let us say that it has den-building apraxia, and however much it digs, no den results. There is no non-social advantage in it becoming depressed and giving up because of its failure to build a den; it would be better to make some alternative arrangement, such as a nest of branches on the surface. But there is an advantage in depression if the animal fails to build a den in the presence of another golden-headed jackal who is looking for a territory. Then the depressed jackal allows itself to be driven from the territory by the newcomer, who is probably a nephew or other close relative, hanging on for a season or two with its parents waiting for a territory to become vacant. The depressed jackal thus gives up the very slim chance of its own reproduction for the much higher chance of collateral reproduction, and its inclusive fitness is enhanced. In this example the depression comes into the category of altruistic behaviour; in other cases there may be direct advantage to the depressed individual (as might have been the case with the war advocate).

Summary

The pervasive incapacity of depression is difficult to reconcile with a goal reformulation model limited to the individual actor. However, these difficulties disappear if we think of depression in relation to group goals. Those symptoms such as indecisiveness and apathy which interfere with the individual's formulation of new goals for himself, interfere much less with his joining in the pursuit of someone else's goal. Therefore depression may serve the function of the transfer of the role of goal- setter from the depressed individual to another member of the group. The proximate cause of the depression is not likely to be seen in terms of interpersonal competition by the actors concerned, but rather in terms of failure to achieve the original goal. However, the significant change achieved by the depression is the yielding of the goal-setting role by one group member to another, and therefore, since goal-setting is a leadership function, the

depression has facilitated a fall in rank.

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