Depression and Loss

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Summary. *Recent* losses occurring in the two years before onset of depression in women are distinguished from *past* losses occurring at any time before this. Of past losses only loss of mother before 11 is associated with greater risk of depression—both among women treated by psychiatrists and among women found to be suffering from depression in a random sample of 458 women living in London. Past loss of a father or sibling before 17 (or a mother between 11 and 17), or a child or husband, is not associated with a greater chance of developing depression. However, among patients all types of past loss by *death* are associated with psychotic-like depressive symptoms (and their severity) and *other* types of past loss with neurotic-type depressive symptoms (and their severity). It is argued that these associations probably reflect direct causal links, and a socio-psychological theory to explain them is discussed.

While psychiatrists as a whole have had various views about the aetiology of depression, psychoanalysts since Karl Abraham and Freud have not doubted that loss was of crucial significance. Freud suggested that the object need not necessarily have died but simply have been lost as an object of love. 'In melancholia, the occasions which give rise to the illness extend for the most part beyond the clear case of loss by death, and include all those situations of being slighted, neglected and disappointed which can impart opposed feelings of love and hate into the relationship or reinforce an already existing ambivalence' (Freud, 1917).

In the first paper by a psychoanalyst on depression, Karl Abraham (1911), in conformity with Freud's two-step theory of neurosis, postulated some early infantile disappointment in love and suggested that a repetition of this disappointment in later life reactivated the primary depressive condition. Fairbairn (1941), Edleston (1943) and Bowlby (1951) have also argued that earlier separations from parents or the threat of these enhance sensitivity to separation in later life. However, as Bowlby points out, Freud, in spite of the central role that early trauma played in his theories, rarely invoked such explanations (Bowlby, 1960). This omission

was in its way prophetic; there has been a curious failure to establish that early loss of parents plays any causal role in the aetiology of depression. Empirical findings have been inconsistent. Granville-Grossman's conclusion in 1968 that there was no unambiguous evidence that loss of parents played an aetiological role was a reasonable one. Since then Birtchnell has carried out large-scale studies based on the Crichton Royal Hospital, Dumfries, and the Aberdeen psychiatric case register. The first survey again failed to find a relationship between early parental death and depression: the second, based on much larger numbers, did find a very small but statistically significant association between loss by death of either parent before the age of 10 and later depression (Birtchnell, 1970a, b and c and 1972).

In spite of this, we believe that early as well as recent loss is of crucial aetiological importance in all forms of depression (with the exception perhaps of the relatively rare bipolar conditions, which are not dealt with here). We shall argue that one reason for this failure has stemmed from the ignoring of selective factors in treatment. Not all those suffering from depression receive medical and psychiatric care, and there are factors (including loss) which have a syste-

matic effect on the composition of the patient group. Furthermore, no one has followed up Freud's insight, quoted in our opening paragraph, by investigating different types of loss and relating them to different degrees of ambivalence and thus perhaps to different symptom pictures in melancholia. This is surprising in view of the different meaning, for example, that a loss of husband can have according to whether it is a widowing or a divorce: there is usually less of a moral indictment attached to bereavement than to separation. But equally important has been a general failure to differentiate three ways in which loss can contribute to the development of depression:

(i) as a *provoking agent* involved in producing the disorder at a particular point in time;

(ii) as a *vulnerability factor* enhancing an individual's sensitivity to these agents, but not playing any role in onset in the absence of a provoking agent; and

(iii) as a *symptom formation factor* determining the form and the severity of the depression but playing no aetiological role in bringing about the disorder itself.

REVIEW OF PREVIOUS FINDINGS

We have already published material on the part played by loss as a provoking agent and as a vulnerability factor, and it may be useful to summarize some of the findings so far.

Research in South East London allowed us to examine the role of social factors in the development of depression in two distinct groups of women:

(i) *Patients*—a group of 114 female patients aged between 18 and 65 and living in Camberwell, undergoing either in-patient or out-patient treatment at the time of interview, whose diagnosis was one of primary depression and who had an episode start in the year before interview.

(ii) *Cases in the general population*—women in a random sample of 458 women aged between 18 and 65 living in Camberwell identified as suffering from a definite psychiatric disorder at some time in the year before interview, using a modified version of the Present State Examination (PSE) (Wing, Cooper and Sartorius,

1974).* These 76 women (17 per cent) are called *cases* and were all suffering from recognizable clinical syndromes, almost entirely of an affective kind, and not merely from a disturbance of mood. The great majority had depressive disorder. The general basis for rating a woman as a *case* was that a psychiatrist would not be surprised to see her in an out-patient clinic, and if she were to attend would be likely to see her as benefitting from treatment. It is generally recognized that 'neurotic' symptoms are common in the general community (e.g. Taylor and Chave, 1964). Within the broad spectrum of such disorder we have attempted to differentiate cases of a severity sufficient to merit psychiatric attention as this is currently accepted in this country. Thirty-seven of the women whose disturbance had originated within the year before interview are called *onset cases* and the 39 who had been disturbed continuously for more than one year, *chronic cases*.

In our subsequent discussion, therefore, we shall be comparing three different groups of women: *patients*, *cases* and *normals* (i.e. women in the general population who were not cases in the year).

We established that events with severe, long-term threatening implications, most of which involved some major loss and which had occurred during the nine months before onset, played a major role in bringing about depressive disorders both among the *patients* and among *cases* in the general population. Certain kinds of long-term difficulties occurring in the nine months before onset also appeared

* A series of 220 women were interviewed in their homes during 1970–71 and a second series of 238 during 1974–75. We have taken the occurrence of depression in the year before interview rather than in the three months, as in previous publications, in order to increase as much as possible the number of cases for some of our analyses. Fifteen per cent of the 458 women were cases in the three months before interview. Psychiatrists from the Institute of Psychiatry visited all of the women we had considered cases or possible cases and a sample of the normal women. Of the women rated as a case or possible case on the basis of the PSE interview made by the social investigators there was an 84 per cent agreement in the first series by the psychiatrists about who was a case and who was a borderline case. There was complete agreement about normal women.

to play a causal, though less important, role. There was a large social class difference in the incidence and prevalence of depression among women in the general population—working class women, especially when they had young children at home, having a much higher rate. Furthermore, working class women were about five times more likely to develop a depressive disorder in the year before interview when they had experienced a severe event or major difficulty—that is in the presence of *provoking agents*. So far we have identified four *vulnerability factors*, that is factors which increase chances of developing a psychiatric disorder in the presence of an event or difficulty, but which have no effect in their absence. They are: loss of mother before the age of 11; presence at home of three or more children aged less than 14; lack of a confiding relationship with a husband; and lack of full- or part-time employment. The first three are more common in the working class and between them largely explain the class difference in incidence of psychiatric disorder (see Brown *et al*, 1973a, 1973b, 1975 and Brown, 1974).

Past Loss

So far in our publications we have been concerned with the aetiological role of severe events and major difficulties in the year before the onset of a depressive disorder. But what about loss occurring before this?

We have restricted the measurement of such loss to:

(i) Loss of mother or father before the age of 17 because of (a) death, (b) separation of parents, or (c) long-term (i.e. one year or more) separation from a parent during the patient's childhood (e.g. from hospital care, etc).

(ii) Loss of sibling by death while the subject was aged more than a year and under 17.

(iii) Loss of a child at any age through death (including stillbirth) or adoption.

(iv) Loss of a 'husband' by death.

We call them *past losses*. We bore in mind the need to exclude losses that might well have been brought about by an earlier psychiatric episode, and a woman's loss of a husband by separation or divorce has therefore been ex-

cluded. In order to avoid contamination with the onset of the recent disorder, any loss within two years of the date of interview has been ignored. In almost all instances the past loss apparently preceded first onset of depression: we discuss the few exceptions later.

The time periods were chosen very much by hunch, but subsequently we examined loss of parents and siblings after the age of 17; and, as reported later, their loss at a later age did not appear to contribute to the processes we shall now describe.

Such past loss is common: in our random sample of 458 women aged between 18 and 65 in South East London, 37 per cent had had at least one such loss. Its frequency is related to social class, and, as would be expected, to age.†

Women of 41 and over had higher rates of past loss than those under 40, and working class women have higher rates than middle class women (Table I). However, in both age groups exactly the same proportion of working and middle class women had lost at least one of their parents before the age of 17. It is loss of a brother or sister, child or husband that is more common among working class women. Details are given in Fig 1: the cumulative totals in the

TABLE I
Per cent of women in general population with a past loss by age and social class

	Middle class	Working class	
	%	%	
18–40	23 (25/110)	32 (34/107)	ns
41–65	38 (41/108)	51 (68/133)	p < ·05
	p < ·05*	p < ·01	
Total		37 (168/458)	

* The Chi-squared test has been used throughout this paper.

† Our measure of social class was based largely on the occupational head of the household—in most instances the husband. We have used Goldthorpe and Hope's recent development of the RGO occupational classification: their occupational groups 1 to 22 have been called 'middle class' and 23 to 35 'working class' (Goldthorpe and Hope, 1974, pp 134–43). When related to the prevalence of psychiatric disorder among women this scale gives almost identical results to the more complex measure of social class used in previous analyses (Brown *et al*, 1975).
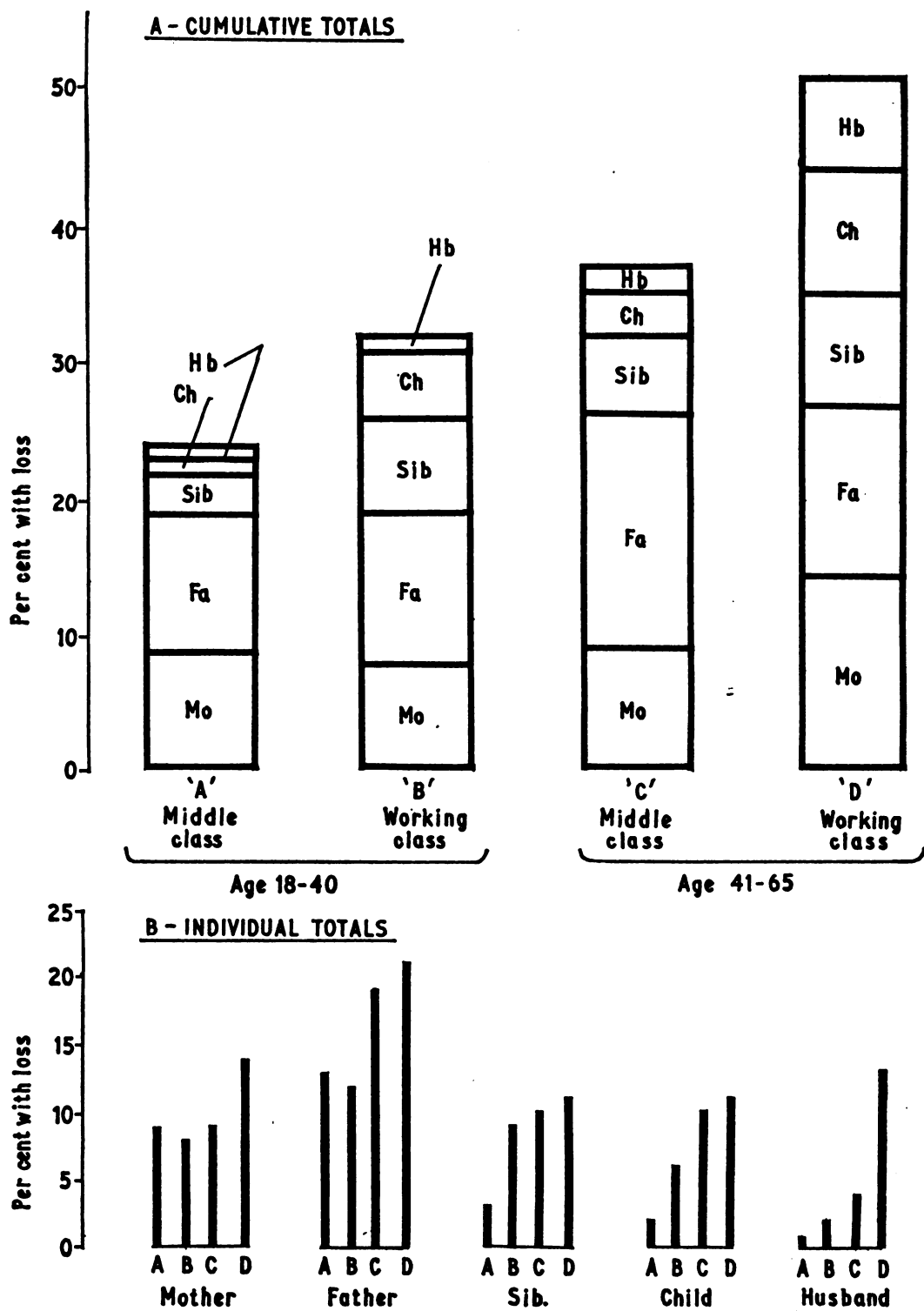
A - CUMULATIVE TOTALS

Per cent with loss

'A' Middle class | 'B' Working class

Age 18-40

'C' Middle class | 'D' Working class

Age 41-65

B - INDIVIDUAL TOTALS

Per cent with loss

A B C D — Mother
A B C D — Father
A B C D — Sib.
A B C D — Child
A B C D — Husband

FIG 1.—Per cent with various types of past loss in the general population by age and social class.

TABLE II
Per cent of women with a loss of parent before 17 among cases (N = 76) and 'normal' women (N = 382)

Age at loss	Loss of mother		Loss of father		Loss of either parent	
	Cases	Normals	Cases	Normals	Cases	Normals
	%	%	%	%	%	%
0 to 10	22·4	6·0*	17·1	11·5	34·2	13·6*
11 to 16	0·0	2·1	2·6	5·0	2·6	6·0

* P < ·01: other differences are not significant at the ·05 level.

top half of the figure are formed by giving the proportion of women who had lost a mother and then adding in turn additional women who had lost a father (and not a mother), sibling (and not a mother or father), and so on.

(a) Past loss in the general population

The research literature on loss well before onset of a depressive episode has been to our knowledge concerned with loss or separation from parents before the age of about 16. The kind of influence expected has rarely been clarified, but it seems most likely that such loss would act, if at all, as a vulnerability factor.

In our general population sample, loss of a mother but not father before the age of 11 was significantly associated with depression: 22 per cent of the *cases* had lost a mother before 11 in comparison to 6 per cent of *normal women* (i.e. the rest of the community sample) (Table II). We shall shortly discuss the relevance of this for aetiological theory; for the moment we will assume it is the result of the early loss of mother acting as a vulnerability factor.

To identify the contribution made by losses other than mother before the age of 11 we looked at women who had not lost a mother by this age (i.e. who had lost a mother between 11 and 17, a father or sibling before 17 or a husband or child). When women with a loss of mother before 11 are excluded, there is only a modest difference between cases and normal women which does not reach statistical significance: 37 per cent and 28 per cent respectively had had such a loss. (These results have been standardized to take account of age and social class differences between cases and normal women.) This result is confirmed by the fact that in the general population past loss did not increase vulnerability to psychiatric disorder among the

women with a provoking agent (i.e. event or difficulty) in the year before interview (Table IIIA and IIIB). Only loss of mother before 11 acts as a vulnerability factor: women with a life-event or difficulty were much more likely

TABLE III
Percentage of women in the general population who suffered an onset of psychiatric disorder in the year of study by whether they had a severe event or major difficulty and the presence of various kinds of past loss (chronic cases excluded)

	A: Any past loss		B: Other past loss (excluding 30 women with loss of mother before 11)	
	Yes	No	Yes	No
Severe event or major difficulty	22 (15/67)	19 (18/97)	15 (8/53)	19 (18/97)
None	3 (2/76)	1 (2/179)	3 (2/60)	1 (2/179)

	C: Loss of mother before 11		D: Loss of father before 11 (excluding 30 women with a loss of mother before 11)	
	Yes	No	Yes	No
Severe event or major difficulty	47 (7/15)	17* (26/150)	20 (3/15)	17 (23/135)
None	0 (0/15)	2 (4/239)	0 (0/17)	2 (4/222)

* P < ·01: other differences are not significant at the ·05 level.

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to have developed depression in the year before our interview if they had had such an early loss of a mother (Table IIIC). A similar loss of father does *not* increase vulnerability when women with a loss of mother before 11 are excluded (Table IIID).

(b) *Past loss among patients*

Patients showed no greater rate of loss of either parent in any time period before 17 when compared with the *total* community sample (Table IV). There is no suggestion that, as with the cases, loss of mother before 11 is of aetiological significance. While this is just the comparison made by other studies of depression and early loss, it is, of course, important to exclude depressed women from the comparison group, and the failure of previous research to do this is probably one reason for the many negative results. When this is done, loss of mother before 11 does appear of some importance, although the difference between normal women and patients is still much less than that between them and cases (Tables II and IV) and does not reach statistical significance.

We believe that this apparent inconsistency between the results for patients and cases is explained by the fact that loss of mother before 11 not only increases the chances of developing psychiatric disorder but is also correlated with other factors that tend to *lower* chances of contacting a psychiatrist, and therefore patients would be expected to have a somewhat lower proportion with early loss of mother than cases

in the general community (see Brown *et al*, 1975, p 239). We will return to this possibility later. Meanwhile we can reasonably conclude that the findings concerning the aetiological role of loss of mother before 11 are broadly consistent for cases and for patients.

When we turn to *other* forms of past loss, however, matters are more complicated. Forty-nine per cent of patients and only 28 per cent of normal women in the general population had a past loss when women with death of mother before 11 are excluded (this is again standardized for age and class differences) ($P < \cdot 01$).*

It is important to consider the best interpretation of these differences. If past loss did raise the chance of these women developing depression it would probably have done so by acting as a vulnerability factor. It seems unlikely that such loss could play an aetiological role on its own, producing depression after many years of incubation. If loss had acted as a vulnerability factor one would expect that the rate of past loss (excluding women with a loss of mother before 11) would also differ significantly between normal women and cases: we have seen that this is not so. We have also seen that such past loss. did not act as a vulnerability factor in the general population, that is it did not act in combination with a provoking agent to produce

* As we have seen, the figure for cases is 39 per cent. Just under 15 per cent of both the patients and general population with a past loss had had more than one: however, such multiple losses do not contribute to any of the issues dealt with in this paper and will not be discussed.

TABLE IV
Percentage with loss of parents before 17 among patients and women in the general population

Age at loss	Loss of mother			Loss of father		
	Patients	General population	General population excluding cases	Patients	General population	General population excluding cases
	(N = 114)	(N = 458)	(N = 382)	(N = 114)	(N = 458)	(N = 382)
	%	%	%	%	%	%
0 to 10	10·5	8·7	6·0	15·8	12·4	11·5
11 to 17	3·5	1·7	2·1	5·3	4·3	5·0

No differences are significant at the ·05 level.

depression (see Table IIIC). The same conclusion is confirmed for the patient series by examination of the data in Table V. Since it is only through a provoking agent that a vulnerability factor can have some effect, one would expect a correlation of provoking agents and vulnerability factors in any population suffering from the provoked condition. Since by definition all the patient series were suffering from depression, it should follow that, if past loss, excluding loss of mother before 11, is a vulnerability factor it should be correlated with the presence of events or difficulties in the nine months before onset. In fact loss of mother before 11 among the patients conforms exactly to these predictions: only 8 per cent (1/12) of patients who lost their mother before 11 did not have an event or difficulty compared with 26 per cent (26/100) of the patients without such a loss (Table VA). By contrast there is not correlation between other kinds of past loss and the presence of events and difficulties before onset (Table VB). Therefore, as we have already shown for women in the general population, loss of mother before 11 acted as a vulnerability factor for patients, increasing chances of developing depression once an event or difficulty has occurred. But there is no indication that other forms of past loss

acted in this way either for patients or for women in the general population.

How, then, is it that there is a somewhat higher rate of past loss (excluding loss of mother before 11) among patients compared with normal women? The difference might well have been brought about by selective factors operating to increase the number entering psychiatric treatment who had had some form of past loss. Two possibilities are:

(1) Some of the past losses would have been expected to have brought about *previous* episodes of depression, i.e. they had acted as provoking agents at some time in the past. Since nearly half of the patients had had a previous episode this would raise somewhat their rate of past loss compared with normal women. This is supported by the fact that, for the 50 patients with a previous episode, 20 per cent had had a past loss occur *in adulthood* (when it might well have been a provoking agent) compared with only 8 per cent of the patients without a previous episode. (The overall rate of past loss was no different for those with and without previous episodes.)

(2) We will show later that past loss plays an important role in determining severity of depressive symptoms; and, since patients tend as a group to be more severely disturbed than cases in the general population, they would again be expected to have a somewhat greater frequency of such loss.

We conclude, therefore, that past loss plays at best a minor role in producing depression once loss of mother before 11 is allowed for. However, the role of such loss in *symptom formation* is far more dramatic and it is to this that we now turn.

(c) *Past loss and psychotic and neurotic depression*

There has been a long controversy about the basis of the distinction between 'psychotic' and 'neurotic' depression. We have not attempted to review the literature, as we believe that our findings are as applicable to a gradualist and unitary model (e.g. Mapother, 1926; Lewis, 1934; Kendell, 1968) as to a two-disease and bimodal model (e.g. Kiloh and Garside, 1963; Carney, Roth and Garside, 1965). Despite this long controversy, most psychiatrists still feel able to allot a patient one or other label with

TABLE V

Patients with: (a) loss of mother before 11; (b) other forms of past loss (excluding those with loss of mother before 11) by whether there was an absence of a severe event or major difficulty before onset

	Per cent without severe event or major difficulty			
	A: Loss of mother before 11		B: Other past loss (excluding 12 patients with loss of mother before 11)	
	Loss	No loss	Loss	No loss
N =	% 8 (12)	% 26 (100)	% 30 (48)	% 26 (52)
		ns		ns

a fair degree of confidence, and we have proceeded on this basis. However, we believe that there is one clear conclusion that can already be drawn from our work. There has been an increasing tendency to equate the concepts of *neurotic* and *reactive* depression on the assumption that they are far more highly related to environmental stress than other forms of depression (see Beck, 1967, p 79). Systematic research has given no support to this view (see Paykel, 1974; Leff *et al*, 1970). Our own material, which will be reported fully elsewhere, confirms this lack of association: almost equal proportions of the patients considered to be psychotic and neurotic had a provoking life-event in the nine months before onset.

One of us (J.C.) rated the 114 depressed patients as psychotic or neurotic on the basis of the clinical material by taking into account criteria, such as the presence of early-morning waking, which have fairly general acceptance in the literature as distinguishing features of the two forms of depression. However, since psychotic and neurotic symptoms occur in both types of depression an overall judgement taking the total clinical picture into account had to be made rather than relying on the presence of any particular symptoms. Sixty-three patients were considered psychotic and 49 neurotic (two with some manic symptoms were excluded).

Various statistical analyses, which we will not report here in full, have suggested the usefulness of the distinction. One of our analyses, for instance, took all clinical material collected for the patients in terms of the type and severity of symptoms and their overall frequency, but excluding factors such as (i) age, (ii) whether there were provoking environmental events, and (iii) historical factors such as previous treatment. A discriminant function analysis was used to obtain the weighted clinical items that best separated the two groups classified as psychotic and neurotic. Using ten clinical items whose incidence differs in the two groups at the 5 per cent level of significance, or better, gives an overall misclassification rate of 21 per cent, and this is reduced to 17 per cent in a further analysis based on the 23 clinical features using items significant at the 20 per cent level or

better.* The original psychotic and neurotic groups were therefore successfully separated in this way; and the items and their weights are very much what would be expected from the literature. In general, the psychotic patients tend to be more retarded in movement, thought and emotion and the neurotic group to be more active and to show more emotion.

The scores derived from the analysis of the 23 items were used to differentiate the most and least psychotic and neurotic halves of the two original diagnostic groups, and in the analysis that follows this division will also be used.† Patients were also rated, independently of the psychotic/neurotic distinction, in terms of the *severity* of their condition at the time of their admission into treatment. This rating was made on the basis of the frequency of symptoms and their individual severity. Although psychotic patients tended to be rated as more severe, these two ratings are to a considerable extent independent of each other (Table VI), and it is therefore necessary to explain *both* features of the condition—i.e. degree of psychotic and neurotic symptoms *and* severity.

Psychotic patients are more likely to have had a past loss than neurotic patients (66 as opposed to 39 per cent). Furthermore, if the psychotic patients are divided into a most psychotic and a least psychotic half (on the basis of the scores derived from the discriminant function analysis), this association is increased. Seventy-seven per cent, 55 per cent and 39 per cent respectively of the three groups had a past loss—dotted line in Fig 2 (P < ·01).

* At the stage of the discriminant function analysis the detailed symptom-count of one patient had been lost, and the total of patients used was 111. Full details of these analyses will be given in a forthcoming paper. Inter-rater reliability for the various clinical scales used in this report was satisfactory, generally reaching a product-moment correlation of at least 0·80.

† Another of us (G.B.) independently rated the patients once the analysis had been done. The overall agreement with the original rating by J.C. was 78 per cent. Agreement about the least psychotic patients was only 58 per cent compared with 85 per cent for the rest: this is consistent with our general impression that the 'overlap' between the two conditions is greatest among the least psychotic half of the psychotic group. The ratings by J.C. have been used in all our analyses unless we refer to the scores on the discriminant function.

TABLE VI

Severity of symptoms at admission by whether 'psychotic' and 'neurotic'

Severity	Psychotic		Neurotic		Total	
	%	(N)	%	(N)	%	(N)
1 (high) ..	19	(12)	12	(6)	16	(18)
2	65	(41)	47	(23)	57	(64)
3 (low) ..	16	(10)	41	(20)	27	(30)
	100	(63)	100	(49)	100	(112)

Severity × psychotic/neurotic: P < ·01

These differences are increased still further if loss due to death is distinguished from other kinds of loss (i.e. separation of parents, adoption of the woman's child, etc). In order to distin-
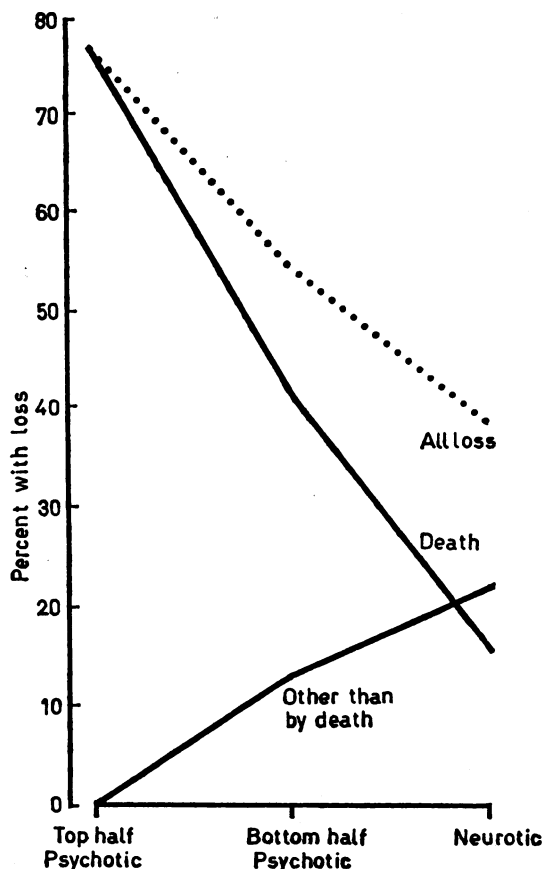
FIG 2.—Per cent with past loss by death and other than by death among depressed patients by whether 'psychotic' or 'neurotic'.

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guish women into those having loss by death and loss by other means, the few instances where both kinds of loss occurred (4 per cent of patients and 3 per cent of women in the general population had both) the *earliest* has been taken. This index shows that loss *through death* and through factors *other than death* are both strongly related to the three-fold clinical classification, but related in opposite ways: 77 per cent of the most psychotic, 42 per cent of the least psychotic and 16 per cent of the neurotic group had had a past loss through death (P < ·01). By contrast, none of the most psychotic, 13 per cent of the least psychotic and 22 per cent of the neurotic group have had a past loss other than death (P < ·01). In other words, although the incidence of past loss is not a very potent aetiological factor, as we have argued above, it may well be a most powerful influence when a woman *does* get depressed on what form her symptoms will take: loss by death predisposing to psychotic depression and other forms of loss to neurotic depression. When the various possible types of loss were considered in detail these differences held for each, with the exception of loss of father by death, where there was only a small difference. Since the numbers involved in these comparisons are small, little significance should be given at this point to this one exception. Of patients having a past loss by death 82 per cent (37/45) are psychotic; of those having suffered loss by factors other than death 73 per cent (11/15) are neurotic. Of those having neither 41 per cent (21/51) are psychotic and 59 per cent (30/51) neurotic.

Since death has little or no relation to the neurotic group and loss from other causes to the psychotic group, we will use the term *effective loss* for death for psychotic patients and other kinds of loss for neurotic patients (remembering that in the small number of instances where both kinds of loss occurred the earliest has been taken). Effective loss seems to play an important role in determining the severity of the depression once the degree of psychotic and neurotic features is controlled (Table VII). Such loss is particularly associated with severity among the most psychotic and the most neurotic patients. We have summarized these results in Fig 3: it

TABLE VII

Per cent of patients with past loss counting death for 'psychotics' and other loss for 'neurotics' by severity of symptoms and degree to which psychotic and neurotic

	Severity of symptoms at admission		
	1 (high)	2	3 (low)
Most psychotic/ neurotic quartiles*	82 (9/11)	45 (14/31)	29 (4/14)
Least psychotic/ neurotic quartiles	57 (4/7)	50 (16/32)	6 (1/16)

* These groups have been defined by taking the most and least psychotic and neurotic halves of the two diagnostic groups using the rankings of the discriminant function scores. Since the 23-item analysis includes 'severity at admission', a 22-item analysis excluding it has been used. However, the scores of the two analyses are highly correlated. (The rank order correlation between the two sets of rankings is 0·987—Spearman's rho). Top row P < ·05; bottom row, combining 1 and 2, P < ·01.
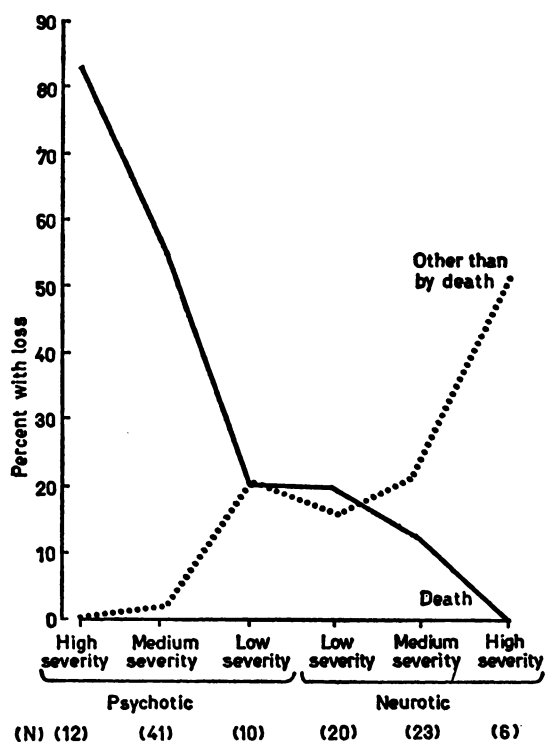

Fig 3.—Per cent with past loss by death and other than by death among depressed patients by severity at admission and whether 'psychotic' or 'neurotic'.

shows that within the psychotic group severity of symptoms is highly related to loss by death and within the neurotic group to other forms of loss.

We also examined the possibility that loss of a parent or sibling *after* the age of 17 might play a part in the processes we have discussed. However, such cases played no part either in increasing vulnerability or in symptom formation. The inclusion of marital separation and divorce in no way influenced the results, as only two patients who had experienced a divorce or separation had not also experienced a still earlier loss.

(d) A replication

We have been able to make an independent check on the results concerning symptom formation: R. E. Kendell examined a series of consecutive female in-patient admissions to the Maudsley Hospital suffering from depression. Like us he developed a diagnostic index score based on his clinical judgement of psychotic and neurotic depressive states (Kendell, 1968, pp 56–65). Using the hospital case notes to obtain details of past loss, the results for the two series were similar when their respective discriminant function scores were divided into three more or less equal groups (Table VIII).*

(e) The general population

The overall *severity* of the 76 cases in the general community was on the whole less than that of the patients, and no attempt was made to rate them as psychotic or neurotic. However, to see whether there was any indication of a similar tendency, we distinguished cases who showed either: (i) early morning waking or (ii) slowness or retardation, symptoms asso-

* We had found complete agreement between the past losses obtained by interviewing patients and relatives and those recorded in the Maudsley in-patient records. Use of the actual diagnoses of 'psychotic' and 'neurotic' gave comparable results. We are grateful for Professor Kendell's generous assistance in supplying information about diagnosis and index scores. In order to conform to the criteria of the first series we excluded five patients who were foreign or had marked manic symptoms or an important physical element such as epilepsy. The second series were a little younger—57 per cent were under 40 at admission compared with half of the first series.

ciated with a rating of psychotic on the discriminant function analysis. Fifty-two per cent with one of these symptoms had had a loss by death compared with 39 per cent of the women with neither symptom. The difference is not, however, statistically significant.* Therefore, while past loss is very highly associated with the form and severity of depression among patients once a woman begins to develop clinical depression, it is uncertain whether there is a similar association among the more mildly depressed women in the general population.

(f) *Age and depression*

Others have shown that psychotic depressed patients are older (e.g. Spicer *et al*, 1973). The average age of psychotic patients in our series was 45 against 29·5 for neurotic patients. There is, however, no suggestion that age has affected our results. Table IX shows that the association between loss and type of depression held within

* 24/46 and 12/31.

each of the age groups 18 to 25, 26 to 40 and 41 to 65, and almost exactly similar results were obtained for Kendell's series of patients.

Moreover, if age at which the first onset of psychiatric disturbance occurred is controlled (almost always defined by the first contact with medical services—an unsatisfactory measure but the only possible one with our present data), the differences remain just as marked. Five patients, however, had a past loss *after* their first episode of psychiatric disturbance, and it is possibly misleading to include them. But results are hardly affected if these losses are excluded: 68 per cent of the most psychotic, 42 per cent of the least psychotic and 14 per cent of the neurotic patients had a past loss through death (p < ·01); and none, 10 per cent and 22 per cent respectively had a past loss other than by death (p < ·01).

Whether the loss occurred before or after the age of ten is irrelevant (Table X); again a similar result was obtained for the Kendell

TABLE VIII
Per cent of patients by type of past loss and degree of psychotic/neurotic depressive features according to discriminant function score in the present series ($N = 111$) and Kendell's series ($N = 70$)

	Present series		Kendell	
	% loss by death	% other loss	% loss by death	% other loss
Top third (most psychotic) ..	68 (25/37)	1 (1/37)	48 (12/25)	0 (0/25)
Middle third	43 (16/37)	16 (6/37)	39 (9/23)	17 (4/23)
Bottom third (most neurotic) ..	11 (4/37)	22 (8/37)	14 (3/22)	32 (7/22)
	41 (45/111) P < ·01	14 (15/111) P < ·05	34 (24/70) P < ·05	16 (11/70) P < ·01

Note: In order to ensure greater comparability with Kendell's series we have divided our series differently here from our three-fold classification in Fig 2.

TABLE IX
Age of patients by proportion with a past loss by death and other than by death by whether psychotic or neurotic compared with women in the general population (if more than one loss, first taken)

	18–25		26–41		41–65		Total	
Death	%		%		%		%	
Psychotic	33	(3/9)	56	(5/9)	66	(29/44)	60	(37/62)
Neurotic	5	(1/22)	25	(4/16)	27	(3/11)	16	(8/49)
General population	13	(9/72)	23	(34/145)	39	(94/241)	30	(137/458)
Other than by death	%		%		%		%	
Psychotic	0	(0/9)	11	(1/9)	7	(3/44)	6	(4/62)
Neurotic	32	(7/22)	13	(2/16)	18	(2/11)	22	(11/49)
General population	7	(5/72)	10	(14/125)	5	(12/241)	7	(31/458)

TABLE X

Per cent of patients with a past loss by death or other than by death by age loss occurred and whether psychotic or neurotic

			<10		11–17		18+	
			Death	Other loss	Death	Other loss	Death	Other loss
Psychotic	..	..	27 (17/62)	2 (1/62)	11 (7/62)	3 (2/62)	21 (13/62)	2 (1/62)
Neurotic	..	..	6 (3/49)	12 (6/49)	6 (3/49)	8 (4/49)	4 (2/49)	2 (1/49)

series. Since results hold for those who experienced a loss before 18, the effect is not to be explained by losses occurring in adulthood. It is important to note, however, that a third of the losses by death occurring to the psychotic group happened after 18; other losses during adulthood are rare.

DISCUSSION

We have shown that there is a large association between past loss and type and severity of depressive symptoms in women. However, this only emerges when one distinguishes (i) severity of the depression at admission, (ii) the predominance of neurotic and psychotic features, (iii) four kinds of loss (of siblings, child and husband and not just of parents) and (iv) whether loss was due to death or other reasons. While this has not been done before, five studies have looked at loss of a parent during childhood and adolescence and severity of depression.* Since these studies ignored the other three distinctions, only a modest association between loss and severity could be expected. Birtchnell (1970c) provides results for women with a loss before 20, and there is a close similarity with our material when the same simple two-fold distinction is made: 38 per cent of the most and 22 per cent of the least depressed patients had lost a parent in childhood or adolescence compared with 37 and 23 per cent in our series (29/77, 21/94 and 30/81 and 7/30 respectively).

The four other studies do not separate data for men and women. Three give similar results to those just quoted (Beck *et al*, 1963; Sethi, 1964; Munro, 1966) and one does not show a

* The study by Sethi (1964) includes loss of a sibling: however, the inclusion of non-depressed patients in his 'no or low depression' group confuses the issue of the role of loss in symptom-formation in depression.

difference, although a measure of unsatisfactory family relationships in childhood does relate (Abrahams and Whitlock, 1969). Like us when we used the *total* community series as a comparison group, none of the five studies obtained an association between early loss of a mother or a father and the occurrence of depression as such. Two other studies are relevant. Wilson, Alltop and Buffaloe (1967) found that depressed patients who had lost either parent by death before the age of 16 had an elevated score on the psychotic but not the neurotic scales of the MMPI. A study by Forrest, Fraser and Priest (1965) did not find any differences in childhood bereavement before the age of 15 between a neurotic and psychotic depressed group. The fact that they were a highly selected group of patients taking part in a drug trial may have some bearing.

Additional supporting evidence for the role of loss in symptom formation is provided by the series of patients originally classified by R. E. Kendell: results concerning past loss and the psychotic/neurotic distinction were closely comparable to our own, and also confirmed that the associations were not artefacts due to age.

The question whether this association between past loss and symptom formation reflects an actual causal link, and the nature of any such link, remains to be discussed. It seems unlikely that an artefact is involved: there is no reason to believe that there is much error in recording major losses (see Barraclough and Bunch, 1973) or that the measurement of the variables was in some way confounded. Moreover, there is no suggestion that age, previous admissions or social class are biassing factors; and it seems unlikely that constitutional or genetic factors have produced a spurious association. We therefore find it difficult to conceive of an interpretation that does not largely depend on environmental

rather than on constitutional and genetic factors.* However, there is no reason why other factors may not play some role; it would indeed be surprising if they did not (see Brown *et al*, 1973b, pp 162–5).

Before we consider our own interpretation we must deal with an anomaly: the quite modest aetiological role played by loss of mother before 11 in the patient group when compared to its role among women developing depression in the general population. We have argued elsewhere that this is probably due to selective factors (Brown *et al*, 1975). The fact that 43 per cent of the 40 women in Camberwell with a loss of a mother before 11 were considered to be psychiatric cases (almost all depressed), compared with 14 per cent of the remaining 418 women, is impressive evidence of an aetiological effect. While conclusions must remain cautious, the correlation of loss of mother before 11 with two vulnerability factors that not only increase chances of depression but also *lower* the chances of contacting a psychiatrist once depression has developed may explain the inconsistencies (see Brown *et al*, 1975, pp 239–40). It would also explain some of the inconsistent results in the literature.

If this is accepted, two results have to be explained. First, why does loss of a mother before 11 increase chances of depression in the presence of a provoking agent? Second, why, once a woman has developed depression, does past loss of a range of relatives by death increase chances of developing psychotic-like depressive symptoms (and also their severity), while other kinds of loss increase chances of neurotic-like depressive symptoms (and also their severity)?

It may first be helpful to remind ourselves that major *current* losses and threats of loss are important in producing depressive disorders (see Brown, 1974; Brown *et al*, 1975; Paykel,

* The psychiatric interview was carried out without knowledge of past loss, and all such social material was excluded from the discriminant function analyses. The Maudsley case records usually contained a detailed social history (which we at times drew upon). Only one suicide was recorded among the parents of 114 patients. Psychiatric treatment received by parents and siblings did not differ in the psychotic and neurotic groups, and such a history of family disorder was unrelated to past loss or to the presence of a provoking agent.

1974). Adjustment to major loss is likely to involve 'grief work' if the person is to come to terms with the situation (e.g. Marris, 1974). The loss of another person will often mean the loss of someone who valued and appreciated the depressed person; but loss may involve not only a lost object but also a lost role (Averill, 1968). A sense of purpose can be lost, when with the loss of a person the performance for which identity has been fabricated and sustained ceases to have meaning (Becker, 1962).

Many have pointed out the adverse consequences of failing to do such 'grief work' (e.g. Bowlby, 1963; Parkes, 1964; Engel, 1967). In a recent discussion of 'reactive depression' it has been suggested that many of the depressive symptoms which the patient forms may be regarded as helping him to *avoid* experiencing painful loss, and in particular helping to deny the fact of loss and the significance of the loss (Sachar *et al*, 1968, pp 24–5). Along somewhat similar lines we suggest that low self-esteem stemming from any source can hinder a woman from 'recognizing' a recent loss, which in turn can lead to the development of a depressive disorder. The loss cannot be fully faced because it is just one more painful blow to feelings of self-regard.

But it is not only loss that brings about depression: a long-term difficulty quite often does so, and also at times the threat of loss (Brown, 1974; Brown *et al*, 1975). We therefore place more weight on a second aetiological mechanism whereby a person deprived of important sources of value can develop a feeling of hopelessness. (Positive value can be derived from a person, a role or an idea.) From this relatively specific feeling of hopelessness related to a particular event or difficulty a more general feeling of profound hopelessness may develop, and this may form a central feature of the depressive disorder itself. For, as Beck has suggested, there is in depression a central cognitive triad, accompanied by varying combinations of characteristic affective and somatic symptoms (Beck, 1967). We believe that what is crucial is determining whether the specific feelings of hopelessness develop into the three feelings that the world is meaningless, the self worthless and the future hopeless is a

person's ongoing self-esteem, their sense of their ability to control their world and thus to repair damage, their confidence that in the end alternative sources of value will become available. If self-esteem is low *before* the onset of any depression a woman is less likely to be able to imagine herself emerging from her privation. We suggest that vulnerability factors play a crucial aetiological role because they limit a woman's ability to develop an optimistic view about controlling the world in order to regain some source of value. Of course, an appraisal of hopelessness is often entirely realistic: the future for many women *is* bleak. But given a particular event or difficulty, ongoing low self-esteem will increase the chance of such an interpretation. Therefore, for the second aetiological mechanism loss as such is not central: hopelessness and not grief is the crucial element. (Others have also believed that loss itself is not central— e.g. Gaylin, 1968, pp 16–22.) Major loss events are very often involved in the onset of depression because they are the most common way in which important sources of value are threatened.

Since neurotic and psychotic depression are equally associated with environmental provoking factors, so called 'endogenous' depressive conditions should not be excluded from these two processes, i.e. failure to work through grief and the experience of hopelessness.

We have therefore speculated that the common feature of the vulnerability factors is that they are associated with low self-esteem. Since three of them concern the present (i.e. lack of intimacy with husband, three or more children under 14 at home and lack of employment), it follows that it is the current environment that most powerfully influences the risk of depression. However, the effect of loss of mother before 11 indicates that the past can also play a role, and it may well do so by lowering self-esteem. We have seen that such loss of a mother has two special features. First, the loss of any *other* close relatives does not increase risk, and second, loss *after* the age of 11 plays no part. The first can probably be explained by the fact that the mother will usually be the largest source of appreciation and support. A father's or sibling's disappearance is likely to be a less painful

experience. Second, until a child is about 11 his main means of controlling the world is likely to be his mother. The earlier she is lost the more the child is likely to be set back in his or her learning of mastery of the environment; and a sense of mastery is probably an essential component of high self-esteem. Loss of mother before 11 may well permanently lower a woman's feelings of mastery and self-esteem, and hence act as a vulnerability factor by interfering with the way she deals with grief in adulthood.*

The work of John Bowlby (1973) on the infant's reaction to separation lends support to this view. He argues, on the basis of ethological work on imprinting, that the physical and emotional absence of a mother (or a comparable figure) is even more important in bringing about later depression and anxiety than the intrapsychic conflicts emphasized by many psychoanalysts.

One important recent account is Seligman's comparison of depression with 'learned helplessness'. Using animal experiments he has shown that uncontrollable and unpredictable trauma tends to lead to passive resignation—what he calls learned helplessness (Seligman, 1975). He

* It has been suggested on various occasions that loss of mother is not itself as important in the aetiology of depression as the discontinuity and social upheaval which may result. We therefore considered the experience of women in the general population who had lost a mother before 11, dividing them into 23 who had lost continuous contact with their father at some time after the loss of their mothers and 16 who had maintained a continuous contact with their fathers (or in rare cases another person such as a grandmother who had already been living with them). Discontinuity *per se* did not relate to the development of depression; 30 per cent of those with discontinuous contact being cases compared with 56 per cent of those in continuous contact. Examination of the data from Kendell's and our own *patient* data confirmed this result. Though our measure of continuity is crude, it is possible that too much weight has been given in the literature to discontinuity of contact as the crucial aetiological factor as against the loss itself. However, the emphasis on discontinuity is understandable, as it is very highly related to loss of mother before 11. In the general population most experiences of discontinuous contact among those who lost *either* parent before 17 resulted from a loss of a mother before 11 (88 per cent). But it is important to note that nearly half of the losses of mother before 11 were followed by continuous contact, usually with a father. Future research must bear this asymmetry in mind.

sees this as primarily a cognitive disposition which once established greatly increases the chance of an animal passively undergoing a traumatic situation (such as receiving electric shocks) rather than seeking a solution. 'Absence of mother, stimulus deprivation, and non-responsive mothering all contribute to the learning of uncontrollability. . . . Since, however, helplessness in an infant is the foundational motivational attitude which later motivational learning must crystallize, its debilitating consequences will be more catastrophic' (Seligman, 1975, pp 150–1).

We do not believe (as Seligman argues) that loss of mother before 11 is specifically related to so-called 'reactive' or 'neurotic' depression. Like the other three vulnerability factors it raises the chances of developing *any* form of depression. However, since whether past loss occurs by death or other means also influences the form and severity of the depression, loss of mother before 11 plays a double role: as a vulnerability factor and as a symptom-formation factor. Other types of loss influence only symptom formation.

These results suggest some form of enduring cognitive influence. It is possible that loss by death may be related to psychotic-like symptoms because it tends to lead to a very general attitude that one's own efforts are useless; that loss of any kind becomes like death, irreversible, and there is nothing that can be done. Such an attitude may be particularly linked to denial of the implications of a loss and to greater 'bodily' expression of symptoms. A person who has lost a parent and knows he or she is still alive will be likely to feel the situation less irredeemable. It is not as if an outside fate had removed them. This may give them a less passive cognitive set than a person whose parent has died. It may also cause them to see the separation as a rejection: if the parent is still alive somewhere else it may seem as if they have chosen to leave because he or she is not lovable. Such an interpretation could prove the foundation for a life-long expectation of failure, which could become self-reinforcing. This distinction between the psychotic's sense of abandonment and the neurotic's sense of rejection would fit quite plausibly with the traditional ideas of the typical psychotic and neurotic depression.[*]
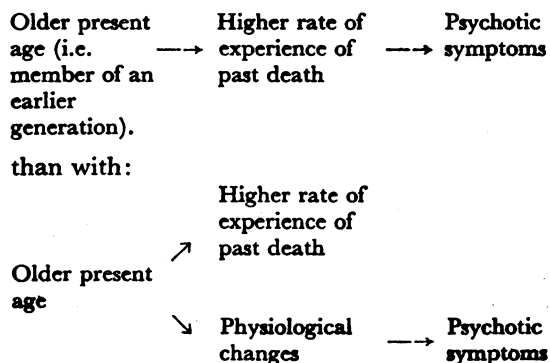
It is of interest in the light of this argument that the *recent* events provoking the depressive episode under study did not relate to the type or severity of the woman's depression. About three-quarters of provoking events among the patients involved a clear-cut loss (see Brown, 1974): psychotic patients were no more or less likely to have had such a recent clear-cut loss than neurotic patients. (And if age is allowed for they were only a little more likely to suffer a loss by death.) Moreover, a woman who had had a recent loss by death was no more likely to have had a past loss brought about by death. The lack of an association between the types of past and recent loss is just what would be expected if cognitive schemes influenced reactions to a severely threatening event. For a woman who has earlier lost an important person by death, the emigration of her child may be seen to have death-like qualities.

One would also expect some kind of primacy effect on the way past loss influences symptom formation. If, for instance, the first loss is by death, a person will tend to see all other losses in these terms. It is possible that losses other than by death would in time attenuate or even reverse the original perspective; and, of course, since we have thoughts about the past, the perspective that is important need not be formed at the time of the loss.

[*] Lichtenberg (1957) has discussed loss and depression in somewhat similar terms, and Becker (1974) some cognitive approaches to depression. The greater preponderance of losses other than by death among the neurotics might also be accounted for on genetic lines. Several authors who have produced their own classifications of depression have suggested that there is a special younger group among the neurotics with sociopathic tendencies either in themselves or among first-degree relatives (Paykel, 1971; Winokur *et al*, 1969; Perris, 1966). The sociopathic tendencies might be held responsible for various of these other forms of loss (e.g. separation of parents, mental hospital admissions of mother, etc) which the patient had suffered as a child. Under this hypothesis a high rate of loss other than by death would be a spurious rather than a causal factor. However, a genetic explanation for the association of past deaths with a psychotic symptom configuration seems much more difficult to sustain given our evidence that parental deaths by suicide were very rare. We find that the cognitive set model can be applied to the association of neurotic symptoms with loss other than by death with as much plausibility as this genetic explanation.

The measure of past loss we have used is still crude and the assumptions we have made about primacy will need to be tested on larger numbers. For instance, we rated as loss by death the experience of one patient whose mother died in her first year; her father, after a struggle to cope, sent her to foster parents at the age of two, and these returned her at the age of seven on her father's remarriage. This experience could with equal plausibility be considered as loss by separation. It is also, of course, important to extend the work by considering a wider range of experience. What, for instance, about war-time evacuation, periods in hospital of less than one year, broken engagements, and so on?

The role of past loss may also account for what is agreed to be one of the most striking features of psychotic as compared with neurotic depressed patients, namely that they are older. This has usually been considered to be a physiological effect, but environmental factors might also be implicated. Women in Camberwell who were 50 to 65 were much more likely to have experienced past loss than those aged 20 to 35. One possible explanation is that the older women had had more time to lose husband and children; but since the majority of the past losses occurred before 18 and the findings held whatever the age at loss, this can be ruled out. It is more tempting to interpret this age difference as, at least in part, the result of a generational effect: improved diet, medical care, smaller families, and lack of major wars have meant that the younger generation experience far fewer deaths of close relatives. This would be more consistent with the model:

Older present age (i.e. member of an earlier generation). ⟶ Higher rate of experience of past death ⟶ Psychotic symptoms

than with:

Older present age
  ↗ Higher rate of experience of past death

  ↘ Physiological changes ⟶ Psychotic symptoms

If this is true we might be experiencing a generational change in the form taken by depression, psychotic-like conditions becoming less frequent. While there is some suggestion that this may be occurring (Paykel *et al*, 1970) and that there may be secular changes taking place in the form of psychiatric disorder (Hare, 1974), there are obvious alternative explanations. Since there can at present be no direct test in the absence of evidence for a physiological link, the possibility must remain speculative. Once the present cohort of 20- to 35-year-olds are 50 or over we can expect to have a clearer picture. Insofar as other kinds of major loss may be increasing, particularly from marital breakdown, there is another reason to expect a secular change in the form of depression.

The significance of the results we have presented is that by conceptualizing loss in different ways a case has been made for showing that it plays a vital role both in bringing about depression and in determining its severity and form. The associations are large enough and the possibility of gross confounding factors sufficiently small to suggest that in time research may be able to establish valid theoretical models. While the work indicates that there is something behind some of the more fanciful theories of psychoanalysts, in the short-term at least, we believe that research on depression should be grounded far more in the investigation of current social processes and cognitive and emotional states.

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