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"Endogenous" and "Neurotic" Syndromes of Depression: A 5- to 7-Year Follow-up of 104 Cases

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Introduction

In a previous paper (Kay *et al.*, 1969) the mode of selection and composition of a sample of 104 depressed patients was described. The present article concerns the follow up of this sample, 5–7 years after the index admission (which was always a first admission). The aims were: (*i*) To examine and compare outcome in three groups of patients, "endogenous", "neurotic", and "undifferentiated". (*ii*) The second aim was to study the power of various *individual features* to predict the course and outcome of the illness. The patients' groups were defined by the factor scores on a first (bipolar) factor which was identifiable in many though not all respects with the "endogenous–neurotic" factor previously described by Kiloh and Garside (1963) and by Carney, Roth and Garside (1965). A full account of the symptoms defining the factor, which was obtained by principal components analysis, and of the method of allocating patients to the diagnostic groupings, was given in the previous paper.

So far as we are aware, no long-term follow-up with the explicit aim of comparing the course and outcome in defined endogenous and neurotic groups has hitherto been reported. Astrup *et al.* (1959) followed up 270 patients with acute affective psychoses diagnosed in hospital as manic-depressive or reactive, but the basis for this distinction is not entirely clear.

Method

Each patient was interviewed, five to seven years after admission, by a psychiatrist (D.W.K.K., P.B., or J.R.R.) who inquired into speed of recovery, persistence of symptoms, relapses, admissions, admissions to general hospitals for physical illness, and attendance at general practitioners' surgeries; he made a psychiatric assessment, and asked after and observed the subject's current physical status, but made no physical examination other than taking blood pressure. He completed the Hamilton Depressive Scale, and administered the Maudsley Personality Inventory. For certain patients the general practitioner was written to and asked about details of treatment after discharge from hospital.

The findings were entered on a standard proforma, and submitted to tabulations, correlation analysis and multiple regression analyses on a KDF computer, together with the data extracted from the case records, as described previously.

Definitions

Definitions of the symptoms and other features recorded at the time of admission have already been given. The outcome was assessed as follows:

1. *Immediate Outcome.* The condition on leaving hospital, which in nearly every case took place within three months, was noted from the hospital records, and scored as 1 "recovered", 2 "improved" and 3 "not improved".

2. *The Hamilton Rating Scale* (Hamilton, 1960) of depressive symptomatology was completed by the psychiatrist at the follow-up interview. The single score was used. This scale provides a simple way of assessing the severity of a patient's condition quantitatively (Hamilton, 1967).

3. The number of *Readmissions* was recorded. No readmission was scored 1, one readmission was scored 2, two readmissions were scored 3, three scored 4, four scored 5, etc.

4. An adverse course was recorded under *Prolonged Ill-health* (scored 2), all other outcomes being scored 1. This measure thus distinguished patients with the worst outcome from the remainder, and included those in whom a physical illness, such as a stroke, complicated the picture.

5. A *Favourable Course* of illness was scored separately. When a patient was "recovered" at the time of discharge, was found to be well at follow-up and had not relapsed in the interim, a score of 3 was given; when a patient was not fully recovered at discharge, but had recovered shortly afterwards,

had not relapsed and was well at follow-up a score of 2 was given; the remainder were given a score of 1. This measure therefore distinguished patients with good and excellent outcomes from the remainder.

The MPI scores are to be reported on in more detail separately. The social data collected and recorded by a P.S.W. who saw each patient separately will also be reported on another occasion.

Statistical Methods

The multiple regression analysis included the calculation of standardized partial regression coefficients (beta-coefficients) (Guilford, 1956). The products of these coefficients and the correlations with the criterion (i.e. one of the five outcome measures) is the extent to which each feature is contributing to the prediction of the criterion in question. These products have therefore been used to select those features which are probably most important in prediction.

Results

1. Relationships of Syndromes to Measures of Outcome

Taking each of the five measures of outcome in turn as the dependent variable, i.e. the measure to be predicted, the 14 symptoms comprising the "endogenous" and "neurotic" syndromes were regressed on these measures, and the beta-coefficients of each symptom-group summed algebraically. The differences between the two syndromes were then obtained (Table I), a positive sign showing that the measure of outcome was more associated with the "endogenous" and a negative sign indicating a greater association with the "neurotic" syndrome.

The "endogenous" syndrome was found to be associated with the more favourable outcome with every measure except one, the difference being greatest for the Hamilton Scale score at follow-up, and smallest for Prolonged Ill-health. Readmission, however, tended to be associated with the "endogenous" syndrome.

The multiple correlations are also shown, with their levels of significance.

2. Relationship of Patients' Diagnostic Groups to Outcome

The results of comparing the patients' groups as defined by their scores on the bipolar "endogenous–neurotic" factor are shown in Table II. The difference between the three groups are significant in respect of Immediate Outcome ($p<\cdot01$) and Hamilton Scale score at follow-up ($p<\cdot05$), as are the differences, for these measures, between the "endogenous" and "neurotic" groups only, compared with each other.

The differences in respect of the other three measures, Readmission, Prolonged Ill-health and Favourable Course are not significant. However, certain trends may be noted. The "endogenous" group of patients experienced somewhat more Readmissions than either of the other groups, and if it is compared with the "undifferentiated" and "neurotic" groups combined the difference is significant ($\chi^2 = 4\cdot93$, df. = 1, $p<\cdot05$). Despite readmissions, which by our definition meant that the course could

Table I

Sums of Standardized Partial Regression Coefficients (β-Coefficients) of Eight "Endogenous" and Six "Neurotic" Symptoms on Various Measures of Outcome

	Endogenous Syndrome E	Neurotic Syndrome N	Difference (E–N)‡	Multiple Correlations
Immediate Outcome (poor)	−·02	+·33	−·35	·57†
Hamilton Scale Score	−·49	−·02	−·47	·47*
Readmission	+·42	+·08	+·34	·34
Prolonged Illness	−·25	−·11	−·14	·35
Favourable Course	+·06	−·34	−·41	·47*

* $p<\cdot05$; † $p<\cdot01$.

‡ Differences with a + sign indicate that the "endogenous" symptoms tend to be positively weighted and "neurotic" symptoms negatively in predicting the outcome in question; for those with a − sign the reverse is true.

TABLE II

Patients' Diagnostic Groups and Outcome

	Endogenous Group (N = 31)	Undifferentiated Group (N = 34)	Neurotic Group (N = 39)	Total (N = 104)	p
Immediate outcome:					χ^2 12·16
Recovered	22	13	12	47	df 2
Remainder	9	21	27	57	p<·01
Hamilton Scale Scores:*					χ^2 11·48
0–4	23	14	17	54	df 4
5–14	6	14	13	33	p<·05
15+	1	5	9	15	
Readmission:					χ^2 5·28
None	16	24	30	70	df 2
One or more	15	10	9	34	·05<p<·1
Prolonged ill-health:					χ^2 4·43
Absent	24	27	23	74	df 2
Present	7	7	16	30	·1<p<·2
Favourable course:					χ^2 4·68
Excellent	8	3	4	15	df 2
Mainly good ..	2 } 23	9 } 31	3 } 35	14 } 89	·05<p<·1
Less favourable ..	21 }	22 }	32 }	75 }	

* Scores available for 102 patients.

not be scored as "favourable", the "endogenous" patients had an "excellent" Favourable Course significantly more often than the remainder ($\chi^2 = 4·64$, d.f. = 1, $p<·05$).

Prolonged Ill-health was commonest in the "neurotic" group (41 per cent.). If this group is compared with the other two groups combined, the difference is significant ($\chi^2 = 4·51$, d.f. = 1, $p<·05$).

Of the five patients with prolonged ill-health who belonged to the "endogenous" group, one had developed cerebrovascular disease and another a chronic physical illness after discharge; a third had been widowed; and the remaining two were showing marked paranoid traits.

3. Factor Scores in the Outcome Groups

The *mean factor scores* on the bipolar factor was calculated for groups of patients in different outcome classes, and tests of significance applied. The results are shown in Table III.

The mean factor scores are significantly different ($p<·001$) for patients with good Immediate Outcome (recovery) compared with those having poor Immediate Outcome (improved and not improved); for patients obtaining different scores on the Hamilton Scale at follow-up ($p<·01$); for patients with and without Prolonged Ill-health ($p = ·05$); and for patients with and without Favourable Course ($p<·05$).

The differences in mean factor scores were not significant, using the F-ratio ($p>·10$), between patients having no readmission, one readmission and more than one readmission.

4. The Association of Individual Features with Outcome

This was examined by (*a*) calculating the product–moment correlations; and (*b*) by multiple regression analyses.

(*a*) The correlations of the individual "endogenous" and "neurotic" symptoms with the outcome measures are shown in Table IV. Only those features with one or more significant (or almost significant) correlations are shown.

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TABLE III

Mean Factor Scores of Patients in Various Outcome Classes

	N	Mean Factor Score (Endogenous –ve)	t or F	p
Immediate outcome:				
Recovered	47	−·42	t = 4·17	<·001
Remainder	57	+·35		
Hamilton Score:				
0–4	54	−·26	F = 5·08	<·01
5–14	33	+·26		
15+	15	+·48		
Prolonged ill-health:				
Absent	74	−·12	t = ·198	= ·05
Present	30	+·30		
Readmissions:				
None	70	+·09	F = 1·80	·1<p<·25
One	15	−·44		
More than one	19	−·02		
Favourable course:				
Excellent	15	−·62	F = 3·66	<·05
Good	14	−·04		
Less favourable	75	+·13		

Retardation has significant correlations with all the measures of outcome except Readmission and Prolonged Ill-health. Four of the other "endogenous" symptoms are associated favourably with Immediate Outcome, while one symptom, *hallucinations*, is unfavourable. Only two other correlations are significant; *severe depression* with Favourable Course, and *hallucinations* with (low) Hamilton Scale scores at follow-up.

Of the "neurotic" symptoms *somatic complaints* has significant correlations with all the measures of outcome except Readmission and Prolonged Ill-health. None of the other "neurotic" symptoms are significantly related to outcome.

The correlation of the patients' *scores on the bipolar factor* with the outcome measures are similar to those given by retardation.

In the previous paper (Kay *et al.*, 1969) certain features were found to be related to the "endogenous" and "neurotic" syndromes respectively. Of these, the personality trait *with narrow interests* has a significant correlation with Readmission; in fact this trait tends to have unfavourable associations, unlike the endogenous syndrome to which it is related. Of the features related to the "neurotic" syndrome *psychogenesis* has a significant correlation with (high) Hamilton Scale score, and *long duration* of illness with (high) Hamilton Scale scores and (negatively) with Favourable Course.

Of the remaining symptoms, *paranoid ideas* and *schizophrenia-like features* are associated with (poor) Immediate Outcome, and *anxiety* (negatively) with Prolonged Ill-health. *Age* is associated with Favourable Course.

(*b*) *Multiple regression analyses.* In Table V the best predictors of the various measures of outcome have been grouped according to whether they are favourable or unfavourable and listed in order of the size of their beta-coefficients (those with small or negligible beta-coefficients are shown in brackets). For Immediate Outcome, *guilt*, *nihilistic ideas* and *male sex* are favourable, *somatic complaints*, *hallucinations*, *paranoid ideas*, *schizophrenia-like* features and *long duration* unfavourable. In the long-term follow up, *retardation* is a consistently favourable feature, *somatic complaints* consistently unfavourable. The feature

TABLE IV

Product–moment Correlations (r) of Various Features with the Measures of Outcome. Significant ($p < \cdot 05$) Correlations are Shown in Italics (Decimal Points Omitted)

	Poor Immediate Outcome	Hamilton Scale Score (FU)	Readmission	Prolonged Ill-health	Favourable Course
Endogenous features:					
Severe depression	*−23*	−08	+07	−13	*+22*
Retardation	*−33*	*−30*	+02	−18	*+35*
Guilt	*−28*	−17	+05	−11	+06
Nihilism	*−26*	−08	+18	−05	+08
Hopelessness	*−20*	−17	+16	−19	+12
Hallucinations	*+24*	*−24*	+08	+08	−02
Narrow interests	+12	00	*+34*	+09	−19
E.C.T.	−04	−09	+16	−08	+06
Neurotic features:					
Somatic complaints	*+26*	*+30*	−07	+17	*−26*
Blaming others	+09	+05	+02	−01	−16
Psychogenesis	+15	*+21*	+01	+11	−19
Duration Long	+18	*+27*	+04	+15	*−22*
Bipolar factor score*	*−31*	*−30*	+12	−16	*+24*
Other features:					
Age	−09	−06	+01	−01	*+30*
Sex (M)	−14	−12	+02	−11	−02
Agitation	−02	−04	−08	−15	+16
Anxiety	+02	−02	−17	*−26*	+08
Paranoid ideas	*+27*	−10	+08	+19	−17
Schizophrenia-like symptoms	*+22*	−08	+01	+06	−03
Hysterical traits	+14	+09	+04	−12	*−23*

* The "endogenous" end of the factor score distribution was +ve.

with the largest beta-coefficient for Readmission is the personality trait, *with narrow interests. Nihilistic ideas*, *early waking* and *E.C.T.* are also important for Readmission.

It is noteworthy that *bereavement* and *psychogenesis* (which did not include bereavement) tend to predict favourable and unfavourable outcomes respectively.

Age is predictive of Favourable Course and *Sex* (male) of (good) Immediate Outcome, absence of Prolonged Ill-health and low Hamilton Scale score.

5. Comparison of Predictions Based on Syndromes and Symptoms

In Table VI the course and outcome in patients with retardation are compared with those in patients with the "endogenous" syndrome, and the course and outcome of patients with somatic complaints are compared with those in patients with the "neurotic" syndrome. For each outcome, chi-squares are calculated against each of the two symptoms and against each of the two syndromes. These values of chi-square not only indicate whether the different outcomes are related to the symptoms and syndromes in question, but also show the relative strength of the relationships to each measure of outcome.

In the two right-hand columns are shown, for comparison, the results of applying the appropriate (unstandardized) regression coefficients, as "weights", to the patients' raw scores on the more important predictive features given in Table V. The chi-squares with outcome have been calculated using, (*a*) the best third against

TABLE V

Favourable and Adverse Predictors According to the Standard Partial Regression Coefficients. (Items in brackets are of small importance.) R = multiple correlation

Immediate Outcome R = ·61*	Hamilton Scale Score (F.U.) R = ·53*	Readmission R= ·54*	Prolonged Ill-health R = ·53*	Favourable Course R = ·56*
		FAVOURABLE		
Nihilism	Hallucinations	Anxiety	Anxiety	Retardation
Guilt	Retardation	Elated Phases	Hysterical traits	Age
Early waking	Bereavement	(Bereavement)	Male sex	(Deafness)
Male sex	Male sex	(Male sex)	Bereavement	(Anxiety)
(Retardation)	(Elated phases)		Initial insomnia	(Severe depression)
(Age)	(Hopelessness)		(Agitation)	(Elated phases)
	(Age)		(Retardation)	(Bereavement)
			(Hopelessness)	(Agitation)
		ADVERSE		
Somatic complaints	Long duration	Narrow interests	Somatic complaints	Somatic complaints
Hallucinations	Somatic complaints	Nihilistic ideas	Narrow interests	Paranoid ideas
Paranoid ideas	Deafness	Early waking	Paranoid ideas	Hysterical traits
Long duration	(Psychogenesis)	E.C.T.	(Long duration)	Long duration
Schizophrenia-like symptoms		(Age)	(Age)	(Blood pressure)
		(Blood Pressure)		(Male sex)

* Significant at the 1 per cent. level.

the remainder of the distribution of weighted scores, and (*b*) the worst third against the remainder. Not surprisingly, the predictions obtained are much better (i.e. have higher chi-squares) than with the other methods describing patients, since not only are the weights derived *post hoc* from the actual outcome, but features additional to the 14 symptoms defining the "endogenous-neurotic" syndromes were included in the regressions. Naturally the predictive features and their weights need to be tested out in further studies.

DISCUSSION

Prognosis in the Syndromes

The differences between patients' groups in short and long-term outcome show that factor scores, derived from factor loadings of symptoms, provide a way of differentiating patients even when the distribution of scores is not bimodal. The fact that groups of patients, taken from various parts—the middle and the two tails—of the distribution of scores, do differ on an independent criterion, outcome, is in keeping with the hypothesis that the material is not homogeneous. Grouping of patients is, however, not necessarily the most sensitive way of describing them, because it ignores any differences there may be between patients in the same group. This presumably accounts for the greater number of significant results obtained between outcome and factor score (Table III) than is obtained between outcome and diagnostic groups (Table II).

"Pure" forms of "endogenous" and "neurotic" illness may be found, not only at the extremes of the distribution of scores, but also in the middle ranges, since patients with few or no symptoms of one kind do not necessarily have many or all but may have some of the symptoms of the other kind. Some patients have few symptoms of either kind. In any series of patients, the precise proportions showing various syndromes will depend among other things on how the sample was selected. But unless the characteristics of syndromes are defined and their relationship to each other and to other criteria examined (as has also been done by Rosenthal and Gudeman, 1967), we shall have no means of assessing the validity of hypotheses about them.

TABLE VI

Outcome in Various Groups

	Totals	Retardation N = 33	"Endogenous" Syndrome N = 31	Somatic Complaints N = 52	"Neurotic" Syndrome N = 39	Weighted Scores "Best" ⅓ N = 35	Weighted Scores "Worst" ⅓ N = 35
Immediate outcome:							
Recovered	47	23	22	17	12	28	4
Remainder	57	10	9	35	27	7	31
df = 1		$\chi^2 = 11{\cdot}72$‡	$\chi^2 = 11{\cdot}86$‡	$\chi^2 = 6{\cdot}56$†	$\chi^2 = 5{\cdot}24$*	$\chi^2 = 25{\cdot}79$‡	$\chi^2 = 24{\cdot}28$‡
Readmission:							
None	70	24	16	38	30	30	12
One or more	34	9	15	14	9	5	23
df = 1		$\chi^2 = 0{\cdot}65$	$\chi^2 = 4{\cdot}94$*	$\chi^2 = 1{\cdot}57$	$\chi^2 = 2{\cdot}62$	$\chi^2 = 8{\cdot}12$‡	$\chi^2 = 26{\cdot}14$‡
Prolonged ill-health:							
Absent	74	28	24	33	23	32	17
Present	30	5	7	19	16	3	18
df = 1		$\chi^2 = 4{\cdot}42$*	$\chi^2 = 0{\cdot}81$	$\chi^2 = 3{\cdot}00$	$\chi^2 = 4{\cdot}51$*	$\chi^2 = 10{\cdot}57$‡	$\chi^2 = 13{\cdot}11$‡
Favourable course:							
Excellent or good	29	15	10	9	7	22	3
Less favourable	75	18	21	43	32	13	32
df = 1		$\chi^2 = 7{\cdot}42$‡	$\chi^2 = 0{\cdot}42$	$\chi^2 = 5{\cdot}80$†	$\chi^2 = 3{\cdot}06$	$\chi^2 = 32{\cdot}09$‡	$\chi^2 = 9{\cdot}79$‡
Hamilton Scale score:							
0–4	54	26	23	22	17	28	11
5–14	33	4	6	19	13	6	14
15+	15	2	1	11	9	1	10
df = 2		$\chi^2 = 15{\cdot}02$‡	$\chi^2 = 10{\cdot}27$‡	$\chi^2 = 6{\cdot}24$*	$\chi^2 = 4{\cdot}06$	$\chi^2 = 16{\cdot}25$‡	$\chi^2 = 13{\cdot}58$‡

* $p < {\cdot}05$. † $p < {\cdot}02$. ‡ $p < {\cdot}01$.

Although the differences on some of the measures of outcome do not reach significance unless the groups are combined in various ways, this might be due to blurring of differences that actually exist, owing to the unreliability of the data culled retrospectively from case-records, and to the occurrence of later events, such as strokes and bereavements, which could not have been foreseen. It has to be remembered too, that no account was taken of patients' scores on factors other than the first factor, and that other symptoms, and important features such as duration of illness, were not included in the factor analysis. This was, of course, done deliberately to see if differentiation of patients on one dimension, endogenous-neurotic, would be prognostically useful; which it was. But other characteristics are important too, as Table V shows. This is not surprising; what the results show is that taking a limited number of symptoms discriminating along one parameter only, significant differences in some measures of outcome are to be found.

The "undifferentiated" patients were intermediate in outcome; and comparison with the other groups suggests that the outcome was not particularly favourable owing to the absence of endogenous symptoms, and not particularly bad owing to the absence of neurotic symptoms. Some of these patients, however (about 6 per cent. of the total) showed both endogenous and neurotic symptoms; while others cannot be described as either endogenous or neurotic, though they were not less depressed than the remainder. Among them were patients with marked paranoid-hallucinatory symptoms who would be better defined by their scores on the second factor obtained by Kay *et al.* (1969). The undifferentiated group contains, therefore, not only patients with a "mixed" syndrome but also other syndromes not properly described by the first factor.

On turning back to the original hospital diagnoses (Endogenous, Neurotic and Involutional Depression and Paranoid State with depression) it is of interest that only three significant associations with outcome are found, and two of these concern the poor prognosis in Paranoid States compared with the remainder. This raises the question of how individual symptoms are to be "weighted" when constructing syndromes which are to be useful in prognosis. These weights may be obtained by regressing the symptoms on the various measures of outcome.

Individual Symptoms and Prognosis

Of the fourteen symptoms making up the endogenous-neurotic syndromes, two—retardation and somatic complaints—were of special importance, retardation being favourable and somatic complaints unfavourable. The other symptoms had little influence on the long-term outcome when retardation and somatic complaints were taken account of, though this was not true in respect of immediate outcome (Table V). Yet, as the correlation shows, retardation is strongly associated with (good) immediate outcome, and not too much should be read into a particular result of the regressions; it is the regularity of the findings that should be studied. Of the other symptoms, paranoid ideas tend consistently to indicate a poor prognosis, with prolonged ill-health, though without much depressive symptomatology at follow-up (Tables IV and VI). Astrup *et al.* (1959) found that psychomotor excitation or stupor was favourable and paranoid traits in the clinical picture unfavourable, among his "reactive depressions".

So far as prognosis is concerned, it seems that the endogenous syndrome can be reduced, virtually, to one favourable ingredient, retardation. Within the endogenous group non-retarded patients fared somewhat less well than the remainder, while in the other groups retarded patients fared somewhat better than the remainder. In fact our findings suggest that, with some realignment of patients, the term "retarded depression" could replace "endogenous depression" with improvement in predictive power. The use of a purely descriptive term would also have the great merit of avoiding the question-begging "endogenous-neurotic" or "endogenous-reactive" dichotomies.

Lewis (1967) found retardation to be of complex origin, unspecific and difficult to measure. Nevertheless it is interesting to see that "general retardation and stupor" were favourable in his study, both for duration of the current illness and in respect of subsequent history. This was in the pre-E.C.T. era. Lewis's surprise that "no unequivocal prognostic signs"

were to be found (by which he meant that favourable signs might be present, though less frequently, in patients who fared badly) would not be widely felt today. As Lewis pointed out, the whole pattern of the patient's premorbid development and of his illness has to be considered. But retardation is one of the most important pieces of the pattern. We recorded it as present only when there was *objective* clinical evidence, and the importance of distinguishing patients' subjective reports (of difficulties in concentration, etc.) from clinical observations is supported by recent work (Colbert and Harrow, 1967; Eberhard, *et al.*, 1965).

So far as the "neurotic" syndrome is concerned, there is little to choose between the usefulness of this and of somatic complaints for prognosis; both are about equally unfavourable. Greer and Cawley (1966) in a follow-up of neurotic illness, found hypochondriacal preoccupations to be prognostically unfavourable, while the broader category, somatic symptoms, was not related to outcome. Depression was favourable. These results are not at variance with our own in patients all of whom were depressed. Our symptom, somatic complaints, appears to correspond with the two "neurotic" syndromes found by Pilowski (1967) in his factor analytical study of hypochondriasis; his more "psychotic" syndrome, conviction of the presence of disease, would have been recorded as a nihilistic idea.

The Syndrome of "Retarded Depression"

Retardation has, of course, for long been regarded as one of the primary symptoms at least of some forms of depression. Now that new methods of treatment and computers have become available, the classification and aetiology of the various clinical forms are undergoing re-examination. The first step is, however, to define groups of patients who are clinically homogeneous.

The consistency of the clinical features in the "endogenous-depressive pattern" described by Rosenthal and Gudeman (1967), in which retardation was prominent, and the distinctive personal characteristics of patients scoring high on this syndrome, and the demonstration by Overall *et al.* (1966) and Hollister *et al.* (1967) of a differential response to drugs in retarded compared with anxious or hostile depressed patients, all indicated that the concept of retarded depression may be a useful one. Now we find, as others have before, that patients with retarded depression generally recover; moreover, that, unless complications such as physical illness or paranoid traits are present, recovery is uncontaminated by lingering symptoms, in marked contrast to the outcome in patients without retardation.

It was noticed further (Table VII) that recovery was equally good from severe as from milder degrees of retardation, an observation which, if confirmed, is difficult to account for unless it is supposed that depression with retardation is essentially an "illness", a qualitative departure from the normal state of "all-or-none" kind. Retarded depression comes in sporadic fashion, is intense so long as it lasts, and generally lifts without residual symptoms.

On the other hand, with somatic complaints, the more numerous and absorbing they are, the more chronic the illness tends to be. In these patients, hospital admissions mark the peaks in low-grade chronic states of personal maladjustment characterized, in our society at any rate, by physical complaining and resentment. Strauss (1960) gave his opinion that these conditions are neuroses, not depressions at all; but if this is so, differential diagnosis becomes a crucial matter. The absence of (objective) signs of retardation in such patients will be an important clue to the correct diagnosis.

The occurrence in some patients of symptoms of both types should not be taken as evidence that two (or more) distinct conditions do not exist. Each may exert an independent effect on outcome. Also, other syndromes probably exist; for example, depressions with marked paranoid features without retardation. The nature of depressions in which agitation or depressive delusions are the most prominent symptoms need further study.

It may be found that "retarded depression" is a useful defining criterion for biochemical research. Most investigators in this field have not differentiated between sub-groups of depression (Coppen, 1967), and Fawcett and Bunney

TABLE VII

Outcome and Severity of Symptoms

	Retardation			Somatic complaints			Total (104)
	Severe (9)	Mild (24)	Absent (71)	Severe (18)	Mild (34)	Absent (52)	
Immediate outcome good %	78	67	35	17	41	58	45
Favourable course % ..	67	37	18	6	23	38	28
Prolonged ill-health % ..	0	21	35	39	35	21	29
Mean Hamilton score follow up	0·8	5·0*	7·7	9·7	7·8	4·2	6·5

* One patient in relapse scored 34.

(1967) remarked on the need for systematic and reliable independent quantitative data. There is some evidence that metabolic changes are more likely to be found in severely depressed patients when retardation is present than when it is not (Board *et al.*, 1957; Rosenblatt and Chanley, 1965). The results of Anderson and Dawson (1962, 1963) and Anderson (1968) are of special interest in this connection. In a biochemical and clinical study of depressed in-patients, verbal retardation was associated very significantly with high A.M.C.* levels. Combined with one other item, depressive preoccupation, verbal retardation picked out correctly 77 per cent. of patients with high levels; symptoms such as agitation, anxiety, self-blame, suicidal feelings, and disturbances of sleep and appetite did not help in this separation when the raw rating scores were used. A factor analysis, however, showed scores on the main factor to be higher with high A.M.C. levels. This factor represented verbal retardation, depressive preoccupation and, to a lesser extent, agitation, self-blame and suicidal feelings. The grade of improvement was significantly better when A.M.C. had been high than when low.

OUTCOME AND PERSONALITY

Table V shows that long duration is adverse, while age and male sex are both favourable. It is interesting to see that both of the recorded personality features predict outcome, which indicates that symptoms and personality traits need to be assessed separately when formulating prognosis, a conclusion also reached by Greer and Cawley (1966). This is clearest in the case of "with narrow interests", which is the most important individual indicator that readmission will occur. The feature "hysterical traits" appears to indicate an intermediate prognosis, that is, neither prolonged ill-health nor a particularly favourable course.

The assessment of pre-morbid personality traits in depressed patients is difficult. The patients' scores on the Maudsley Personality Inventory *at follow up* and their relationship to the depressive symptoms shown during the index admission will be reported separately. It seems that retarded patients achieve a significantly lower neuroticism score than others, since the partial correlation between the neuroticism score and retardation, with Hamilton Scale score held constant, is −0·26 which is significant at the 1 per cent. level of confidence.

* Acetyl methyl carbinol.

SUMMARY

1. A sample of 104 depressed in-patients selected from hospital first admissions, as previously described, was followed up 5–7 years after the index admission, and comparisons were made of the course of illness using five measures of outcome, in patients distributed among three diagnostic syndromes—"endogenous", "neurotic" and "undifferentiated"—according to their factor scores on a bipolar factor previously described. The relationships between the factor scores, and the various measures of outcome were also studied.

2. Significant differences were found between factor scores and groups of patients in respect of at least two of the measures of outcome.

3. When the individual relationships between 31 features and outcome was examined, by correlations and regressions, two symptoms,

objective retardation and somatic complaints, were found to be consistently important, the first favourable, the second unfavourable. The predictions given by these two symptoms were in general somewhat better than those obtained with the "endogenous" and "neurotic" syndromes respectively.

4. It is suggested that the symptom retardation, and the term "retarded depression", could with advantage be more often used to describe patients for both clinical and research purposes.

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