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The Neurology of Psychotic Speech*

By MACDONALD CRITCHLEY

Speech has been called a socio-economic device for saving effort in the attainment of objectives (Whitehorn and Zipf, 1943). One of its earliest and most fundamental purposes is to orientate the individual within the community. This socializing effect operates early in childhood, and in a phylogenetic sense it was perhaps one of the greatest factors in the origin of speech in primitive man. As maturity is slowly achieved in the individual as in the genus, the use of language becomes inextricably interwoven within the warp and woof of the organism, as exemplified not only by thinking processes, but also by the complicated structure of personality. The development of speech during the pre-hominoid stage synchronizes with the gradual elaboration of communal life: with cries and calls serving as a "sound-tool": and with the beginnings of delegation of labour. Thus language is primarily a vocal actualization of the tendency to see reality symbolically (Sapir). The same is true ontogenetically. As the child gradually acquires speech, the organization of his thinking slowly changes; it evolves by intricate steps from ego-centric to socialized activity; and as he begins more and more to employ pronouns of the second and third person, he also utters fewer "action words". We readily agree with Fillmore Sanford (1942) that "there are many indications that language is a vehicle of personality as well as of thought, for when a person speaks, he tells us not only about the world, but also, through both form and content, about himself". The same author quoted Ben Jonson: "Language most showeth a man; speak that I may see thee."

Linguists go deeper, and from a study of man's various preferences, glossaries, and verbal habits, conclude that the choice and use of language is a highly individual accomplishment. This idea underlies Krechel's conception of *Spracherlebnis*, i.e. the personal or specific manner in which we experience and understand words. Each of us possesses his own private idiolect—a specificity which might permit the identification of authorship if only linguistic techniques were adequate. Whether these personal traits reveal themselves better in one's natural spontaneous diction, as Klages (1929) said, or in one's polished, studied, and much corrected fine writing, is a matter of opinion. The link between language and personality may be even more fundamental, for, according to the Whorf-Sapir hypothesis, the structure of a particular language is no accidental morphology, but bears some relationship with the mode of thinking, the prejudices and beliefs of the racial stock which uses that particular tongue.

Deviations of the inner mental life consequently betray themselves in an unorthodox use of language. Any considerable aberration of thought or of personality will be mirrored in the various levels of articulate speech—phonetic, phonemic, semantic, syntactic and pragmatic. In written language, too, defects may be obvious, and being set out in a medium which is more permanent than the spoken word, written language lends itself better to linguistic analysis.

The effects of crude lesions of the dominant hemisphere within the area of speech-vulnerability are well known. Here we have the dysphasias, in all their clinical diversity. The subtle, complex and less consistent deviations of speech which may be met with in many cases of dementia and of schizophrenia, and in some hysterics, also merit attention. The

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problem, as I have discovered, is an enormous one, and what one might term the neurology of psychotic speech forms a veritable *terra incognita*, a lush and unplotted jungle terrain.

Up to now this difficult topic has been approached from two main directions: the descriptive and the psychopathological. Scarcely any work has been done from the standpoint of linguistics. Aphasiological approaches have also been rare, perhaps because they may have been felt to be unrewarding.

In submitting the various psychotic patterns to aphasiological analysis, we are likely to find striking differences between the phenomena of disturbed language as they show themselves in dements and as they occur in schizophrenics. That is true enough, but there is probably also a certain amount of overlap, at least as far as some of the more superficial features are concerned.

Speech Disorders in Dementia

Let us first direct our attention to the dementias—conditions which imply mental derangement of organic nature. Here the correspondences and analogies with the dysphasias of local brain disease are likely to prove more germane than in most other psychoses.

In dementia, speech impairment essentially entails a poverty of speech due to inaccessibility of those different vocabularies which ordinarily we can utilize and which we may term the speaking vocabulary, the writing vocabulary, and the reading vocabulary. These terms refer respectively to the stock of words which we are in the habit of employing in conversation; to the larger one we draw on in written compositions; and to that even greater depository which also includes terms we recognize but rarely venture to use. With advancing mental inelasticity, bradyphrenia and memory loss, the words utilized by the demented patient become severely restricted in conversation and to a somewhat lesser extent in letter writing. But the premorbid reading vocabulary suffers far less. This fact we indeed make use of in our psychometric assessment of intellectual falling-off.

The difficulty in word-finding differs however from the anomia of aphasiacs. The demented patient does not necessarily show any hesitancy in putting a name to an object presented to him, even though a faulty use of proper names is common enough. Paraphasic errors in naming do not occur: nor yet neologisms, substitutions or portmanteau words. Neither does the patient seek to by-pass the elusive term by means of elaborate circumlocutions, as is so common with aphasiacs. But on the other hand the demented patient finds it difficult to retail a series of representatives of a generic class. For example it might be impossible for him to reel off the names of flowers, animals, vegetables, wines or foodstuffs, unless the specimens lie before him. His halting efforts may at times betray a serious lapse into a bald and concrete attitude, and the names he proffers may turn out to have some special connotation which has facilitated their emission. Thus, asked to give a list of girls' names, a dement may painfully and slowly produce two or three examples, which, on enquiry, turn out to be the names of some who dwell in close association, such as his wife, or daughter, or grand-daughter.

Thus there grows up a taciturn retardation which the patient is reluctant to break through. Prompted by direct enquiry he may reply relevantly enough, but with an economy of diction which is almost telegrammatic. Here indeed is something akin to aphasic poverty of speech. The fragmentary utterances of the dement are capable of linguistic analysis. First of all, the contents or semantic values of the speech are altered. Various classifications have been advanced to describe the normal state of affairs. The commonest grouping is into utterances which are (1) declarative; (2) interrogatory; (3) exclamatory and (4) imperative. It can be demonstrated that the dement—like the aphasiac—rarely embarks upon declarations or propositions, unless to draw attention to some strident bodily need, e.g. hunger, thirst or a full bladder. Even here the demented patient is in a graver plight than the aphasiac. On the other hand, in their truncated utterances both aphasiacs and dements will resort to exclamations and demands, prompted by egocentric drives. Again, the aphasiac is less handicapped than the dement in this respect.

Another semantic classification of normal utterance speaks of "mands" and "tacts"; or using another terminology, transitive as opposed to intransitive utterances. Mands, or transitive speech, include requests and questions; tacts, or intransitive speech, comprise comments, statements, and animadversions. Applying this terminology to the dementias, we can say that tacts are rare, for mands constitute the bulk of the meagre pronouncements of the patient.

Another linguist (A. S. Diamond), has divided utterances into (1) requests for action (or commands); (2) the statement; and (3) the descriptive-statement. Analysing the content of spontaneous speech in dementia, we can say that only the first of these classes survives.

It is possible to study still closer the fragmentary sayings and writings of demented patients, especially from a statistico-linguistic angle. Thus an estimation of the token/type ratio may prove revealing—and may demonstrate mathematically the poverty of the available vocabulary, and the great tendency towards verbal iterations, perseverations, and contamination. The same techniques are naturally applicable in aphasia, and the results are qualitatively the same, but perhaps more striking in cases of dementia.

Then again there is the verb/adjective ratio, which may be found to deviate considerably from the normal pattern and to show a change as in aphasia. Balken and Masserman (1940) found an upset in this ratio in the speech of neurotics. Again, in the spontaneous writings of dements, such syntactical properties as sentence-length and differential punctuation counts lend themselves to exact analysis.

As Allison has described, a patient with early dementia may preserve a façade of normality for quite a long time, by resort to a chatter of small talk. As time goes by, his repertoire of things to say becomes more limited and more stereotyped ". . . more laced with clichés and set phrases". Pre-morbid sequential habits of speech may come to the surface more and more. Later the subject remains taciturn unless directly addressed. This social seclusion—be it noted—does not embarrass or perturb the patient.

There are two other verbal peculiarities which the dement may share with the aphasiac. In the course of conversation he will often resort to the grammatical trick of aposiopesis, whereby a sentence is started but not finished. Again, he often resorts to vague generic terms to avoid a search for the appropriate noun or proper name. Hence there loom prominently such expressions as "things" "what'sit'sname" "thingumybob" "whatd'youmecallit".

In more artificial and elenctic interviews where the discourse takes the form of question and answer, there may appear deviations from the normal which are far more subtle. Thus the patient may be able to answer well enough ordinary simple questions of a wholly concrete character. But if an enquiry is made which entails notions of a more abstract character, the patient may be at a loss. Typically, however, he is not distressed thereby. Sometimes the patient interpolates little comments which—though not wholly beside the point—are a trifle unexpected. For example, when shown a watch and asked what it is, the patient may reply to the effect that it is a timepiece—and then go on to say quite unasked for ". . . and a very fine specimen too, if I may say so sir". This is the phenomenon of "gratuitous paralogism". Again the patient's replies as to the identity of an object before him may be unorthodox in a different way. What he says cannot be written off as entirely incorrect, but the patient gives a pseudo-description which is inadequate, unlikely, and often prolix. This is the phenomenon of "regressive metonymy", first described by Mrs. Petrie in the case of leucotomized patients. In some ways it reminds one of the *Vorbeireden* met with in the Ganser syndrome. I have reason to believe that this may represent the earliest stage of a sensory or jargon aphasia.

Phenomena of a perseveratory character are often met with both in the spoken and in the written speech, and bear witness to the underlying ideational inertia. In the early stages of a dementia this shows itself in the spontaneous letter-writing, whereby a term—perhaps a slightly uncommon one—is introduced into the text quite congruously, but thereafter keeps cropping up in a wholly inappropriate fashion. Aphasiologists speak of this verbal peculiarity

as "contamination", for it is familiar enough with local lesions of the brain. Still more striking is the reiteration of common words in the text, some of the errors being detected by the patient and elided, but not all of them. Even more bizarre, and outside the experience in aphasia, is a massive type of echographia which may show itself by a reply to a letter which constitutes an almost word-for-word transcription. Such a phenomenon is unlikely to come to light in ordinary everyday experience, but only in business houses where letters and copies or replies are filed and preserved. An astonishing example is reproduced, taken from the case of a young man with juvenile G.P.I. whose letter to his mother was an almost faithful reproduction of hers to him.*

Mother's Letter:

Dear Ern, Just a line in answer to your most kind and welcome letter I received from you and pleased to know you are better than you were and that you will try to steady your nerves for to be home quicker. I am longing to see you as you are to see me Ern but its far better to get well now as you are in the best place for it, but cheer up you won't be long now. Its nice to know you can join in all the sports and get about Ern. Thelma Parry's husband came home this week after four years a prisoner of war. They were all excited in the street. Well, Ern, I had a letter this week from Dave and he told me he had a letter from you. Olive is still home. She did not go to Weston after and Muriel is up at Mervyns home this three weeks. She is coming home next Monday with Mervyn he will be on leave then. I dont know what she intends doing after shes gone back. Well, Ern, Mr. Humphreys and Muriel asks how you are and I told him what the doctor said and he told me to tell you to put your mind and getting well to come home on leave and he also said you promised to write to him when you went back the last time you was home. Well, Ern, I will be sending some more cigs and some bake-scones that is if you would like some later on in the week.

Patient's Reply:

To my dear Mother, Just thank in answer to your most kind and welcome letter I received from you pleased to know you. Pleased I am to know you are better than you were that will try dry steady your nerves for to be home quicker. I am longing to see you as you are to see Ern, but its far better to get well now as you are in the best place for it. Just cheer up you wont be long now its to know you can join now in all the sports get about. Ern Thelma Parry husband came home this week after four years a prisoner of war they were all excited in the street. Well Ern I had a letter this week from Dave he told me he had a letter from me. Olive is still she didnt go to Weston after. Muriel is up at Mervyns home this three ask she is coming home next Monday she will be on leave know what she intends doing after she gone know he gone back. Well Ern Mr. Humphrey tell you to put your mind getting well do come home on leave he also said you promised to write to him when you went back the last time you was home. Well Ern I will be sending some more cigs some bakesdonie that is the week.

* Previously quoted in Critchley, M., "Speech Iteration", *Post Graduate Med. J.*, January, 1948, 1–6.

Echolalia is a phenomenon common to mental defect, schizophrenia, dementia and aphasia, in that order of frequency of occurrence. Echolalia or echo-reaction suggests a psychopathological complex which includes a defective recall of verbal symbols, coupled with extreme suggestibility, identification with the interlocutor, lack of insight, an impulse to maintain social contact in the way of speech (Stengel), and loss of supralinguistic inhibition.

Finally there are the verbal mannerisms in the speech (and less often in the writings) of patients with dementia. They are perhaps more often found in cases of Pick's disease or Alzheimer's disease than in simple non-specific brain atrophy. Still more are they met with in the late secondary dementia which may follow a life-long mental defect, or a chronic schizophrenia. Such mannerisms are capable of a linguistic division:

(a) *Phonetic.* This type of peculiarity is illustrated in such features as an unduly high pitch of the verbalization.

(b) *Phonemic.** Several examples might be quoted. A patient in his diction may interpolate a /*s*/ or less often a /*t*/ sound in a frequent but quite unwarranted style. The final silent "e" of the English tongue may be sounded as /*ə*/ in a somewhat affected manner. Thus "wine" would be rendered as /wajna/. Such a patient may also break down all diphthongs into their constituent vocalic phonemes. In

* One cannot resist drawing attention to the disturbing and idiosyncratic use of the word "phoneme" by some psychiatrists. To students of language "phoneme" is something in the nature of a sacred cow of respected lineage. If not precisely defined, it is at least employed with due consistency. Psychiatrists should really devote themselves to the quest for some other means of indicating phantasms of the auditory nerve.

such patients "soup" would be pronounced as /*sow*+*ɔp*/ and not /suwp/.

(c) *Prosodic.* Here the duration of a certain syllable (or word) may be overslow, being extended to an inordinate degree while at the same time a very strong stress is laid upon that particular unit of speech.

(d) *Verbal.* Here certain words or groups of words are emitted in a tic-like or compulsive fashion wholly out of context, and not necessarily in response to a bystander.

In this connection we recall the recurrent utterance of some aphasiacs who have available for communicative purposes only one word or phrase—maybe a piece of jibberism. But the functional role, namely that of communication —meagre though it be—distinguishes the recurrent utterance of the aphasiac from the verbigeration of the dement.

On the receptive side of speech, the conversation of others may not be entirely understood, especially if the semantic content is elaborate: or if the diction is unduly fast, or soft in volume; or if the message is masked by "noise", e.g. the rivalry of other people talking nearby. Written and printed texts may not be comprehended to the full, especially if obscure; or elusive or allusive in character. These receptive disorders are no different from what obtains in aphasia, but it can be said that whilst so-called sensory aphasiacs may have a clear or almost clear sensorium a demented patient with a comparable amount of receptive defect would probably be clouded as to his mentation, disorientated and severely bradyphrenic.

In the demented, communicative disorders often transcend the use of speech, and may embrace gestural systems. There may be a severe restriction of what has been called the kinesics of an individual, comprising thereby mimicry, mime, gesture and gesticulation. To such a state of total incommunicado the term "asemasia" was applied many years ago.

Dysphasia or Dyslogia?

Another remark is needed as to terminology. We are still seeking a term to indicate disorders of language in cases of global dementia—i.e. in the absence of focal disease of the brain. The term "aphasia" implies to most medical men a state of communicative defect which is by definition, though not explicitly so, the expression of localized disease within the so-called speech centre. In the opinion of many it would not be correct to apply this term to cases of dementia, unless of course the dementia happens to be an epiphenomenon of local disease of the brain. Even the terms "latent aphasia" (Pichot, 1955), or "generalized aphasic difficulty" (Shakow, Dolkart and Goldman, 1941) are not beyond criticism. "Non-aphasic speech impairment" is too clumsy and not self-explanatory. "Pseudo-aphasia" might do; or alternatively "alogia" or "dyslogia", were it not that these last two terms have been sequestrated by Kleist in quite another context.

Attempts have been made to isolate specific linguistic patterns among the demential speech-disorders according to aetiology and pathology. Allison (1962), for example, distinguishes sharply between dementia due to global lesions and dementia due to focal disease (tumour, cerebrovascular accidents). Pichot (1955) separated the epileptic and the arteriopathic groups from the senile varieties and said that subclinical but nevertheless definite language-impairment may be found in the first two types. He applied the term "latent aphasia" here and implicated a particular involvement of the temporal lobes in cases of arteriosclerosis and of epilepsy.

Whether it is of value to form such linguistic subgroups within the phenomena of demential speech impairment is, I submit, dubious. To a neurologist, it is perhaps the mixed clinical pictures which occasion the greatest difficulties in assessment. Two examples may be given. In the first place we may visualize a life-long mental defective who in his sixties acquires a lesion of the dominant hemisphere—traumatic perhaps, or ischaemic, or neoplastic. The ensuing picture of dysphasia is likely to be highly unconventional and difficult to disentangle—particularly if no focal signs of neurological involvement happen to co-exist. The other type of case which is apt to cause diagnostic perplexity concerns patients who have sustained a non-progressive aphasia-

producing lesion of the brain (e.g. apoplectic or traumatic) and thereafter begin to develop a super-added steadily advancing brain-atrophy. Or both types of clinical complexity may co-exist. One such case was under my care at the National Hospital, referred from Friern Hospital through the kindness of Dr. Hunter.

A middle-aged institutionalized patient has been known as a life-long eccentric, moody, hypochondriacal, anti-social, a prey to bouts of heavy drinking. At 55 years he suffered a fractured skull from a road accident, which produced a right-sided weakness, sensory impairment and visual field defect, together with a serious and persisting dysphasia. Seen 5 years later the patient was found to have deteriorated intellectually and his speech was larded with an assortment of reiterated phrases of a type and purpose not typical of a simple organic defect. For example his speech was largely restricted to a small repertoire of recurring utterances, chief among which were "burden", "Mr. Burden", "on the burden", "on the drum", "Cyril", "it's a lucas", "machine". These phrases contaminated his conversation in an extra-ordinary fashion. Some of these utterances seemed to have a "meaning" and to stand for a definite idea in a consistent way. Thus, any part of his body is referred to by him as "machine". Air-studies revealed gross brain atrophy, much more marked in the region of the left temporal lobe. This case might be deemed to represent the picture of a dysphasia combined with a dyslogia. (A. 12328.)

Speech Disorders in Schizophrenia

If, from an aphasiological point of view, the principal problem of speech impairment in the dementias is one of terminology, the difficulties with schizophrenic speech disorder are far greater.

Very tentatively Rümke and Nijam (1958) ventured the query whether the neologisms, confused speech and disturbed inter-human relationship found in schizophrenics could be reduced to an aphasia. "Might the secret of schizophrenia"—they asked—lie in a hitherto unknown high-level aphasic disturbance?"

Unlike what obtains in aphasia and in dementia, there is no true inaccessibility of vocabulary. The linguistic *quantum* is probably intact, but the utilization thereof may be gravely disordered. Resemblances there may be at times between the diction or writings of a schizophrenic and those of an aphasiac, but they must not be overstressed, and analogy must not be promoted to the level of a hypothesis. It is true, of course, that at one time some continental neuro-psychiatrists like Schneider (1927), Fleischacker (1930), Angyal (1933, 1950) and Regner were tempted to visualize a linguistic pathophysiology and even a morbid anatomy as an explanation of the aphasia-like states in schizophrenes. Kleist, for example, speculated that there might be cortico-subcortical changes to account for the speech-impairment and he even attributed some of the iterative and perseveratory phenomena to lesions within the basal ganglia. These notions never received credence and rightly so: Kleist in his neurological thinking had always been a deviationist, a heretic and a materialist. The terms schizophrenia and schizographia—though misleading tokens of disordered physiology—may not be wholly unacceptable, for they are convenient descriptive labels, which might be employed even more widely than Kraepelin and Teulié originally suggested.

The briefest description of the diverse schizophrenic speech disorders as a group is to look upon them as a travesty of communication. The message breaks down, and ceases to constitute a conveyer of reference-function. This in turn is the product of the patient's gradual withdrawal from the community. Despite certain superficial likenesses, the situation is basically quite other than what produces speech-impairment in aphasia. The patient with aphasia fails in his communicative intent by virtue of an inaccessibility, if not indeed a loss, of verbal symbols in thought. In schizophrenia the thinking processes themselves are deranged but the verbal symbols are intact and available. The one represents a quantitative and the other a qualitative defect in endophasy, or inner speech. This fundamental pre-linguistic distinction explains why the clinical features vary in the two conditions.

The autism of the schizophrenic may be well shown in the frequency with which pronouns of the first person crop up in his speech and writings. In one letter of 1,241 words a schizophrenic girl used the pronoun "I" 87 times, and this easily ranked as the most frequent term. The runners-up were the articles "the"

and "a" which appeared 43 and 33 times respectively. The pronoun "my" also occurred 33 times and "me" 20 times. By contrast we found "you" occurring 11 times; "your" 3, "we" 3, "him" 3, "he" once and "his" once. This count gave the incidence of "I" as 6·2 per cent. (total pronouns of the first person = 11·2 per cent.). Fairbank it may be remembered found that "I" constituted 8·4 per cent. of the spoken speech of schizophrenics, the figures being 5 per cent. in the telephone talk of ordinary people; 3·1 per cent. in the diction of college freshmen explaining proverbs; and 1·2 per cent. in commonplace written texts. In technical publications the incidence was zero.

This heightened incidence of the first person singular is never encountered in cases of aphasia in speech or in writing.

In aphasia there may be an extreme reduction of spoken and written speech, perhaps to the extent of a single recurring phrase, perhaps to a mere yes or no. Absolute mutism however does not occur, while in the schizophrene there may be a total speechlessness. The schizophrene, though often displaying a verbal iteration, does not struggle to emit a "yes" and eventually come out with a "no" to his utter distress. Nor will the schizophrene eke out his attenuated vocabulary by a play of gesture. In other words he is not striving to communicate in the face of overwhelming difficulties.

Indeed between the aphasiac and the schizophrenic we observe interesting differences in the total communicative set. The former is an anxious person who may be very aware of his defect (unless he be a jargon-aphasiac) and who strives and strains to achieve mutual comprehension, betraying all the evidences of frustration when he fails. In vain he marshals every adventitious aid to intelligibility. The schizophrene, by contrast, may be aloof or negativistic. He may display "advertance" by turning away from the one who seeks to converse with him. His voice may be hushed as if secretive, or artificial as in the so-called strangled speech (*Wugstimme*).

The similarities between schizophrenia and aphasia are less easy to distinguish when neologisms and jargon speech are concerned. The logorrhoeic schizophrene may emit a word-salad which apparently carries but little reference-function. Schneider has identified the processes of fusion, derailment, omission and what he called "drivelling" making up a bizarre combination of telescoped ideas, word-monstrosities, echo-responses, irrelevancies, incoherences, nonsense words, and scattered verbal statements.

The neologisms of an aphasiac, however, are determined in part by a weakening of supra-linguistic inhibition or vigilance which permits a too free verbal association to exteriorize a medley of synonyms, antonyms, paraphonemic, metaphorical and metonymous substitutions, and telescoping of words. There is another important factor present which probably does not apply to schizophrenics. The sensory aphasiac has little or no self-criticism, for he is largely unaware of the disordered nature of his utterance. Hence the term anosognosic aphasia which is often applied. Moreover he may hotly deny that his speech is disordered and may project the defect of communication on to the stupidity of others. Again there may well be some acoustic perceptual defect like an audiometric scotoma, though this is rejected by some. The Soviet aphasiologist Luria considers that there is an underlying tendency on the speaker's part to confuse phonemes of somewhat similar sound, e.g. the voiced /z/ /d/ /ð/ with the unvoiced /s/ /t/ /θ/. In other words an essential paraphonemia is hypothesized—a defect peculiar to paraphasia and outside the picture of schizophasia.

This is hardly the place to discuss the asyndetic thinking of schizophrenics in so far as it is responsible for the aberrations in verbal utterance. In any case this would require some hours of discussion instead of minutes. Enough has been said to show that the underlying mental mechanisms are quite different in schizophrenics and in aphasiacs, even though the verbal utterances are often similar.

The analogies of disturbed speech in psychotics and in aphasiacs may be carried over into their writings. One striking difference may be made at the outset: aphasiacs are usually very reluctant to write, while schizophrenics often have a veritable *cacoëthes scribendi*. Consequently, genuine spontaneous writings are

rare in the case of aphasiacs, though of course they may do their best to perform when directly instructed so to do by the physician.

Another difference between the psychotic and the aphasiac lies in the lay-out of the text upon the page. The schizophrenic likes to embellish his penmanship with ornate flourishes and elaborate capitals. He often writes vertically in the margins as well as along the lines. The page is barely large enough to contain all that he wishes to impart. Drawings may be inserted within the body of the text, as extensions, rather than as illustrations of what the patient wishes to express.

None of these peculiarities is to be seen in the painful attempts at letter-writing made by the aphasiac. He clearly has a poverty of expression and contents himself with a few lines—either in the centre of the page or huddled along one edge. The verbal disorders of some schizophrenics may be strikingly dissociated as between speech and writing. Either may be severely disturbed, but in complete isolation. This is a phenomenon not met with in aphasia.

Iterations of Verbal and Written Speech

One obvious point of similarity, however, lies in the repetitiousness of the text in both conditions, as opposed to the ordinary verbal diversification of the normal subject. Words, phrases and word-clusters tend to crop up over and over again, often quite incongruously. The aphasiac sometimes detects his error and makes erasures—but often not. Even when he makes corrections he usually overlooks the bulk of his repetitions.

Those written compositions, whether from aphasiacs or from schizophrenics, are invaluable data for linguistic analysis, being permanent records. They lack, however, the ephemeral paralinguistic overtones which are of such importance in human communication but which defy transcription.

If, for example, contrasting texts are reproduced—not in their original script, but transcribed into conventional print—some of these linguistically significant features become evident.

The first three are letters written by aphasiacs, and the other two—much longer—are the work of schizophrenic patients.

1

21 Westbury Park.

Dear Miss Alice Day,

My begin with the bing with with with the the old doing into (with) into into (into) with with (with) (with) will (will) with the oldest (older) the oldest the the oldest with the oldest the (the) the oldest.

Yours sincerely,

Maggie Brown.

(N.B. Words in brackets were elided by the patient.)

2

Thank you ~~very~~ for very ~~yes~~ forget loss lastly forgetful ~~forget~~ to us.

And I should very ~~ve~~ much for your getting to your gratefulness.

I am I singful very grateful rightful and ~~forget~~ forgetful for your gettleftfed, forgetful forgetful and forgetful.

3

Dear Doctor

(Dear) I requirte it the took, I got not why ask when why then, I when you, my shall my you small my, why send sned say, send what why I when (when) I received her (she) she has have a cold, so let recusf the result. I have a resuft takes be to take hate from for from far

What change (cal) can (for) for you. What can I for me. All your the for the porter. Tell you your you ponten you will you go.

The foregoing examples differ strikingly in size. The first patient is struggling hard to communicate, but under such difficulties that the message she wishes to impart does not come through. Some but not all of the contaminating words are crossed out—more of them are unnoticed by the patient.

Here are the two instances of letter-writing by schizophrenes:

4

". . . I like Titbits weekly. I like Titbits weekly too. I should like Titbits ordered weekly. I need jam, golden syrup or treacle, sugar. I fancy ham sandwiches and pork pies. Cook me a pork pie and I fancy sausage rools I want ham sandwiches. I want tomatoes and pickles and salt and sandwiches or corn beef and sandwiches of milk loaf and cucumber sandwiches. I want plain biscuits buttered, rusks, and cheese biscuits I want bread and cheese. I want Swiss roll and plain cake, I want pastries, jam tarts. I should like some of your pie you have for second course, some pastry. I want biscuits, fancy biscuits and fancy cakes. I want sweets, bull-seyes or cloves. I want rissols. I want rissols. I fancy fruit, do bring some oranges, apples, bananas, pears. Do brong some fruit, I get dry, orauges.

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I got tea for all next week from March 10th Sunday, all the week till Sunday March 17th. I shall want more tea Sunday, March 17th, the following week after March 17th Sunday. I want sugar I want jam, golden-syrup or treacle. I like plum jam. I like butter. It would be a treat. We only get margarine. I would like some butter. Bring some butter. I would kile a pot of cream from the dairy and some cherries with the cream. A pot of cream with cherries. Cream with cherries. I like chocolate roll with cream inside. Some nice cake Dundee cake and plain cake. I fancy tomatoes and sause, with bread and butter and salt. I like jam puffs and doe nuts. I like seedy cake, coco nut cake cocoanut cake. I want jam tarts, pastries I fancy pastries, bamberys I want a piece of rubber, a piece of India rubber. I like macaronis. I like macaroni's, macaroni's, pastry, a piece of rubber for my writing letters. Come soon, every week. Send Leslie this Sunday to visit me. Bring another lb. of tea soon, Leslie bring tea and sugar I want sugar and jam. Jam. Soon get me home by Easter I hope. Soon may I come home to you at Easter by my nirthday I hope to be home. I hope to be home soon, very soon. I like chocolate eclairs. I fancy chocolate eclairs. chocolate eclairs. Doenuts. I want doenuts. I do want some golden syrup a tin of golden syrup or treacle, jam. I fancy very much some fruit, oranges, apples, bananas. I want fancy cakes, ~~fffff ffffff~~ rock cakes, bread pudding jam tarts, doenuts chocolate-eclairs, I would like a pot of honey. I would like some sandwiches of real butter. Ginger bread I like ginger biscuits fancy biscuits ginger breads. I want. I would like sandwiches of milk loaf and real butter. Soon get me home from the hospital want you. See the Committee about me coming home for Easter, my twenty fourth birthday. I trust you will have me home, very soon. I hope all is well at home, how is Father getting on. Never mind, there is hope, heaven will come, time heals all wounds, Rise again Glorious Greece and come The Hindoo Heavens, The Indian Heavens The Dear old times will come back. We shall see Heaven and Glory yet, come everlasting life and God. I want a new writing pad of note paper . . ."

5

". . . Now to eat if one cannot other one can—and if we cant the girseau Q.C. Washpots prizebloom capacities —turning out—replaced by the head patterns my own capacities—I was not very kind to them. Q.C. Washpots under-patterned against—bred to pattern. Animal sequestration capacities and animal sequestired capacities under leash—and animal secretions. Q.C. Washpots capacities leash back to her—in the train from Llanfair-fechan army barracks wishe us goodbye in Llandudno station and turned in several Q.C. Washpots capacities . . . "

The first of the schizophrenic patients expresses well enough her simple wants and feelings but the manner in which this is done betrays the underlying thought disorder, mild though it be. The second example—which too is merely a fragment of a very much longer text—displays not only an echographia but the incoherencies, apparent irrelevancies and bizarre choice of words, which could emanate only from the pen of a schizophrenic.

All these specimens are capable of linguistic analysis.

TABLE I

	Total Number of Words "Tokens"	Number of Different Words "Types"	Type/Token Ratio "T.T.R."
Aphasiac:			
(1)	39	11	0·28
(2)	42	21	0·50
(3)	89	45	0·50
Schizophrene:			
(1)	1,241	331	0·26
(2)	79	52	0·65
Hemingway ..	167	51	0·30
Dr. S. Johnson:			
(1)	168	90	0·53
(2)	127	80	0·65
(3)	266	170	0·64
(4)	298	185	0·62

TABLE II

Carroll's Index of Diversification

(i.e. Number of words from one "the" to the next)

Aphasiac:	
(1) ..	4, 14, 2, 1, 2, 1.
(3) ..	40, 28, 1, 10+.
Schizophrene:	
(1) ..	3, 16, 6, 16, 11, 39, 10, 5, 19.
(2) ..	8, 52+.
Hemingway ..	18, 40, 57, 5, 18+.
Dr. S. Johnson Letter No. 846	6, 43, 26, 40, 2, 9, 7, 26, 20, 4, 53, 37+.

Average=10–15 in normal written speech.

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TABLE III

	Verb-Adjective Ratio
Aphasiac:	
(1)	0·25
(2)	0·41
(3)	11·0
Schizophrenic:	
(1)	3·5
(2)	1·0
Hemingway	8·5
Dr. Johnson	2·0

The samples given are too small, and the scatter of results too wide, for any conclusions to be drawn. The data are offered merely to show the possibility of linguistic analysis of the writings of aphasic and psychotic patients which, carried out on a bigger scale, might yield interesting results.

NEOTERIC LITERATURE

Before leaving the subject of schizophrenic writing we can scarcely refrain from referring to something which is on the face of it at least, analogous. I refer to the unorthodoxies of obscure and reiterative writing as a deliberate art form. Taking first the latter aspect, we readily find in *avant-garde* literature a studied paligraphia which defies traditional syntax. The following example, taken from a well-acclaimed novel, illustrates my point.

"This that they were not to have, they were having. They were having now and before and always and now and now and now. Oh now, now, the only now, and above all now, and there is no other now but thou now and now is they prophet. Now and for ever now. Come now, now, for there is no now but now. Yes, Now, Now, please now, only now, not anything else only this now, and where are you and where am I and where is the other one, and not why, not ever why, only this now; and on and always please then always now, always now, for now always one now; and on and always please then always now, always now, for now always one now, one, going now, rising now, sailing now, leaving now, wheeling now, soaring now, away now, all the way now, all of all the way now; one and one is one, is one, is one, is still one, is still one . . ." etc.

Similar instances are common enough in Joyce and more especially so in Gertrude Stein. Here is an extreme example from post-war French verse, a poem by Louis Aragon.

Persienne Persienne Persienne
Persienne Persienne Persienne
Persienne Persienne Persienne Persienne
Persienne Persienne Persienne Persienne
Persienne Persienne
Persienne Persienne Persienne
Persienne?

As to obscure writing we need not go further than the existentialist prose of Picasso.

25th March XXXVI

Think evening Angelus to see you shattered in the glittering mirrorsplintering to the blow of a clog blowpipe to see you nailed upon the quivering pond which stands out and rolls itself up in a pill unfasten the hung naked body of the loved one of the festoon of months remove your hand your hands.

As instances of contemporary verse may I select two poems (by Dylan Thomas) almost at random.

"Sir Morrow at his sponge
(The wound records)
The nurse of giants by the cut sea basin
(Fog by his spring
Soaks up the sewing tides).
Tells you and you, my masters, as his strange
Man morrow blows through food".

Where does this type of writing belong in the history of literature? Let us quote the interpretation made by David Aivaz, a contemporary professional critic.

"The transition from image to image is by means of the pun, the double meaning, the coined word, the composite word, the noun-verb, the pronoun with a double antecedent. And there is a larger machinery, verbal and syntactical: clauses that read both forward and backward; uneven images that are smoothed by incantatory rhythms rhymes, word-patterns, verse-forms, by the use of commas in place of full-stop punctuation; cant, slang terms and formal, general abstract wording juxtaposed in image after image, so that the agitation of each becomes the repose of the group."

What does this mean? The words are meta-linguistic, but the sense is not. Could the paragraph perhaps be paraphrased using the

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grammar of psychopathology? Thus a psychiatrist might well be tempted to speak of telescoping of ideas: agrammatism: klang-associations: idiosignificant and obscure allusions. This is perhaps another way of expressing the same opinions. We are even reminded of Schneider's four-fold mechanisms of schizophrenic speech—fusion, derailment, omission and drivelling. And also of Piro's four fundamentals of psychotic speech, namely: semantic distortion, semantic dispersion, semantic dissolution, and enlargement of the semantic halo, whereby meaning is extended like Alice in Wonderland and language becomes ambiguous, vague and indeterminate.

Let us examine the other example of Dylan Thomas's verse:

> "If my head hurts a hair's foot
> Pack back the downed bone. If the unpricked ball of my breath
> Bump on a spout let the bubbles jump out."

Here let us quote the opinions of two contrasting critics, the one laudatory the other sceptical. According to William York Tindall writing on this poem ". . . Occasion, theme, and feeling are of less interest than method. We are familiar with the process of conflicting images and with quarrels among words from incompatible areas. But here . . . are advances in rhythm and sound. Excellently sprung . . . the lines unsystematically display all the devices of Welsh sound: alliteration, assonance, dissonance, internal rhyme, and chiming vowels. . . . Thomas was learning moreover that sentences need not begin with the beginning of a line or end with its ending. Beginning within the line has rhythmic importance . . .".

To Henry Treece, however, this same poem seems to be a *verbal compulsion*, almost a psychopathic phenomenon, musical-rhythmic automatism, with a possibly unconscious sexual reference thrown in to emphasize the primitive source of the word-group.

The same writer has boldly grasped the nettle by posing—and trying to answer—the question, ". . . is Dylan a fake?" Treece writes: "I feel that Dylan Thomas is extremely (and unconsciously) ill-balanced; yet, in the unbalance, lies much of his 'charm' . . . His choking verbalisms, his fixations on certain threadbare or obscure epithets, his inability to resist inorganic alliterations, his wilful obscurity, his deafness to certain obviously poor rhymes, his preponderating rhythmic monotony, his careless use of words, the overstress or understress created by his rhetorical mechanisms, the overemphasized pathos and arrogance, the self-pity, the lack of humour, the poverty of historic background (reflected in his self-sufficiency), all these are evidence, and to spare, of a lack of maturity.' But, unless such unbalance is known to the poet, it is less than just that he should be called a forger, and his works fakes."

Perhaps in conclusion we can indicate two points where schizophrenic writing differs from much of this type of poetry. The one is clinical and compulsive: the other is compulsive too, but it may also prove lucrative at times. One is uninhibited and sincere, while the other is often redeemed by a much contrived euphony. Psychotic writing may or may not have been intended to be read: the other was written not only to be read but also to be declaimed.

This provocative subject could perhaps be clarified by a careful textual study of the works of known psychotic poets. Here the pre- and post-morbid verse of the Swedish schizophrene Frøding might prove enlightening.

Summary

The complicated field of language-disorder in psychotic patients forms an intriguing topic for aphasiological study, especially when linguistic techniques of research are employed.

Demented patients are liable to show a progressive poverty of speech, which may be overlaid by true dysphasic manifestations when the brain-atrophy happens also to involve the mid-third of the dominant hemisphere to a significant degree. Terminology offers certain difficulties, and it is suggested that the language impairment in cases of dementia should be spoken of as "dyslogia" rather than dysphasia. Unusual phonemic and other verbal mannerisms may also occur at times in patients whose dementia

is associated with a previously existing state of mental defect or schizophrenia.

The diverse and complex disorders of language which may be encountered in schizophrenics may bear a superficial likeness to the dysphasias. The analogies should not be overemphasized, however, for the causation of schizophrenic speech affection lies in an underlying thought-disorder, rather than in a linguistic inaccessibility.

Iterations, both of spoken and of written speech, may be encountered in cases of schizophrenia, and also to a milder extent in dysphasiacs, but for different reasons.

There are interesting problems entailed when the similarities are studied between schizophrenic writings and the non-representational work of certain authors addicted to a cult of obscurity.

References

Aivaz, D. (1963). "The poetry of Dylan Thomas", in: *Dylan Thomas* (ed.: T. H. Jones). Edinburgh and London: Oliver & Boyd, pp. 186–210.

Allison, R. S. (1962). *The Senile Brain*. London: Arnold.

Angyal, L. (1933). "Uber den subkortikalen Anteil der schizophrenen Sprachstörungen." *Mtschr. Psychiat. Neur.*, **86**, 137–165.

—— (1950). "Aphasia and Categeric Behaviour", *ibid.*, **119**, 45–54.

Diamond, A. S. (1959). *The History and Origin of Language*. London: Methuen.

Fleischacker, —. (1930). *Mntschr. Psych. Neur.*, **77**, 1.

Kleist, K. (1914). "Aphasie und Geistesktankheit", *Münch. med. Wschr.*, **61**, 8.

Kraepelin, E. (1919). *Dementia Praecox and Paraphrenia* (trans: Barclay). Edinburgh: Livingstone.

Luria, A. R. (1958). "Brain disorders and language analysis", *Lang. and Speech*, **1**, 14–34.

Pichot, P. (1955). "Language disturbances in cerebral disease", *Arch. Neur. Psych.*, **74**, 92–96.

Piro, S. (1958). "Contributo allo studio della dissociazione semantica nel linguaggio schizophrenico", *Acta Neur.*, **13**, 392–413.

Rümke, H. C., and Nijam, S. J. (1958). "Aphasia and delusion." *Folia psych. neur. neurochir. Neerl.*, **61**, 623–629.

Sanford, Fillmore H. (1942). "Speech and personality", *Psychol. Bull.*, **39**, 811–845.

Schneider, A. (1927). *Zbl. Neur.*, **108**, 491.

Shakow, D., Dolkart, M. B., and Goldman, R. (1941). "The memory function in psychoses", *Dis. Nerv. Syst.*, **2**, 43–48.

Stengel, E. (1947). "A clinical and psychological study of echo-reactions", *J. Ment. Sci.*, **93**, 598–612.

Teulié, G. (1931). *Ann. méd.-psych.*, **1**, 113.

Tindall, Wm. York (1962). *A Reader's Guide to Dylan Thomas*. London: Thames & Hudson.

Treece, H. (1949). *Dylan Thomas. "Dog among the Fairies"*. London: Lindsay Drummond.

Whitehorn, J. C., and Zipf, G. K. (1943). "Schizophrenic language", *Arch. neur. psych.*, **49**, 831–851.

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