

Describing schizophrenic speech

When trying to explain thought disorder, or anything else for that matter, a good place to start is by describing the phenomenon accurately. In medicine, the customary way of doing this is by observing a suitably large number of patients who show the phenomenon in all its varied forms, and extracting the common features so as to arrive at some distillation of the essential nature of the symptom itself. This is the so-called clinical method, sometimes dignified as descriptive psychopathology in psychiatry, where the symptoms are much more individually variable than in the rest of medicine, and occasionally elevated to the status of its own discipline of ‘phenomenology’.

Traditional and greatly respected in medicine, this approach to defining thought disorder was objected to by two linguists, Rochester and Martin (1979), on the grounds that it was too dependent on inference. They levelled their criticisms particularly at Bleuler (1911), who coined the term schizophrenia and was responsible for giving what is still one of the most detailed accounts of thought disorder. In the first place, he took it as a given that the underlying abnormality was one of thought rather than of speech, and according to Rochester and Martin the uncritical acceptance of this view by those who followed him caused many problems and obscured some interesting issues. Secondly, Bleuler specified the disorder of thought as one of ‘loosening of associations’ or ‘association disturbance’, a speculative construct to which he accorded great theoretical significance. But when Rochester and Martin turned to a contemporary textbook for a definition of loosening of associations they were confronted with statements like, ‘In the loosening of association the flow of thought may seem haphazard, purposeless, illogical, confused, abrupt and bizarre’ – which seemed merely to lead back to thought disorder. Clinical attempts to define the abnormalities contributing to thought disorder could, it appeared, all too easily descend into circularity.

Inferential and circular or not, observational studies have occupied a large part of the history of attempts to get to grips with what makes schizophrenic speech difficult to follow. One could begin an account of these attempts with Bleuler, Rochester and Martin’s villain of the piece, whose sway was so great that his term loose associations became – and remains – a synonym for thought disorder. But, in

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fairness, this ought to be preceded by a description of the work of Bleuler’s contemporary, Kraepelin, the originator of the concept of schizophrenia and a major influence on his and everyone else’s views. Kraepelin’s powers of observation are generally accepted as having been acute, and he had quite a lot to say about thought disorder, describing many of the phenomena in some of the terms that for better or worse are still in use today.

Kraepelin and Bleuler: the classical accounts of thought disorder

In his 1913 textbook, in which he gave his most detailed description of the symptoms of schizophrenia, Kraepelin (1913a) stated that ‘the patient’s mental associations often have that peculiarly bewildering incomprehensibility, which distinguishes them from other forms of confusion [and] constitutes the essential foundation of *incoherence of thought*’ (italics in original). In less severe cases this showed itself merely as ‘increased facility of distraction’ and ‘increased desultoriness’, the patient ‘passing without any connection from one subject to another’, with an ‘interweaving of superfluous phrases and incidental thoughts’. Sometimes, however, there could be an almost complete loss of connection between ideas. As an example of this he offered the following patient’s reply to the question, ‘Are you ill?’

You see as soon as the skull is smashed and one still has flowers [laughs] with difficulty, so it will not leak out constantly. I have a sort of silver bullet which held me by my leg, that one cannot jump in, where one wants, and that ends beautifully like the stars. Former service, then she puts it on her head and will soon be respectable, I say, O God, but one must have eyes. Sits himself and eats it. Quite excited, I was quite beside myself and say that therefore there should be meanness and there is a merry growth over. It was the stars. I, and that is also so curious, the nun consequently did not know me any more, I should come from M. because something always happens, a broken leg or something, they’ve had a quarrel with each other, the clergyman and she; a leg has just been broken. I believe that it is caused by this that such a misfortune happens, such a reparation for damages. I have also said I shall then come in the end last, with the sun and the moon, and too much excitement, and all that makes still a great deal of trouble. Kings do not collect the money, in this way the letters have been taken away from me, as I that at last of those that particularly believe as I at last specially think, and all are burned. You can imagine that comes always from one to the other.

Despite the on the whole completely aimless and fragmentary nature of the patient’s utterances, Kraepelin observed that in a few places a certain connection between the ideas could still be made out, for example: *ill – skull smashed; held by my leg – not jump in; misfortune – reparation for damages; letters taken away – burned; and excited – quite beside myself*. This, he believed, pointed to an abnormality of thought (‘it can scarcely be only a question of disorders of linguistic

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expression’). He used the term derailment¹ to describe this abnormality – a tendency for the line of thought to depart from the given idea and move in indistinct spheres of ideas. In some cases, although not in the above example, the deviation from one train of thought to another could be clearly identified. For example when asked what year it was, a patient replied ‘It may be Australia’, derailing from the series of years to the series of continents. The derailment could also be based on rhyme, a phenomenon otherwise known as clang association: thus a patient replied to a question about which town the hospital was in by saying, ‘The house stands in the gospel of Luke of the eighth, and if one has swine, one can slaughter them’ [German: *des achten . . . schlachten*].

At the same time, a disorder of language was also evident to Kraepelin. The above patient’s syntax was confused in places, for example in *former service and then she does it*, and *I, and that is also so curious, therefore the nun consequently did not know me any more*, and *as I that at last of those that particularly believe*. Other patients showed a more severe disorder of grammar so that their speech became telegraphic, doing without all superfluous phrases. Still others exhibited paraphasias and neologisms. The former took the form of a simple mutilation, change or partial fusion of commonly used words, or the substitution of one word with another, usually similar in sound or meaning, as for example in a patient who complained that his senses were ‘checked’. Neologisms were new unintelligible words, which could be composed either of sensible component parts or senseless collections of syllables. To account for these apparent linguistic phenomena Kraepelin extended the concept of derailment to include derailment in the process of finding words.

Between thought and speech, Kraepelin felt he could isolate yet another form of derailment, this time in the expression of thought in speech (for which he introduced his own neologism, *akataphasia*). In this type of derailment patients used phrases or sentences where the words used only approximated to the thought that they wished to express. Thus a patient stated that he ‘lived under protected police’ instead of ‘under the protection of police’; another said he had ‘his fiancée always in speech’ instead of ‘his fiancée still continued to speak to him’ (through voices).

If Kraepelin’s only foray into inference and explanation was a somewhat awkward attempt to subsume several different elements of thought disorder under a single heading of derailment, Bleuler (1911) strayed much further into this territory. In fact, his book on schizophrenia was a tour de force of theory, which

¹ According to the historian of psychiatry, Berrios (personal communication), Kraepelin used a variety of German words in this connection, none of which was necessarily a railway metaphor. The English language term, which went on to become universal, was actually introduced by his translators, Barclay and Robertson.

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began with a statement that certain symptoms were crucial for understanding the disorder by virtue of being ‘present in every case and at every period of the illness even though, as with any other disease symptom, they must have attained a certain degree of intensity before they can be recognized with certainty’. First in his list of these so-called fundamental symptoms was association disturbance. As he put it:

In this malady the associations lose their continuity. Of the thousands of associative threads which guide our thinking, this disease seems to interrupt, quite haphazardly, sometimes such single threads, sometimes a whole group, and sometimes even large segments of them. In this way thinking becomes illogical and even bizarre.

Loosening of associations led thinking to operate with ideas and concepts which had little or no connection with the main idea, and caused patients to lose themselves in irrelevant side associations. But alongside this Bleuler considered that there was another abnormal process at work, which was either closely related to the association disturbance or partly or wholly responsible for it (he never specified which). This was loss of the normal goal-directedness in thinking, a lack of the most important determinant of associations – that of purpose. In his words, ‘thoughts are subordinated to some sort of general idea, but they are not related and directed by any unifying concept of purpose or goal.’ He gave examples of patients who either wandered away from their initial topic of conversation or adhered loosely to it but covered a much larger group of ideas. Perhaps his most graphic example was a letter from a patient to his mother. After an unexceptional first paragraph the patient went on to write:

I am writing on paper. The pen which I am using is from a factory called ‘Perry & Co’. This factory is in England. I assume this. Behind the name of Perry Co. the city of London is inscribed; but not the city. The city of London is in England. I know this from my schooldays. Then, I always liked geography. My last teacher in that subject was Professor August A. He was a man with black eyes. I also like black eyes. There are also blue and gray eyes and other sorts, too. I have heard it said that snakes have green eyes. All people have eyes. There are some, too, who are blind. These blind people are led about by a boy. It must be very terrible not to be able to see. There are people who can’t see and, in addition, can’t hear. I know some who hear too much. One can hear too much. There are many sick people in Burgholzi; they are called patients. One of them I like a great deal. His name is E. Sch. He taught me that in Burgholzi there are many kinds, patients, inmates, attendants. Then there are some who are not here at all. They are all peculiar people . . .

To Bleuler the letter demonstrated a complete absence of purpose – to convey to his mother how he felt, what made him comfortable or uncomfortable, or what might interest her. Otherwise, the chain of association could be considered perfectly valid: London – geography lesson – geography teacher – his black eyes – gray eyes – green snake-eyes – human eyes – blind people – their companions – horrible fate, etc. Nevertheless the letter was meaningless.

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The combined influence of loosening of associations and loss of goal-directness of thinking enabled Bleuler to provide explanations for quite a number of different phenomena seen in thought-disordered schizophrenic speech. Hence, the partial interruption of normal logical associative processes meant that indirect associations and clang associations could gain control and direct the train of thought. Also, two ideas without any intrinsic relation to each other could become connected – for example a patient called a drawing of a comb a wash-tub because a wash-tub happened to be in the drawing next to it. For the same reason it was quite common for a reply to have nothing to do with the question posed: a patient was asked why she was not doing the household work she was supposed to be engaged in and replied, ‘But I don’t understand any French.’ Instead of returning a greeting another said, ‘That is the little Jew’s clock in regard to Daniel.’ Sometimes all the associative threads were broken, giving rise to complete blocking of thought, after which ideas could emerge which had no recognisable connection with preceding ones.

Bleuler recognised much the same range of disorders of word usage as Kraepelin – neologisms and use of words and phrases in an idiosyncratic way. He also accepted that the grammatical construction of sentences could be distorted. Besides the telegraphic style, he drew attention to an inclination to use convoluted sentence structures and pretentious and bombastic styles in both speech and writing; for example a patient wrote, ‘The undersigned writer of these lines takes the liberty of sending you this by mail...’. But, just as Rochester and Martin stated, Bleuler seemed to go out of his way to avoid interpreting these as linguistic, invoking explanations in terms of thought whenever he could, and falling back on mechanisms involving catatonia, dreaming, etc., when he could not.

Cameron: the first empirical study of thought disorder

Cameron was an American psychiatrist who, with grant support of a distinctly unusual kind,² embarked on a study of thinking in schizophrenia, which was published in 1938. His original aim was to investigate parallels that authors like Piaget and Vygotsky had drawn between the reasoning of children and schizophrenic patients. However, his study soon metamorphosed into a descriptive account of thought disorder, but one in which the observations were collected under controlled conditions and recorded in a systematic way. Cameron’s study is all the more interesting because he made it clear that he was approaching the field

² The Supreme Council, 33° Scottish Rite Masons of the Northern Jurisdiction, USA.

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afresh, and in fact the conclusions he came to showed scant regard for the views of Kraepelin, Bleuler and other European authors.

The twenty-five patients Cameron selected for examination were diagnosed as ‘quite unmistakably schizophrenic’ and they all showed ‘scattering’ at the time of examination, the term he used to describe thought disorder. Some were acutely ill patients at the prestigious Henry Phipps Clinic of the Johns Hopkins Hospital, whereas others were long-stay patients in the local asylum. To induce simple reasoning, he borrowed a technique from Piaget and gave the patients a series of uncompleted causal sentences, such as, *Your body makes a shadow because . . .* Replies were followed up by direct questions and requests for explanation. The investigator’s questions and the patients’ responses were recorded verbatim in shorthand.

From an analysis of this material Cameron picked out three factors that he considered made the patients’ speech difficult to follow and which were distinct enough to justify separate discussion. These were: *asyndetic thinking*, *metonymic distortion*, and – introducing possibly the most eloquent term in the history of thought disorder – *interpenetration of themes*.

In asyndetic thinking, the substitution of loose clusters of terms for well-integrated concepts, the patient was unable to exercise the functions of selection, restriction and orderly arrangement necessary for the process of logical thinking, resulting in a striking paucity of genuinely causal links in speech. For example, when asked what makes the wind blow, one patient replied:

‘Because it’s time to blow.’ [Question repeated] ‘The air.’ [‘The air?’] ‘The sky.’ [How does the sky make it blow] ‘Because it’s high in the air.’

Cameron argued that this response consisted merely of a loose agglomeration of words connected with wind in general – wind, blow, air, sky, high (the initial reference to time was a perseveration from a previous answer). The patient clearly felt that the elements belonged together, but at the same time no genuine logical connection was present, even when the term ‘because’ was used.

This failure to bind together words and terms into an explicit explanatory construct was even more apparent in another patient’s response to the same question:

[The wind blows] ‘Due to velocity’. [question repeated] ‘Due to loss of air, evaporation of water.’ [What gives it the velocity] ‘The contact of trees, of air in the trees.’

Here, Cameron pointed out, the elements of the response were not random, but consisted of phenomena which are commonly experienced directly or indirectly in connection with the wind blowing – velocity, loss of air, evaporation, contact with trees. Similarly, another patient answered the question:

[The wind blows] ‘Because it howls.’ [But why does it howl?] ‘Lack of co-operation with the rain and the sun.’

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Both responses were connected with the concept of wind, but only loosely: howling (physical feature) and rain and sun (other weather-related natural phenomena).

Cameron considered that a restriction of the patients' thinking to the matter in hand and even some degree of clarity of expression was impossible to miss, and there was surprisingly little real irrelevance. But, at the same time, there was an obvious lack of direction and no effective final pulling together of the elements into a well-formed whole. The patients' replies hovered around the problem rather than disposing of it. The material they produced was distant, too loose and too over-inclusive, a collection of fragments, a conglomerate not an integrate.

Metonymic distortion, or the use of word approximations, consisted of the substitution of a related term or phrase for the more precise definitive term that normal individuals would be expected to employ. Thus a patient said he was alive:

'Because you really live physically, because you have menu three times a day; that's the physical.'
[What else is there besides the physical?] 'Then you are alive mostly to serve a work from the standpoint of methodical business.'

The most obvious word approximation here was *have menu* instead of 'eat' or 'have meals'. Cameron also felt *methodical business* was probably a distortion of 'daily routine'. In another example a patient explained why the sun comes up in the morning in the following way:

'Because it is the actual rotation of its axis between the arctic and antarctic zones.'

This substituted wide geographical areas for the more conventional terms, North and South poles.

Another patient considered that his body made a shadow:

'Because it hides the part of the light that is used for full room capacity or area capacity which you intervene.'

Here *intervene* was almost correct, but it should have been intercept. *Full room capacity* and *area capacity* both seemed to refer to the idea of complete illumination of a room and correctly implied the area from which the light is cut off by one's body, although the precise word or phrase was uncertain.

In other instances only a general sense of what the patient was trying to convey could be guessed at. Examples included: A fish can live in water . . . 'Because it's *the natural resource of life*.' A boy threw a stone at me . . . 'Because he had mischief and *arm exercise to exercise the body*.' I am good . . . 'Because brought up right and *strictly confidential*.'

Cameron felt that the use of these word approximations lent schizophrenic discourse a great deal of its peculiar elusiveness. It was as though the patient was using an idiom which could be translated into conventional usage, but which

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required effort to do so. As in asyndetic thinking, the words and phrases struck somewhere on the periphery of the target instead of the bullseye, and a false equivalence was attributed to several terms.

The material which became interwoven in interpenetration of the themes could be of fragments of different themes, or a theme and a counter-theme, but perhaps most typically one theme which was concerned with the immediate problem and another which reflected what Cameron called ‘persistent preoccupations of a personal nature’ – which by and large seemed to be delusions. He gave pride of place to the following example of a patient who had beliefs revolving around bodily injury, especially being bitten and having her back broken:

[A fish can live in water because . . .] ‘Because it’s learned to *swim*.’ [What if it couldn’t swim?] ‘Not naturally, he couldn’t. Why do certain gods have effects on *seas* like that? What does the *earth* have such an effect to break their backs? The *fishes* near home *come to the surface* and break.’ [Why?] ‘I think it is due to bodies that people lose. A body *becomes adapted to the air*. Think thoughts and break the *fishes*.’

The words and phrases in italics were vaguely relevant to the question put to the patient. Otherwise, sprinkled throughout her response were references to gods, bodies, back, effect, lose, break, etc., all of which reflected her usual delusional themes. Both lines of thought were equally represented, and were sometimes combined in to a single phrase, such as *The fishes near home come to the surface and break*, and *break the fishes*, and *a body becomes adapted to the air*.

In another example, a patient believed he was God and in a constant battle with the devil; he also constantly referred to ‘the key to the outside’:

[I get warm when I run because . . .] ‘Because you possessing a position of a doctor have the key. The devil *seeing you run*, becomes ired. God doesn’t get ired because it doesn’t have any effect. He doesn’t want a *railroad* or an *express company* in this place.’

The answer certainly incorporated elements of the question, as was evident in the italicised words, although phrases such as railroad and express company were only distantly related to the concept of running. However, the reply was mostly taken up by the battle between God and the devil.

The preoccupations did not have to be delusional. Cameron gave a further example of a patient who had unrealised ambitions to be an engineer.

[My hair is brown because . . .] ‘Because it is a sort of hydraulic evering.’ [What does that mean] ‘It means that it gives you some sort of a *color-blindness* because it works through the *roots of the hair* and hydrasee – that is a study of the *growth of plants*, a sort of *human* barometer, hydraulic hydrosenic method.’

Hair colour was related correctly to roots of the hair and to growth. But the concept of colour was extended to colour-blindness, and growth to the growth of

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plants. In *human barometer*, the theme of the question and the theme of engineering appeared to be fused into a single impenetrable phrase.

Cameron argued that interpenetration of themes could be another manifestation of the same disorder of selection, elimination and focusing on the topic under discussion that was responsible for asyndetic thinking and metonymic distortion. In this case there was a failure of the normal process of subordination of one theme to another. Instead, elements of both proceeded together.

Cameron made several more minor observations. He noted that the patients were invariably fully satisfied with what were usually totally inadequate responses. Also, on the occasions they did give an initially fairly satisfactory answer, they often went on to add less relevant material; an initial good phrase would be followed by a jumble of peripheral concepts. Finally, he made the point that the abnormalities he found were potentially reversible and could improve markedly with general clinical improvement. He illustrated this with the patient’s replies shown in Table 1.1.

Cameron’s analysis was penetrating: again and again he managed to make sense of material that superficially could scarcely be more opaque. Some of the abnormalities he identified had counterparts in those previously described by Kraepelin and Bleuler. His asyndetic thinking embodied much of what these authors tried to capture with terms like derailment, loss of the central determining idea, and loose associations. Metonymic distortion was obviously similar to the abnormality Kraepelin referred to as akataphasia or derailment in the expression of thought in speech, although the specification was much more detailed and probably more accurate. In interpenetration of themes, however, he described a hitherto unrecognised clinical phenomenon, one which, as will be seen, was destined to have a chequered future career.

Table 1.1 Performance of a thought-disordered patient when severely ill and after partial recovery
(From Cameron, 1938)

During height of illness	After partial recovery
<i>My hair is fair because . . .</i> ‘Because of something else; it’s on my head; it comes from my mother.’	‘Because I inherited it from my parents.’
<i>A man fell down in the street because . . .</i> ‘Of the World War.’	‘Because he slipped.’
<i>The sun comes up in the morning . . .</i> ‘Because it’s a gas.’	‘Because the earth goes around the sun.’
<i>The wind blows because . . .</i> ‘Just cosmic dust.’	‘Because of atmospheric air-currents changing.’

Wing: poverty of content of speech

While carrying out a survey of male patients who had recently been discharged from long stay care in a mental hospital, Brown *et al.* (1958) made the surprising discovery that those with a diagnosis of schizophrenia were more likely to relapse if they went to live with their parents or wives than if they went to live with brothers and sisters or in lodgings. This was the starting point for a series of studies which established a major and still flourishing area of schizophrenia research, that of expressed emotion. It was also the point of origin for an abnormality that was to play an important part in the development of thinking about thought disorder, poverty of content of speech.

Wing, who joined Brown to work on two replications and extensions of his original study (Brown *et al.*, 1962; Brown *et al.*, 1972), had the task of interviewing recently discharged schizophrenic patients. For this purpose he was in the process of developing what would eventually become a widely used structured psychiatric interview, the Present State Examination (Wing *et al.*, 1974). During the course of the studies he came across an individual who showed a striking disorder of speech that he had not encountered before (Wing, personal communication). A sample of this, which was characteristic of all of the patient’s conversation, went like this:

- Q. How do you like it in hospital?
A. Well, er . . . not quite the same as, er . . . don’t know quite how to say it. It isn’t the same, being in hospital as, er . . . working. Er . . . the job isn’t quite the same, er . . . very much the same but, of course, it isn’t exactly the same.

Initially Wing was inclined to classify this a variant of poverty of speech, a symptom which was typically seen in withdrawn chronic schizophrenic patients. This symptom had been perhaps most eloquently described by Kraepelin (1913a) as the cessation of the need to express oneself:

The patients become monosyllabic, sparing of their words, speak hesitatingly, suddenly become mute, never relate anything on their own initiative, and let all answers be laboriously pressed out of them. They enter into no relations with other people, never begin a conversation with anyone, ask no questions, make no complaints, give their relatives no news.

Wing (1961) therefore incorporated this newly identified abnormality into the scale for poverty of speech. The maximal rating of 5 was made when the patient was mute or only spoke two or three words during the interview. A rating of 4 was given when the patient’s answers were monosyllabic, often with long pauses or a failure to answer at all. A rating of 4 was now also given when ‘although there was a reasonable amount of speech, the answers were so slow and hesitant, so vague and